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Effects of CSR messages on Perceived Greenwashing & Green Brand Equity

The interaction of message frames and industry stereotypes

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This thesis was written as a part of the Master of Science in Economics and Business Administration at NHH. Please note that neither the institution nor the examiners are responsible − through the approval of this thesis − for the theories and methods used, or results and conclusions drawn in this work.

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ABSTRACT

Given the paradigm shift towards environmentalism, stakeholders, especially consumers, are exerting pressure on companies to be more transparent with their business practices. Companies in turn are responding through CSR to demonstrate the legitimacy of their business operations. However, this legitimacy has been called into question time and time again by consumers, as some companies have been known to falsely engage in CSR activities or greenwash to maximize profits and gain customer loyalty under the guise of philanthropy. This thesis tests the effects of CSR message frames (warmth and competence) and industry stereotypes (high and low perceived contribution to a sustainability problem) to see if there is any impact on perceived greenwashing and green brand equity. A 2 x 2 factorial design and a one-way MANOVA analysis were conducted to test for the main effect and the interaction effects on both perceived greenwashing and green brand equity, which serve as the dependent variables. The study found that there were no significant interaction effects between the PCP level of a company and the effects of warmth versus competence frames of CSR messages on perceived greenwashing as well as greenwashing, demonstrating the complexity of how stakeholders evaluate sustainability claims.

Keywords: *Sustainability, corporate social responsibility, perceived contribution to a sustainability problem, green brand equity, greenwashing, warmth, competence, stereotype content model*

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LIST OF ABBREVIATIONS

AVE – Average Variance Extracted

CBBE – Customer-based Brand Equity

CFA – Confirmatory Factor Analysis

CFI – Comparative Fit Index

CSR – Corporate Social Responsibility

MANOVA – Multivariate Analysis of Variance

MLR – Maximum Likelihood with Robust Standard Errors

NHH – Norwegian School of Economics

RMSEA – Root Mean Square Error of Approximation

SDG – Sustainable Development Goals

SCM – Stereotype Content Model

TLI – Tucker Lewis Index

UN – United Nations

CHAPTER 1 – INTRODUCTION

1.1 Background

In the past decade, there has been a paradigm shift towards environmentalism. Stakeholders have grown more conscious towards environmental issues given climate change and global warming, especially rampant in the energy sector (Vollero et al., 2016). In addition, stakeholders such as investors (Du, 2015; Dyck et al., 2019), consumers (Nyilasy et al., 2014), governments and many others (Pizzetti et al., 2021; Sutantoputra, 2022) are exerting pressure on companies to disclose their environmental footprint resulting from their activities (Kim and Lyon, 2015; Marquis et al., 2016). In response to stakeholder concerns, firms have integrated corporate social responsibility (CSR) as a part of their corporate DNA (Waddock and Googins, 2011).

1.2 Problem statement

Even though Friedman (1970) stated that the social responsibility of businesses was to make profits, subsequent research has shown that by pursuing profits, firms fall out of favor from their stakeholders and are scrutinized more harshly. Stakeholders generally expect firms to behave as good corporate citizens and devote a percentage of their earnings to socially responsible activities that are aligned with their corporate objectives. However, the reality begs to differ, as there are some firms falsely engaging in CSR activities to increase their competitive positions, build their brand image and attract consumers in the guise of philanthropy (Hassan et al., 2023). According to Flynn (2023), the latest statistic on greenwashing showed 58% of companies worldwide are engaged in greenwashing, with the greatest share being in North America. Therefore, with the current trend of green markets, followed by greenwashing, the authenticity of CSR claims by firms are being questioned by stakeholders, especially consumers (Kim, 2022; Malik et al., 2019; Bridoux et al., 2016).

But how do stakeholders distinguish between authentic and inauthentic CSR claims? Research has shown that stakeholders resort to a set of universal ethical principles when they evaluate CSR claims. In addition, drawing from social psychology, researchers also argue that firms engaged in CSR activities generate warmth and competence among their stakeholders, and this perception

influences various outcomes such as commitment, loyalty and perceived brand value, etc. (Shea and Hawn, 2019). Warmth and competence serve as universal dimensions of social judgment (Cuddy et al., 2004; Fiske et al., 2007; Fiske et al., 2002).

1.3 Research objective and research question

Previous studies have incorporated warmth and competence dimensions in examining CSR activities of firms. However, as to our knowledge, there are no studies where the warmth and competence framing of CSR messages have been applied to measure the sustainability of a firm, given its perceived contribution to a sustainability problem (PCP), construct made by Kunnumpuram et al. (2021). Since our thesis extends on the research work of Kunnumpuram et al. (2021), where it was originally established that PCP had a negative effect on green brand equity and had increased the risk of perceived greenwashing, we want to see how the relationship would be affected, if at all, by including warmth and competence frames of CSR messaging. Therefore, we propose our research question as follows:

RQ*: Does the PCP level of a company moderate the effects of CSR messages on (a) green brand equity, (b) perceived greenwashing?*

1.4 Chapter outline:

As chapter 1 introduces the research question, the remainder of this thesis is organized as follows: In chapter 2, a theoretical background of all the relevant concepts pertinent to this thesis are described and the hypotheses are formulated. Next in chapter 3, the methodology is described, and results and discussion are presented in chapters 4 and 5 respectively. In chapter 5, we also suggest the theoretical and practical implications followed by limitations of the study and future research possibilities.

CHAPTER 2 – THEORY & HYPOTHESIS DEVELOPMENT

As we defined our research question in chapter 1, this chapter will delve into the relevant theoretical literature that informs our response to the research question. We begin by providing an insightful overview of the intricate relationship among stakeholders, corporate social responsibility, and sustainability. Subsequently, we navigate through literature related to our dependent variables, namely, green brand equity and perceived greenwashing. The subsequent sections expound upon materiality analysis, ethical principles guiding stakeholder evaluation, culminating in the identification of our moderating variable—perceived contribution to a sustainability problem. Finally, we touch upon the concepts of perceived warmth and competence, which will be formulated to CSR message framing to act as our independent variable, paving the way for the formulation of our hypotheses.

2.1 Stakeholders, CSR & Sustainability

CSR has been under the stakeholders' radar since the mid-20th century (Aslaksen et al., 2021). Grimble and Wellard (1997) define stakeholders as "*any group of people, organized or unorganized, who share a common interest or stake in a particular issue or system*." Only recently consumers were brought in as stakeholders (Clarkson, 1995; Podnar and Jancic, 2006), but in general, common stakeholder groups are employees, shareholders, media, business partners, competitors, the government, the local community, NGOs. According to Votaw (1972), CSR holds different meanings to different stakeholders.

Over the years, various authors have had their own take in defining CSR. According to Davis (1973), the concept of CSR originated from law or legal responsibilities. Carroll's (1979) definition viewed CSR from a hierarchical standpoint, starting from economic CSR to legal CSR to ethical CSR and then discretionary CSR. Brown and Dacin (1997) defined it as "*a company's status and activities with respect to its perceived societal obligations*". Elkington (1998) posited CSR originating from the triple bottom line of social, environmental and economic responsibility. The European Commission in July 2001, in their Green Paper, defined CSR as "*a concept whereby companies voluntarily integrate social, environmental and ethical concerns into their operations and interactions with stakeholders to contribute to a cleaner environment and a better society*" (Commission of the European Communities, 2001). From a marketing standpoint, CSR has been

viewed as a tool that increases brand equity and promotes a company's positive image whilst retaining a firm's current customers as well as attracting potential customers (Reich et al., 2010).

But why has CSR gotten so much attention over the years? Porter and Kramer (2006) state that consumers prefer socially responsible brands when evaluating products. However, according to Kasradze et al. (2023), the recent understanding of the concept of CSR addresses questions as to who or what are companies responsible for, and what are their aims when implementing CSR practices. Even though CSR activities are positively associated with customer loyalty, financial performance and future growth possibilities (Podgorodnichenko et al., 2021), Arraino and Hategan (2019) argue that CSR is an important means of achieving the Sustainable Development Goals (SDGs).

According to the United Nations (UN), sustainable development is "*a development process that does not compromise the ability of future generations to work for their needs as it is used to meet current needs and combat current issues*" (UN, 2015). 17 SDGs (see Appendix A) were set between 2015 and 2030 (UN, 2023). Due to the correlation between various aspects and industries, all businesses, countries, and societies can benefit from achieving the SDGs (Caputo et al., 2021). However, Ranangen et al. (2018) has pointed out that even though SDGs serve as a guideline, firms face difficulties in aligning their core operations with these SDGs. As SDG implementation does not clearly or immediately demonstrate a competitive advantage, managers become skeptical in implementing them, resulting in stakeholder skepticism (Biedenbach and Manzhynski, 2016).

Regardless, measuring sustainability efforts is of paramount importance in assessing their impact. In this paper, extending on Kunnumpuram et al. (2021)'s research work, we are using perceived greenwashing and green brand equity as a measurement of sustainability, which will serve as our dependent variables.

2.2 Green Brand Equity (GBE)

Brand equity is an intangible brand asset inherent to a brand (Yasin et al., 2007), and organizations strive to enhance their brand equities since it provides them with numerous benefits (Swaminathan et al., 2020), in the form of greater bargaining power, competitive advantages, and a better asset evaluation of brand value (Kotler & Armstrong, 2010). Most importantly, a higher brand equity

translates to an increase in consumer willingness to pay a greater sum for the same level of quality due to the strong brand associations attached to that product or service (Bello and Holbrook, 1995).

Both Aaker (1991) and Keller (1993) have defined brand equity from the consumer perspective based on their memory-based brand associations. Aaker (1991) defined brand equity as "*the set of brand assets and liabilities associated with brands, brand names, and brand symbols, which adds to or subtracts from the value provided by a product or service to a company and to the customers*" and also proposed a multidimensional concept of brand equity consisting of brand awareness, brand image, perceived quality, and brand loyalty. Keller (1993) defined customer-based brand equity (CBBE) as "*the differential effect of brand knowledge on consumer response to a brand's marketing*."

Drawing from the above two definitions, with a focus in green marketing, Chen (2010) defined green brand equity as "*the range of impressions, conceptions, and apprehensions toward a brand in the customer's memory, correlated with sustainability and eco-friendly concerns.*" Delafrooz & Goli (2015) posited that the main motive of business organizations in developing green brand equity is to raise environmental awareness, which can then be exploited to gain a competitive advantage by deploying products in different markets (Ailawadi & Keller, 2004). In our study, we use Chen (2010) as a guide and bring into discussion the drivers influencing green brand equity (*green brand image, green satisfaction and green trust)* as they have demonstrated a positive effect on green brand equity.

Brand images can be defined as "*a consumer's mental picture or impression of a brand that is linked to a product offering*" (Cretu & Brodie, 2007; Padgett & Allen, 1997). Brand images have been known to contain functional benefits, symbolic benefits as well as experiential benefits (Park et al., 1986). Mudambi et al. (1997) states that brand images serve as an important differentiator of products or services in terms of tangible quality features. Taking these into account, Chen (2010) developed a new construct called "green brand image" and have defined it as "*a set of perceptions of a brand in a consumer's mind that is linked to environmental commitments and environmental concerns*.''

Mai and Ness (1999) define satisfaction as "*the level of overall pleasure or contentment perceived by a consumer, resulting from the quality of the product or service to fulfill the consumer's expectations, desires, and needs*." Based on this, Chen (2010) proposed the construct of "green satisfaction" and defined it as "*a pleasurable level of consumption-related fulfillment to satisfy a customer's environmental desires, sustainable expectations, and green needs*.'

Hart and Saunders (1997) have described trust as "*a level of the confidence that another party would behave as expected*." Rousseau et al. (1998) argued that trust is "*the intention to accept vulnerability based on positive expectations of the behaviors or intentions of another*." Prior studies have shown that trust consists of three beliefs which are integrity, benevolence and ability (Blau, 1964; Schurr & Ozanne, 1985). With respect to this, Ganesan (1994) stated that trust is "*a willingness to depend on another party based on the expectation resulting from the party's ability, reliability, and benevolence*." Hence, the trust that consumers have can influence their purchasing behavior (Gefen and Straub, 2004). Integrating Blau (1964), Schurr & Ozanne (1985) and Ganesan (1994), Chen (2010) developed the novel construct of "green trust" which he defined as "*a willingness to depend on a product, service, or brand based on the belief or expectation resulting from its credibility, benevolence, and ability about its environmental performance*.''

2.3 Perceived Greenwashing (GW)

The term 'greenwashing' was first coined in 1986 by environmentalist Jay Westervelt, when he published an essay regarding the hospitality industry's practice of promoting towel reuse (Guo et al., 2018; Wolniak, 2015). Currently there exists no fixed definition of greenwashing given its multifaceted nature (de Freitas Netto et al., 2020; Gatti et al., 2019).

Lyon and Maxwell (2011) define greenwashing as a "*selective disclosure of positive information about a company's environmental or social performance, without full disclosure of negative information on these dimensions*." Gatti et al. (2019) describe greenwashing as "*a falsehood of green messages, from the view of an object attribute or a process attribute, or by the accusation from the third party.*" de Freitas Netto et al. (2020) and Delmas and Burbano (2011) describe greenwashing at the corporate level and the product/service level as a "claim form" or an "executional form" for which the promotional media contain nature-evoking elements as

characterized by Parguel et al. (2015). Furthermore, Lyon and Montgomery (2015) referring to the definition put forth by Bowen and Aragon-Correa (2014), define greenwashing as "symbolic corporate environmentalism,"; it may also suggest that greenwashing covers various types of communication which cause consumers to be misled into believing that an organization's environmental practices or performance are both truthful and virtuous. One of the most widely referenced greenwashing definitions is from TerraChoice (2009), characterizing it as "*the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or a service*."

But what drives greenwashing? Given the rise of consumer environmentalism, consumers are demonstrating increased concerns towards preserving the environment and in turn, demanding greener products (Chen, 2008). With this shift in consumer demand, businesses are also trying to maximize from this growing trend as it is cheaper to do so (Stoll, 2017) by making themselves appear greener and environmentally-friendly, in effect gaining consumer trust (Laufer, 2003). Companies communicate to existing and potential customers either through advertising (claim form) or disguise themselves with colors and natural images hinting at their shift towards environmentalism (executional form) as mentioned in Parguel et al. (2015). Additionally, there exists no industry-wide standard for communicating environmental messages (Horiuchi and Schuchard, 2009). Other non-market factors such as tax regulation from governments can also encourage firms to greenwash (Delmas and Burbano, 2011). Regardless, as with any greenwashing, it leads to confusion and consumer skepticism, undermining the efforts of firms that are genuinely concerned about the environment (Ha et al., 2022). In this study, we want to identify the factors that can hopefully reduce perceived greenwashing from a stakeholder perspective. In order to do that, we introduce the concept of materiality analysis, that serves as a guide to decision makers to identify and report on sustainability issues that matter.

2.4 Materiality Analysis

According to Beske et al. (2020), materiality analysis has been defined as "*the process of determining topics that are considered significant based on economic, environmental and social impacts, and substantially affect stakeholder assessment and decisions*." GRI (2013a, 2013b) have defined it as "*the process through which a company systematically identifies, selects, prioritizes*

and reviews what is material to the company and its stakeholders, and thus merits inclusion in sustainability reports." Due to the increased awareness from stakeholder groups, companies are facing various reporting demands for transparency (Deegan and Blomquist, 2006) and in response to such demands, there has been an increase in company reporting over the last decade (Bellantuono et al., 2016), particularly sustainability reporting.

According to Meutia et al. (2022), sustainability reports should present data that cover material topics both for the company and its stakeholders. However, it is important to note, before identifying such material topics, the Global Reporting Initiative (GRI) encourages companies to carry out a materiality analysis. As the materiality concept has a broad scope, GRI provides a proper structure to help companies in determining materiality topics (GRI, 2016). To explain how companies report their materiality analysis and identify the right material, researchers usually make use of the stakeholder theory and legitimacy theory. Using the legitimacy theory perspective, Deegan (2013) explains that companies provide sustainability reports to justify their activities to the public as legitimate activities. Fernando and Lawrence (2014) use the stakeholder theory perspective to explain that sustainability reports serve as a means of accountability to the company's stakeholders, however not all stakeholders, just certain interest groups. Apart from fulfilling stakeholder interests, Belal and Owen (2007) proved that the primary reason for including CSR information in the reporting was to improve brand image. As for identification of material topics, stakeholder engagement is necessary if companies want to gain insight to stakeholder expectations and needs, in order to prepare quality reports (GRI, 2011). But it must be noted that CSR reporting cannot be entirely accountable and credible to customers and other stakeholders, unless they are subject to the materiality assessment process.

2.5 Ethical Principles of Stakeholder Evaluation (Do-no-harm principle)

In conjunction with materiality analysis, it is important to bring into discussion the normative principles that guide stakeholders when they evaluate CSR practices of firms as a means of determining why different stakeholders rate CSR activities differently in a materiality analysis. As Langhorne (2016) describes, this process does not provide a direct solution but at least allows decision-makers to assess the impact of their actions. As introduced in Kunnumpuram et al. (2021), Valle and Borm (2021) have identified nine ethical principles that guide the decision-makers (see

Appendix B). In his original work in analyzing the effects of stakeholder evaluation on green brand equity and perceived greenwashing, Kunnumpuram et al. (2021) merged Valle and Borm's (2021) nine principles into two main perspectives of ethical responsibility: the "good samaritan principle" and the "do-no-harm principle". However, our focus will be on the "do-no-harm" principle as it will form the basis for our moderating variable which we cover in the next section.

The Do-no-harm principle states that it is the company's responsibility to clean up or address the damage that they have caused through their business operations by taking on sustainability initiatives (Crilly et al., 2016). In addition, we also consider a relevant psychological phenomenon, i.e., diffusion of responsibility. It states that people are less likely to take initiative when they believe that someone else will do it first, and this phenomenon worsens when the number of parties involved increases (McCombs, 2021). Therefore, it is important to determine who will be that responsible party. Regardless, the increased traction in CSR has led to higher stakeholder expectations from companies in addressing their negative externalities, and it would be reasonable to assume that communicating the intention to do so would show a positive effect on green brand equity and reduce the threat of greenwashing.

2.6 Perceived Contribution to Sustainability Problem (PCP)

Drawing from the 'do-no-harm principle', Kunnumpuram et al. (2021) quantitatively reformulated the principle into a measurable construct, which he called the '*perceived contribution to a sustainability problem*', in short PCP. In his research, he found that when companies had a high perceived contribution to a sustainability problem, communicating the efforts to clean up one's own mess led to a reduction of green brand equity and increased the threat of perceived greenwashing. The opposite can be said for companies having a low perceived contribution to a sustainability problem.

It is also important to distinguish between high PCP and low PCP companies. According to Hoffman and Kristensen (2017), industries that produce and sell products and services that are generally perceived to be problematic in terms of social and environmental impact are described as controversial. Oil and gas are an example of a controversial industry (Du and Vieira Jr., 2012) since their CSR activities are often perceived with suspicion (Frynas, 2005; Vertigans, 2013;

Woolfson and Beck, 2005). Hence, we conclude that oil and gas companies have a high PCP. Conversely, renewable energy companies such as wind turbine manufacturers (Musall and Kuik, 2011), have been labeled as a potential CSR brand given their commitment to sustainability as well as a general societal acceptance that renewable energy companies have the right response to tackle climate change (Hoffman and Kristensen, 2017). Therefore, renewable energy firms have low PCP.

On the basis of the above discussion, we want to see how the PCP level of a company would have an effect on green brand equity and perceived greenwashing when companies use warmth or competence frames in CSR messaging.

2.7 Perceived Warmth and Perceived Competence (Social perception)

Social psychology research dictates that people possess the ability to immediately make an assumption about another individual or a group based on first-time encounters. Many of these assumptions originate from stereotypes. Fiske (1998) defines stereotypes as "*cognitive beliefs about the characteristics of another group.*" Moreover, Fiske and colleagues (Cuddy et al., 2008; Fiske et al., 2007; Fiske et al., 2002) developed the Stereotype Content Model (SCM), which consists of two fundamental dimensions, warmth and competence, for all stereotypes used to evaluate people and social groups. Warmth perceptions relate to intent and comprise of friendliness, trustworthiness, helpfulness, sincerity and morality traits. Competence perceptions relate to ability and include skill, intelligence, creativity as well as efficacy (Cuddy et al., 2008).

In recent years, there have been some studies where researchers have applied warmth and competence dimensions to explain CSR activities of firms (Aaker et al., 2010; Kervyn et al., 2012; Lee et al., 2016; Chen et al., 2018; Shea and Hawn, 2019; Gidaković and Zabkar, (2021, 2022)).

The overarching theme of these studies concluded that CSR connoted warmth behavior as mentioned in Shea and Hawn (2019). In addition, according to Lichtenstein et al. (2004), CSR activities are generally studied from the warmth perspective in the literature.

2.8 PCP level of a company and warmth-competence frames of CSR messaging

Hoffman and Kristensen (2017) conducted qualitative research work comparing the online CSR communication of two companies from the energy sector: Shell (high PCP company) and Vestas

(low PCP company). They have found that Shell constructed its corporate image as an innovative helper that served the energy needs of the world in a sustainable and responsible manner (warmth dimension), whilst Vestas portrayed itself as a dominant leader succeeding in the market due to its excellent customer service (competence dimension). The main takeaway from this study was that both firms engaged in 'inverted positioning', meaning that they overstated their CSR claims to be perceived as legitimate by the public (March, 2007). The consequence of inverted positioning can damage the corporate reputation of the firm, thus undermining the credibility of the CSR claim. In other words, increase the risk of perceived greenwashing. Moreover, greenwashing would result in stakeholder skepticism, leading to more distrust, thus reducing green brand equity (Qayyum et al., 2022).

In another study, Loveland et al. (2019) examined the corporate image advertising of four of the largest publicly-held oil and gas firms – ExxonMobil, Shell, Chevron and BP (high PCP companies). The ads were categorized into five areas of CSR (operational safety, economic impact, environmental responsibility, philanthropy and sustainability initiatives). They found that operational safety was well received by stakeholders as it countered the negative perceptions related to the oil and gas industry, signifying competence. On the other hand, sustainability initiatives, signifying warmth, were the least popular among stakeholders, a reference to inverted positioning (Hoffman and Kristensen, 2017).

2.8.1 Hypotheses

Drawing from the above findings of the two studies, we see that when firms have a high PCP and use a warmth frame for CSR communication, it results in stakeholder skepticism because the CSR claim appears to stakeholders as an exaggeration of its CSR efforts (claiming to be something that it is not), which increases the risk of perceived greenwashing and reduces green brand equity. However, when the high PCP firm uses a competence frame for CSR communication, the risk of perceived greenwashing goes down because it signals to stakeholders the capabilities of the firm, which in turn should increase green brand equity. Conversely for firms with low PCP, it can be argued that if they use a warmth frame for CSR communication, then it should reduce the risk of perceived greenwashing and bolster green brand equity then if they opted for a competence frame.

Based on the above discussion, we propose the following hypotheses:

H1: *There is a significant interaction between the PCP level of a company and the effects of warmth versus competence frames of CSR messages on perceived greenwashing. Specifically, competence messages reduce the risk of perceived greenwashing more than warmth messages when PCP is high, but not when PCP is low.*

H2: *There is a significant interaction between the PCP level of a company and the effects of warmth versus competence frames of CSR messages on green brand equity (GBE). Specifically, competence messages have stronger positive effects on GBE than warmth messages when PCP is high, but not when PCP is low.*

2.8.2 Conceptual research model

Figure 1 summarizes how we have used the above theoretical discussion to arrange our variables of interest.

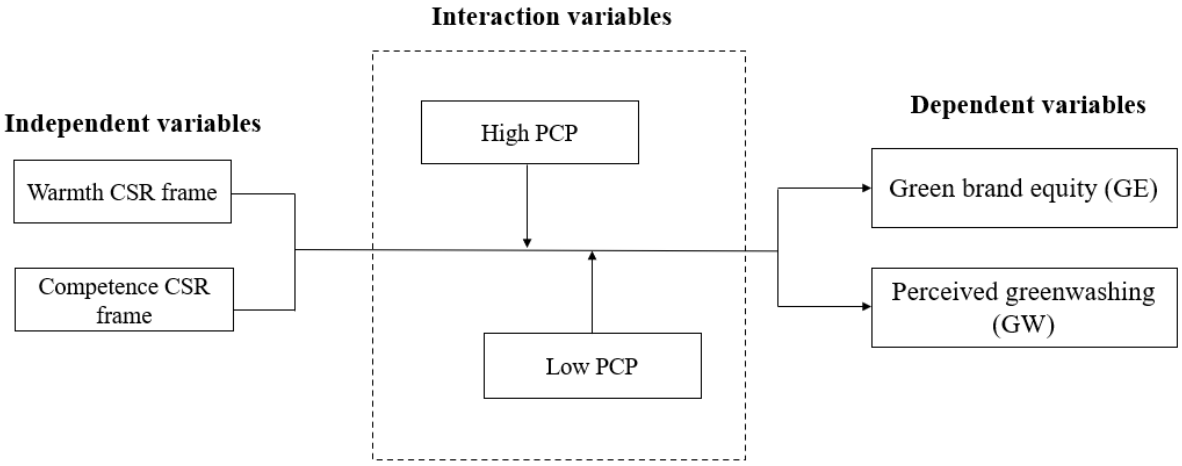

Figure 1: Conceptual research model (developed by the researchers)

CHAPTER 3 – RESEARCH METHODOLOGY

3.1 Refined research model

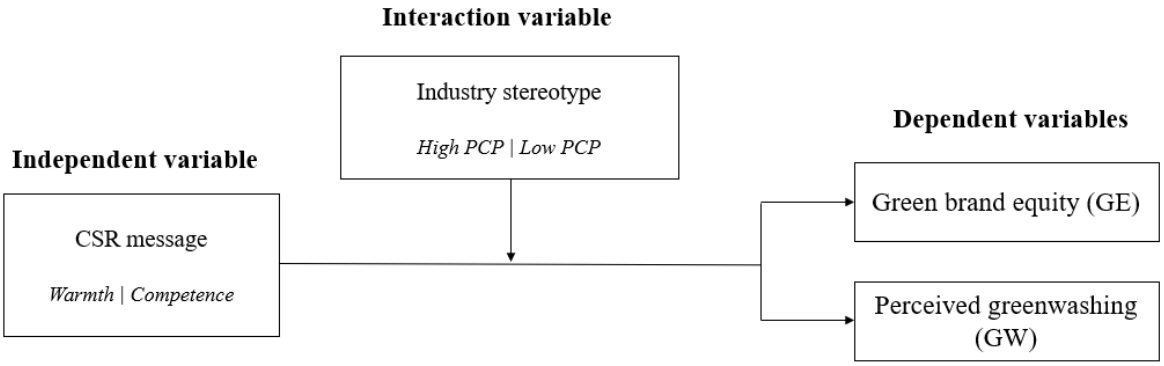

Figure 2: Refined research model (developed by the researchers)

3.2 Methodology and design

In this research, to fulfill our data requirements, we have used a quantitative approach. As shown on the research model in Figure 2, we have as our independent variable, CSR messages comprising of warmth and competence frames. Perceived greenwashing (GW) and green brand equity (GBE) serve as our two dependent variables. Finally, the perceived contribution to a sustainability problem (PCP), has been reformulated as the industry stereotype, consisting of two levels: high PCP and low PCP, serving as our interaction variable.

The study design involves a 2 (High PCP vs. Low PCP) by 2 (Warmth vs. Competence) within-subjects factorial design to test our hypotheses outlined in chapter 2. A factorial design will allow for testing the effect on the dependent variables at different levels of the independent variables and will also allow for testing any interaction effect between these variables (Malhotra et al., 2017). Hence, we have created four experimental groups as shown in Table 1.

x	Warmth	Competence
High PCP	High PCP, Warmth	High PCP, Competence
Low PCP	Low PCP, Warmth	Low PCP, Competence

Table 1: 2 x 2 Factorial design (developed by the researchers)

The measurement of the identified construct in Table 2 was conducted through an online survey (Saunders et al., 2019), thus increasing the external validity (Calder, 1982). Since our objective was to measure how respondents evaluated the priming stimuli, the survey questionnaire contained questions measuring the dependent variables, the independent variable as well as the moderating variables (see Appendix D). As the data collection process was conducted on an online platform, the priming stimuli was integrated at the start of the survey. For guaranteeing variance in the independent variable being measured, respondents were exposed to manipulated sustainability claims in the form of priming stimuli..

The theoretical structure of the relationships between the different items and the constructs has been established through confirmatory factor analysis. Next, drawing from the manipulation checks, a multivariate analysis of variance was conducted to test for the main effects between PCP, Warmth and Competence, while also determining if there is any interaction effect between them.

3.2 Priming stimuli (treatment message)

The stimuli or treatment message (warmth or competence CSR frame) was integrated in the first part of the online questionnaire. To avoid any prior perceptions of the brand's sustainability performance on the result, a fictional company was used, ANKOR INTERNATIONAL, as giving a specific name could perhaps evoke brand perceptions upon reading the name of the brand (Friese et al., 2006).

Warmth frame:

Here is a text from the homepage of ANKOR INTERNATIONAL. Please read it carefully.

"*The world's most important energy source is the urge to make a difference. Everyday ANKOR INTERNATIONAL energizes millions of people and companies around the world. Behind this contribution is another kind of energy: the urge to make a difference for people and the planet. We believe this is the key to solving the energy transition – the greatest task of our time.*"

Figure 3: Warmth CSR frame

Competence frame:

Here is a text from the homepage of ANKOR INTERNATIONAL. Please read it carefully.

"*The world's most important energy source is competence. Every day INTERNATIONAL energizes millions of people and companies around the world. Behind this contribution is another kind of energy: competence. We believe this is the key to solving the energy transition – the greatest task of our time.*"

Figure 4: Competence CSR frame

Prior to the warmth and competence CSR frames, respondents were presented with a brief explanation of the company's either high PCP or low PCP profile, as shown below:

High PCP:

"*ANKOR INTERNATIONAL is an international producer of oil and gas, with operations in several countries.*"

Figure 5: High PCP profile

Low PCP:

"*ANKOR INTERNATIONAL is an international producer of wind turbines (windmills for power production), with operations in several countries.*"

Figure 6: Low PCP profile

3.3 Survey logic

With the data collection being online, it allowed us to use several survey logics which improved the quality of data collection (see Appendix C). We have used Qualtrics to create the survey questionnaire and linked it with Prolific Academic, a crowdsourcing platform that requires participants to provide high quality data (Peer et al., 2017) and were able to recruit 402 respondents from the US. Each respondent received £5.96 per hour (equivalent to $7.52 per hour). For data quality assurance purposes, we included a filter question at the start of the questionnaire asking the respondents their highest education achieved. Depending on the filter question response, respondents were either led on to proceed with the questionnaire or directed to the exit page if they responded with 'no formal education'. The filter question has allowed us to exclude 5 respondents. This resulted in a sample of 397 respondents. Upon consenting to participate in the study, the respondents were randomly assigned to one of the four groups, ensuring a statistically valid data collection technique (Saunders et al., 2019).

3.4 Questionnaire design and measurements

A detailed illustration of the complete survey questionnaire can be found in Appendix D. After the respondents were exposed to the warmth or competence CSR frames, they were asked to evaluate different statements on a 7-point Likert-type scale, (1 = strongly disagree and 7 = strongly agree). Most items used in this survey were derived from previously conducted surveys by researchers to measure the constructs (see Table 2). However, in an attempt to increase the validity of the constructs, some items were added or adjusted. The respondent is shown a total of 14 questions which measured the dependent variables. The first four questions of this section are derived from the scales measuring perceived Credibility of CSR Report (Lock and Seele, 2017). The following seven questions are derived from intrinsic CSR motive concept (Lichtenstein et al., 2004; Horiuchi

and Schuchard, 2009; Laufer, 2003; Wagner et al., 2009). As the last three questions measured green brand equity, the corresponding questions have been derived from the measurement scale for drivers of green brand equity by Chen (2010). Preceding the section on dependent variable evaluation is the section measuring the independent variable(s). The first three questions evaluate PCP and the subsequent three questions measure POS, but note that we are not using POS in this research. In addition to questions measuring the dependent and independent variables, questions quantifying warmth and competence are also to be included. A total of eight questions have been used. The first four questions measure the level of competence followed by the next four measuring level of warmth. The measurement scales were taken from Gidakovic and Zabkar (2021) and Lee et al. (2016). Please note there were two sections in questionnaire, feelings (questions 1 to 8) and green behavior (questions 36 to 39), that were not used in our study.

Construct measured	**Type of variable**	**Question number**	**Theoretical reference**
CSR Fit (congruity)	Dependent variable	22 to 25	Measurement scale for credibility of CSR reports derived from Lock and Seele (2017)
CSR Fit (congruity)	Dependent variable	27	Measurement scale for intrinsic CSR motives derived from Lichtenstein et al. (2004)
Perceived greenwashing	Dependent variable	29	Measurement scale derived from Horiuchi and Schuchard (2009) and Laufer (2003)
Perceived greenwashing	Dependent variable	30	Collected from Wagner et al. (2009)
Green brand equity	Dependent variable	33 to 35	Measurement scale for drivers of green brand equity derived from Chen Y.S. (2010)
Perceived contribution to	Independent variable	17 to 18	Measurement scale derived from Kunnumpuram et al. (2021)

sustainability problem			
Perceived warmth and perceived competence	Moderating variable	9 to 16	Collected from Gidaković and Zabkar (2021) and Lee et al. (2016)

Table 2: Questionnaire measurement scale references

3.5 Data collection procedure

The entire data collection procedure was conducted online. As illustrated in the previous section, only one restriction (filter question) was prefixed on the respondent demography during the collection stage. It was a requirement that the respondents were US citizens or at least resided in the US and had at least an education degree. The target audience feature from Prolific enabled data collection procedure to be fast and accurate. Respondents belonging to different age groups were welcome to participate in the survey. Total time for survey completion averaged at 4.47 minutes with a total percentage completion of 96.2%. In addition to 'Age' and 'Gender', respondent demography also consisted of 'Annual household income'.

3.6 Data summary (Respondent demography)

The survey questionnaire was sent to 402 respondents, out of which 397 respondents were able to answer the survey questionnaire. Below we present a graphical representation of the demographics of our respondents.

Gender	**Frequency**
Female	224
Male	166
Prefer not to say	7

Table 3: Respondent gender frequency (n = 397), source: survey data

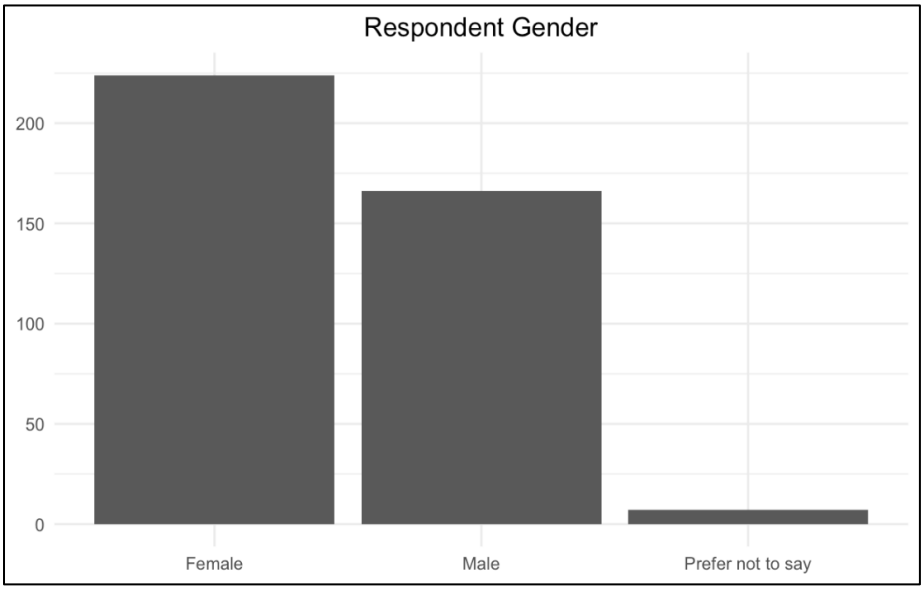

Figure 7: Respondent gender distribution

Table 3 presents the frequency distribution of respondent gender. The accompanying Figure 7 visually represents the gender distribution among respondents. The chart illustrates the proportion of each gender group, providing a clear visual understanding of the distribution. The majority of respondents identified as female, constituting 56.4% of the total sample. This suggests a significant representation of female perspectives in the study. Male respondents comprised 41.8% of the total sample. While the number of male participants is slightly lower than female participants, it remains a substantial portion of the overall respondents. A small number of participants (7 individuals) opted not to disclose their gender. This choice underscores the importance of respecting respondent privacy and the diversity of individuals participating in the survey.

Age	18-29	30-44	45-60	More than 60
Frequency	124	139	79	55

Table 4: Respondent age frequency (n = 397), source: survey data

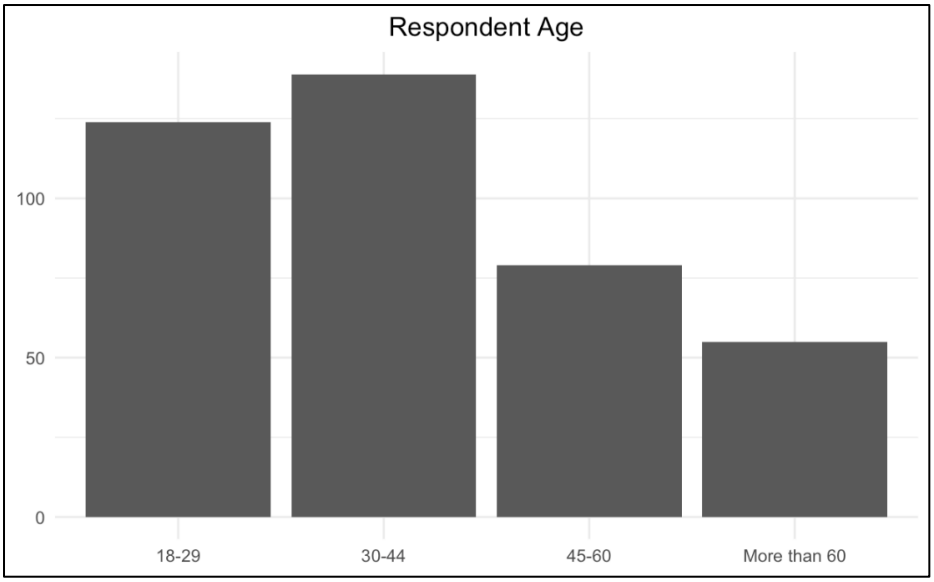

Figure 8: Respondent age distribution

Table 4 displays the frequency distribution of respondent age. Figure 8 visually represents the age distribution among respondents, illustrating the proportion of participants in each age group. The chart aids in quickly grasping the distribution patterns. The largest segment of respondents falls within the 30-44 age group, comprising 35.0% of the total respondents. This age bracket represents a substantial portion of the survey participants. The second-largest age group is 18-29, constituting 31.2% of the total sample. This suggests a significant presence of younger individuals in the study. Respondents aged between 45 and 60 account for 19.9% of the total sample. This group provides a diverse perspective, capturing the experiences and views of individuals in a middle-aged range. Individuals aged more than 60 constitute 13.8% of the respondents. This older age group contributes valuable insights from a more experienced demographic.

Household income distribution	**Frequency**
$0 - $9999	15
$10000 - $24999	48
$25000 - $49999	79

$50000 - $74999	81
$75000 - $99999	52
$100000 - $124999	41
$125000 - $149999	28
$150000 - $174999	10
$175000 - $199999	9
Above $200000	22
Prefer not to say	12

Table 5: Respondent household income (n =397), source: survey data

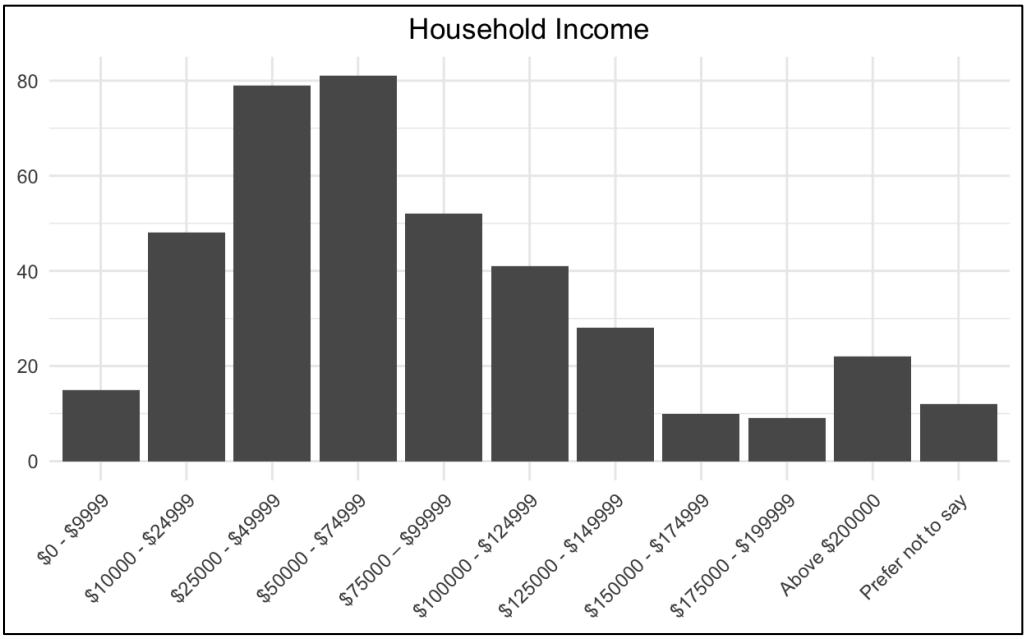

Figure 9: Respondent household income distribution

Table 5 displays the frequency distribution of respondent household income. Figure 9 represents the distribution of respondent household income, offering a clear visualization of the income ranges within the surveyed population. The chart enhances the understanding of the economic

diversity among participants. A considerable proportion of respondents fall within the lower income ranges, with a combined total of 35.8% of participants reporting incomes up to $49,999. This may indicate a diverse representation of individuals from various socio-economic backgrounds. The middle-income ranges, from $50,000 to $124,999, collectively account for 43.8% of respondents. This group represents a significant portion of the surveyed population. Respondents with incomes of $125,000 and above make up 17.4% of the sample. This suggests a notable presence of individuals with higher household incomes, contributing to the overall economic diversity of the study. A small percentage (3.0%) of participants chose not to disclose their household income, highlighting the sensitivity of this demographic information.

CHAPTER 4 – DATA ANALYSIS

This chapter has been arranged into three parts: (1) Testing the measurement model (CFA model), (2) Manipulation check (Welch's t-test) and (3) Multivariate analysis of variance (MANOVA).

4.1 Confirmatory factor analysis (CFA)

To assess the validity of the hypotheses proposed in Chapter 2, confirmatory factor analysis (CFA) was conducted using the *lavaan* package (version 0.6-16) in R (version 4.2.1). The analytical methodology outlined by Rosseel (2012) served as the benchmark for the directional framework guiding the CFA execution. Furthermore, adhering to the established practices contributes to the credibility and reliability of the study's findings. Table 6 presents all the variables that were used in this research.

Variables
Competence (1 = Strongly Disagree, 7 = Strongly Agree)
comp_1: Effective in implementing CSR
comp_2: Capable of executing CSR
comp_3: Competent over other companies in implementing CSR
comp_4: Company's CSR is seen as intelligent
Warmth (1 = Strongly Disagree, 7 = Strongly Agree)
warm_1: Approach to CSR is warm
warm_2: Approach to CSR is friendly
warm_3: Commitment to CSR is good-natured
warm_4: View company's CSR as kind
Contribution to problem (1 = Strongly Disagree, 7 = Strongly Agree)
cont_prbm1: Believe the company is responsible

cont_prbm2: General opinion that company is responsible
Perceived Greenwashing (1 = Strongly Disagree, 7 = Strongly Agree)
grn_wash1: CSR is misleading
grn_wash2: General wellbeing of society (**note**: the scales were reversed here, 1 = Strongly Agree and 7 = Strongly Disagree)
Green Brand Equity (1 = Strongly Disagree, 7 = Strongly Agree)
grn_eqty1: Meets my expectations of sustainable performance
grn_eqty2: Generally reliable sustainable initiatives
grn_eqty3: Keeps it green commitments
grn_eqty4: Prefer this company to others
grn_eqty5: Trust green initiatives over other companies

Table 6: Measurement items used in the study

Factor loadings less than (0.6) were removed from the model, according to the multivariate analysis criteria of Hair et al. (2019). Table 7 contains all the measurement items that have a standardized factor loading above 0.6, meaning that they are performing well in terms of their association with the underlying constructs. Therefore, all the measurement items can be kept in the measurement model for the next step of the confirmatory factor analysis.

Variable	St. Factor Loading	CR	AVE
Competence		**0.93**	**0.78**
comp_1	0.889		
comp_2	0.864		
comp_3	0.914		
comp_4	0.854		
Warmth		**0.94**	**0.80**

warm_1	0.889		
warm_2	0.879		
warm_3	0.896		
warm_4	0.923		
Contribution to problem		**0.87**	**0.77**
cont_prbm1	0.899		
cont_prbm2	0.857		
Perceived Greenwashing		**0.79**	**0.66**
grn_wash1	0.734		
grn_wash2	0.891		
Green Brand Equity		**0.93**	**0.73**
grn_eqty1	0.878		
grn_eqty2	0.912		
grn_eqty3	0.866		
grn_eqty4	0.771		
grn_eqty5	0.816		

Table 7: Standardized factor loadings of the identified constructs

The measurement items from Table 6 were used to run and test a confirmatory factor analysis model. As suggested by Rosseel (2012), our first stage of the analysis utilized the maximum likelihood estimator (MLR), known for its resilience to non-normal data. Employing the MLR with robust standard errors, the model demonstrated a significant difference between the user model and the baseline model, as evidenced by a chi-square test statistic (χ^2) of 223.148 with 109 degrees of freedom ($p < .001$). The χ^2/df ratio was examined yielding a value of 2.044 (see Appendix E), indicative of a good fit, although David (2020) along with some other statisticians suggest any χ^2/df value less than 5 to be an acceptable fit for model; rest assured the model is accepted.

Next, both Root Mean Square Error of Approximation (RMSEA) = 0.051 and the Standardized Root Mean Square Residual (SRMR) was 0.032, which was well below the recommended threshold of 0.08, signifying good model fit. Fit indices further supported the model's adequacy.

Furthermore, the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) surpassed the 0.9 threshold, yielding values of 0.973 and 0.966, respectively. These results indicated a strong fit between the proposed model and the observed data.

Moving on to convergent validity and reliability measures, the average variance extracted (AVE) and construct reliability (CR) were considered for each latent construct in Table 6. A CR value better than 0.6 showed good construct reliability, while an AVE score larger than 0.5 suggested adequate convergent validity (Fornell & Larcker, 1981). The model exhibits a good fit, and the latent constructs demonstrate strong convergent validity and reliability. These findings provide confidence in the model's ability to accurately capture the relationships between latent constructs.

In pursuit of assessing the discriminant validity of the latent constructs, we present the correlation matrix in Table 8, showing the interrelationships between competence (comp), warmth (warm), contribution to the problem (cont_prbm), Greenwashing (grn_wash), and Green Equity (grn_eqty). Notably, the values in the correlation matrix are expected to be less than one by a magnitude exceeding two standard errors, a criterion essential for establishing discriminant validity (Xie et al., 2015).

Latent Constructs	**comp**	**warm**	**cont_prbm**	**grn_wash**	**grn_eqty**
comp	1	0.902	-0.103	-0.857	0.882
warm		1	-0.050	-0.825	0.847
cont_prbm			1	0.273	-0.161
grn_wash				1	-0.940
grn_eqty					1

Abbreviations: comp, competence; warm, warmth; cont_prbm, contribution to the problem; grn_wash, Greenwashing; grn_eqty, Green Equity

Table 8: Correlation of constructs

Table 9 provides insights into the standard errors associated with these correlations. To rigorously validate discriminant validity, the condition (1 – Table 8 - (2 x Table 9) > 0) must be satisfied for all pairs of latent constructs. This condition ensures that the correlation values, when adjusted for standard errors, are consistently greater than zero.

Latent Constructs	**comp**	**warm**	**cont_prbm**	**grn_wash**	**grn_eqty**
comp	0	0.019	0.070	0.025	0.019
warm		0	0.070	0.028	0.023
cont_prbm			0	0.072	0.070
grn_wash				0	0.019
grn_eqty					0

Abbreviations: comp, competence; warm, warmth; cont_prbm, contribution to the problem; grn_wash, Greenwashing; grn_eqty, Green Equity

Table 9: Standard error of the correlations

Table 10 consolidates the calculated discriminant validity values. Each entry in the table represents the result of (1 – Table 8 - (2 x Table 9)), affirming that the derived values are indeed greater than zero, thus satisfying the discriminant validity condition. This thorough scrutiny of discriminant validity offers reassurance that the latent constructs in the model exhibit distinctiveness, bolstering the reliability of the measurement model for MANOVA. This rigorous assessment contributes to the robustness of the measurement framework, aligning it with the prerequisites for meaningful multivariate analysis of variance. Furthermore, it is essential to highlight that all correlation coefficients demonstrate a high level of statistical significance, with p-values consistently below 0.01. This indicates a robust and reliable pattern of associations among the latent constructs in the model.

Latent Constructs	**comp**	**warm**	**cont_prbm**	**grn_wash**	**grn_eqty**
comp	0	0.06	0.963	1.807	0.08
warm		0	0.91	1.769	0.107
cont_prbm			0	0.583	1.021
grn_wash				0	1.902
grn_eqty					0

Abbreviations: comp, competence; warm, warmth; cont_prbm, contribution to the problem; grn_wash, Greenwashing; grn_eqty, Green Equity

Table 10: Discriminant validity

4.2 Manipulation check (Welch Two Sample t test)

The preceding CFA analysis has played a pivotal role in establishing a robust foundation for the subsequent manipulation checks. Through the CFA, we meticulously assessed the measurement model's validity, ensuring that our chosen latent constructs, such as 'Warmth,' 'Competence,' 'Contribution to Problem' (PCP), 'Greenwashing,' and 'Green Brand Equity,' were accurately represented and distinct from one another. This validation provides us with confidence in the reliability of our measurement instruments and their ability to capture the nuanced variations introduced by experimental conditions.

The manipulation checks become a necessary step in our study due to the experimental design involving manipulations of 'Warmth,' 'Competence,' and 'PCP.' With 'Warmth' and 'Competence' identified as moderating variables and 'PCP' as the independent variable influencing 'Greenwashing' and 'Green Brand Equity,' it is essential to ensure that the intended variations in these constructs align with our experimental conditions. Manipulation checks act as a diagnostic tool, making it possible to verify that the participants' perceptions indeed differ across the designated conditions (Hoewe, 2017). This verification is critical for establishing the internal validity of our experiment, ensuring that any subsequent effects observed can be confidently attributed to the specific manipulations rather than extraneous factors.

The Welch Two Sample t-test, a powerful tool for comparing means in unequal sample sizes or unequal variances (Welch, 1947), is employed to assess the significance of differences in perceived warmth, PCP, and competence between experimental conditions. By conducting manipulation checks, we ensure that any observed differences are not mere artifacts but reflective of the intentional experimental variations. This strategic approach enhances the credibility of our subsequent analyses, allowing for a more nuanced interpretation of how changes in 'Warmth,' 'Competence,' and 'PCP' influence participants' perceptions of 'Greenwashing' and 'Green Brand Equity.' In essence, manipulation checks serve as a crucial precursor, fortifying the reliability and validity of our experimental findings. Table 11 presents the Welch t-test.

Manipulation	Control Group (Mean)	Treatment Group (Mean)	t value	df	p-value	95% CI	
Warmth	4.31	4.87	-4.15	394.8	0.0000405	-0.83	-0.30
PCP	4.29	5.05	-5.51	394.9	0.00000006502	-1.025	-0.49
Competence	4.75	4.57	1.40	394.3	0.16	-0.071	0.43

Table 11: Welch Two Sample t-test

4.2.1 Perceived warmth manipulation check

The manipulation check for perceived warmth, conducted through the Welch Two Sample t-test between the 'Warmth' and 'No Warmth' conditions, yielded substantial insights. As delineated in Table 10, the test demonstrated a pronounced difference in group mean scores, reflected through a t value of (- 4.15) and a remarkably low p-value of (0.0000405). This significant result allows us to reject the null hypothesis and accept the alternate hypothesis (‘the true difference in means between the two groups is not equal to zero’), affirming that a genuine difference exists in perceived warmth between the two groups.

Delving into the specifics, the mean score for the control group exposed to 'No Warmth' conditions was 4.31, while the treatment group, subjected to 'Warmth' conditions, exhibited a higher mean score of 4.87. This statistically significant distinction accentuates the effectiveness of our warmth manipulation, demonstrating that participants in the treatment group indeed perceived greater warmth for the companies under consideration. The narrow confidence interval (-0.83 to -0.30) further consolidates this finding, emphasizing the robustness and precision of the observed effect.

This outcome bears substantial implications for our study, as it reinforces the experimental manipulation's efficacy in influencing participants' perceptions of warmth. The significant difference in means underscores the relevance of warmth as a moderating variable, setting the stage for a more nuanced exploration of its impact on subsequent dependent variables, such as 'Greenwashing' and 'Green Brand Equity.'

4.2.2 Perceived contribution to the problem (PCP) manipulation check

Examining perceived contribution to the problem (PCP) through the Welch Two Sample t-test, by contrasting the 'High' and 'Low' conditions, unraveled compelling insights into the experimental manipulation's impact. As shown in Table 10, the statistical assessment revealed a robust and highly significant difference between the group means, as indicated by a substantial t value of (-5.51) and an exceedingly low p-value of (0.00000006502). In light of these results, the null hypothesis is rejected, allowing us to accept the alternative hypothesis, asserting that the true difference in means between the two groups is not equal to zero.

The mean scores further elucidate this stark contrast, with the control group under 'Low' conditions exhibiting a PCP mean of 4.29, while the treatment group exposed to 'High' conditions demonstrated a higher mean of 5.05. The associated 95% confidence interval (-1.025 to -0.49) accentuates the precision of this effect, reinforcing the robustness of our experimental manipulation. This outcome substantiates that the participants in the 'High' condition perceived a significantly greater contribution to the problem from the companies under consideration compared to their counterparts in the 'Low' condition. The successful manipulation of perceived contribution to the problem sets the stage for a nuanced exploration of its impact on subsequent dependent variables.

4.2.3 Perceived competence manipulation check

Turning our attention to the manipulation check for perceived competence between the 'Competence' and 'No Competence' conditions, the Welch Two Sample t-test as outlined in Table 10, yielded a t value of (1.40) and a p-value of (0.16), both falling short of significance at the 95% confidence level. Therefore, the null hypothesis could not be rejected, signaling that the true difference in means between the two groups is statistically indistinguishable from zero.

The mean scores elucidate this lack of significant differentiation, with the control group under 'No Competence' conditions exhibiting a perceived competence mean of 4.75, while the treatment group exposed to 'Competence' conditions demonstrated a slightly lower mean of 4.57. The associated 95% confidence interval (-0.071 to 0.43) encapsulates zero, reinforcing the statistical non-significance of this experimental manipulation.

4.3 Multivariate analysis of variance (MANOVA)

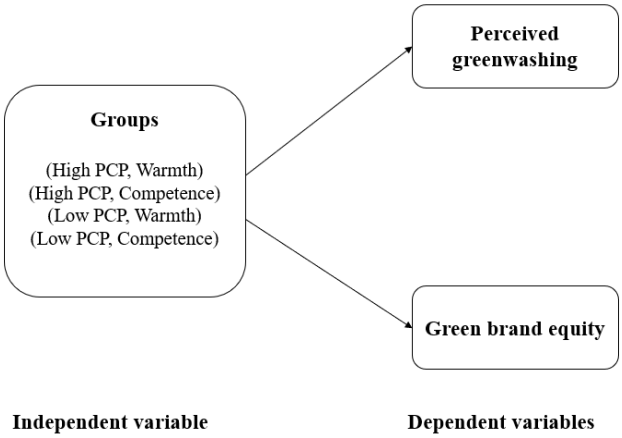

Figure 10: One-way MANOVA (developed by the researchers)

The depth of our analysis widens as we employ a one-way Multivariate Analysis of Variance (MANOVA), a strategic choice tailored to discern the nuanced variations among the manipulation groups (Tabachnick and Fidell, 2007). As shown in Figure 10, with 'Greenwashing' and 'Green Brand Equity' standing as the twin pillars of our investigation, the manifold impact of high and low levels of perceived contribution to the problem (PCP) paired with either 'Warmth' or 'Competence' is under scrutiny. Our hypothesis after making the four experimental groups, denoted as H0, posits that the joint mean differences across these four distinct groups for 'Perceived Greenwashing' and 'Green Brand Equity' are negligible. This sets the stage for an intricate exploration of how these combinations influence consumers' perceptions.

One of the statistical methods, the one-way MANOVA, serves as a guide for our investigation. This analytical choice is grounded in the need to unravel the joint impact of our independent variable manipulations on the dependent variables, 'Greenwashing' and 'Green Brand Equity.' Given the multi-dimensionality of our outcomes, the one-way MANOVA allows us to assess the collective influence of our manipulation groups on both 'Greenwashing' and 'Green Brand Equity' simultaneously. The carefully crafted manipulation groups—distinguished by variations in PCP, Warmth, and Competence—promise a granular understanding of how these combinations resonate in shaping consumers' perceptions of corporate environmental practices. Then we delve into the

intricacies of the one-way MANOVA, unraveling the collective impact of these manipulation groups on our pivotal dependent variables. Table 12 illustrates the results of the MANOVA test.

Test	**Estimate**	**F-value**	**Df**	**Pr(>F)**	**Partial Eta squared.** *(1-estimate ^ (1/df))*
Pillai	0.07248	4.9	3	0.00005855***	0.583
Roy	0.074	9.7	3	0.000003496***	0.58
Hotelling-Lawley	0.078	5.1	3	0.00004217 ***	0.57

Signif. codes: 0.01 '***' 0.05 '**' 0.1 '*'

Table 12: One-way MANOVA Test

The above statistical tests — Pillai, Roy, and Hotelling-Lawley — collectively show significant results, allowing us to reject the null hypothesis. Our exploration of the joint mean differences among the four manipulation groups, each uniquely characterized by varying levels of perceived contribution to the problem (PCP), 'Warmth,' and 'Competence,' reveals a tapestry of distinctions in 'Perceived Greenwashing' and 'Green Brand Equity.'

The Pillai test, with a strikingly low p-value of (0.00005855), allows us to reject the null hypothesis, laying bare the substantial disparities in the joint mean values of our dependent variables. The associated partial eta squared value of 0.583 further adds depth to our understanding, illuminating that an impressive 58% of the variance in 'Perceived Greenwashing' and 'Green Brand Equity' is attributed to the divergences in our manipulation groups.

Roy's and Hotelling-Lawley's tests also echo the same sentiment, exhibiting significant p-values of (0.000003496) and (0.00004217), respectively. These results confirm that our manipulation groups were able to unravel the intricacies of consumer perceptions, as the joint influence extends beyond a singular statistical lens.

The substantial partial eta squared values (0.58) underscore the robustness of our model, emphasizing that over half of the variability in 'Perceived Greenwashing' and 'Green Brand Equity' is comprehensively explained by the interplay of manipulation factors. This not only bolsters the rejection of the null hypothesis but underscores the practical significance of our findings. As we navigate the intricacies of consumer perceptions, the discernible impact of manipulation groups becomes a pivotal facet of our narrative.

Our one-way MANOVA test demonstrates that the distinct combinations of PCP, 'Warmth,' and 'Competence' had a profound influence on consumers' perceptions of 'Perceived Greenwashing' and 'Green Brand Equity.' The statistical significance combined with the substantive partial eta squared values crystallizes the pivotal role these manipulation factors play in shaping consumer attitudes.

4.3.1 Tukey multiple comparisons of means

Here we compare the group means through Tukey's method. With a 95% family-wise confidence level, this statistical endeavor aims to discern the subtle variations among our manipulation groups, offering a comprehensive understanding of the specific pairings that contribute to the observed differences.

Tukey's method, renowned for its effectiveness in controlling family-wise error rates, brings forth a meticulous examination of mean differences (Tukey, 1953). In the context of our study, the manipulation groups vary in terms of perceived contribution to the problem (PCP), 'Warmth,' and 'Competence,' Tukey's method serves as a discerning lens to identify specific groups that significantly differ in their perceptions of 'Perceived Greenwashing' and 'Green Brand Equity.' At the heart of Tukey's multiple comparisons lies the robust 95% family-wise confidence level, a strict criterion that ensures the reliability of our findings. This confidence level guards against the inflation of Type I error, providing a secure framework for drawing meaningful conclusions about the pairwise differences among our manipulation groups. The outcomes of Tukey's multiple comparisons will highlight which specific combinations of manipulation factors yield statistically distinct perceptions. The comparison of means, accompanied by confidence intervals, will illuminate the pathways where the divergence in PCP, 'Warmth,' and 'Competence' manifests most prominently.

4.3.2. Identify the groups with highest difference in their perceived greenwashing

The box plot in Figure 11 captures the impact of the four distinct groups on perceived greenwashing. Noteworthy insights emerge when comparing high perceived contribution to the problem (PCP) with warmth and competence. Surprisingly, in instances of high PCP, the perceived competence fails to exert a significant impact on the perceived threat of greenwashing (p-value = 0.996).

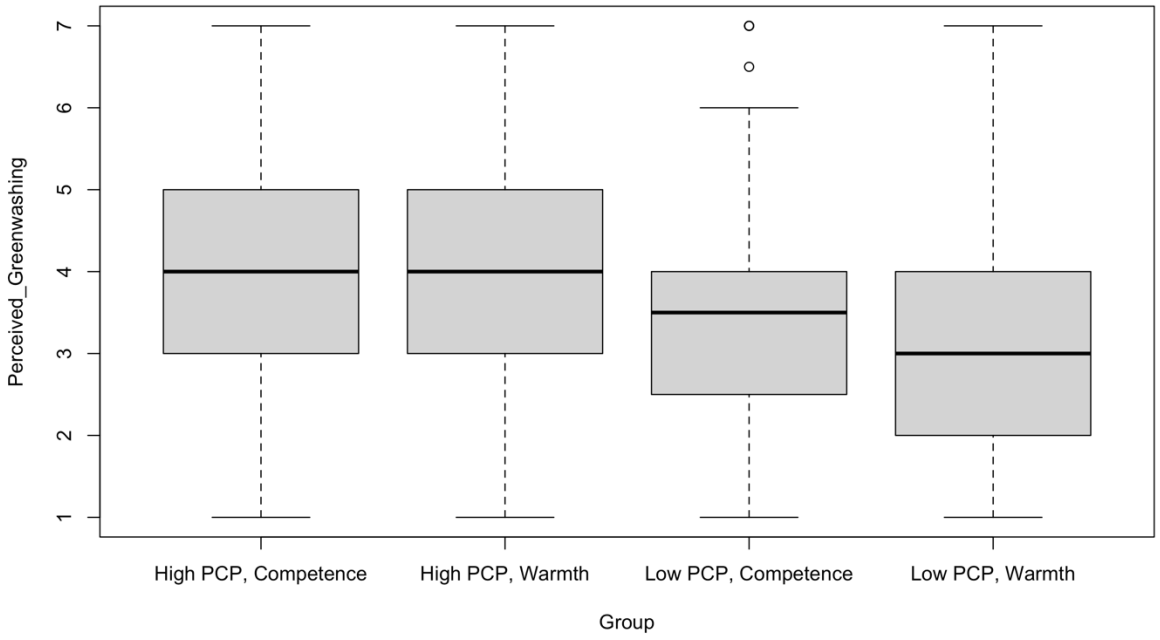

Figure 11: Box plot for the impact of the 4 groups on perceived greenwashing

Table 13 guides us to navigate the perceived greenwashing disparities. The highest difference manifests between Low PCP, Warmth, and High PCP, Competence (diff = 0.936, p-value = 0.000***), unveiling a stark contrast in how consumers perceive greenwashing under these conditions.

Industry Name	diff	lwr	upr	P adj
High PCP, Warmth-High PCP, Competence	-0.045	-0.57	0.479	0.996
Low PCP, Competence-High PCP, Competence	-0.545	-1.070	-0.021	0.037**
Low PCP, Warmth-High PCP, Competence	-0.936	-1.458	-0.414	0.000***
Low PCP, Competence-High PCP, Warmth	-0.500	-1.023	0.023	0.067*
Low PCP, Warmth-High PCP, Warmth	-0.890	-1.411	-0.369	0.000***
Low PCP, Warmth-Low PCP, Competence	-0.390	-0.911	0.130	0.215

Signif. codes: 0.01 '***' 0.05 '**' 0.1 '*'

Table 13: Result of Tukey's multiple comparisons, specifically focusing on the differences in perceived greenwashing among different groups based on PCP level and warmth-competence

When it extends to low PCP scenarios, the box plot hints at heightened warmth levels, the perceived threat of greenwashing is reduced compared to elevated competence levels. However, the statistical table urges caution, deeming this differential effect non-significant (p-value = 0.215). The revelation that, at equivalent warmth levels, a company with higher perceived contribution to a sustainability problem faces greater perceived threats of greenwashing than its low PCP counterpart (diff = 0.89, p-value = 0.000***), marks a critical turning point. Equally captivating is the revelation that, under the same level of competence, companies with higher PCP invite more perceived greenwashing threats than their low PCP counterparts (diff = 0.55, p-value = 0.037**). Finally, we find that a marginally significant difference in perceived greenwashing exists between companies with Low PCP, Competence, and High PCP, Warmth (diff = 0.5, p-value = 0.067*).

4.3.3 Identify the groups with highest difference in their green brand equity

In this part, we focus on the distinctive impact of perceived contribution to the problem (PCP) and the moderating variables of warmth and competence. The Box plot in Figure 12 illustrates how these factors influence Green Brand Equity among the four treatment conditions.

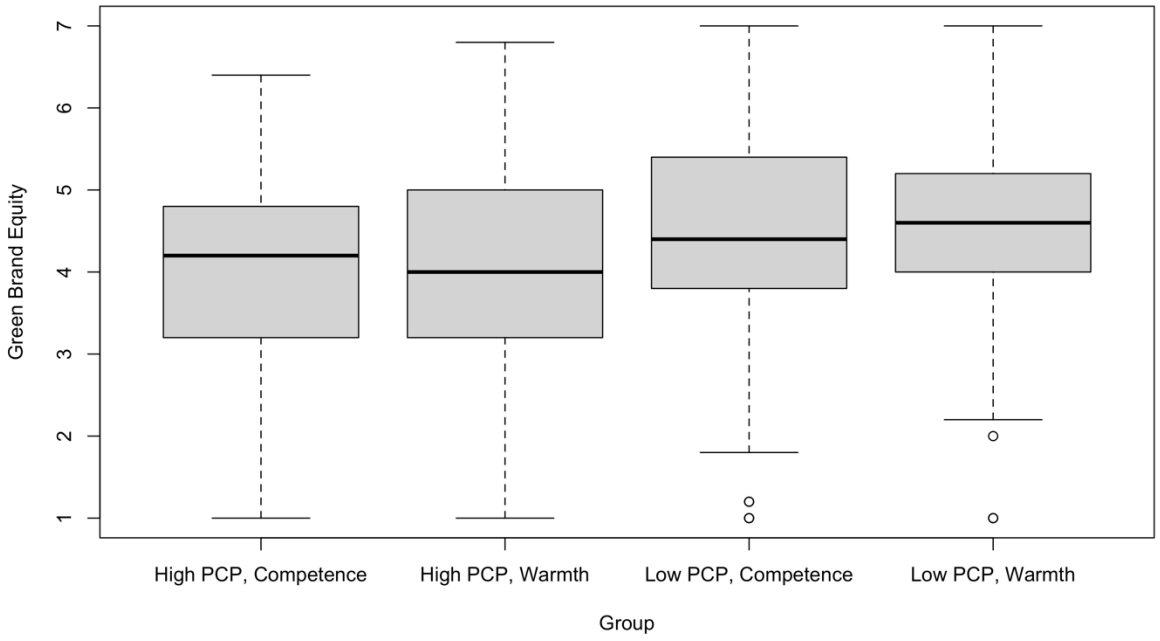

Figure 12: Box plot for the impact of the four groups on green brand equity

Table 14 provides a comprehensive overview of Tukey's multiple comparisons, offering mean differences (diff), confidence intervals (lwr - lower, upr - upper), and adjusted p-values (P adj) for each pair of groups.

Industry Name	**diff**	**lwr**	**upr**	**P adj**
High PCP, Warmth-High PCP, Competence	0.089	-0.374	0.55	0.959
Low PCP, Competence-High PCP, Competence	0.501	0.037	0.965	0.028**
Low PCP, Warmth-High PCP, Competence	0.667	0.204	1.129	0.001***
Low PCP, Competence-High PCP, Warmth	0.412	-0.05	0.875	0.100*
Low PCP, Warmth-High PCP, Warmth	0.577	0.116	1.038	0.007***

Low PCP, Warmth-Low PCP, Competence	0.165	-0.295	0.130	0.790

Signif. codes: 0.01 '***' 0.05 '**' 0.1 '*'

Table 14: Result of Tukey's multiple comparisons, specifically focusing on the differences in green brand equity among different groups based on PCP level and warmth-competence

When examining companies with high perceived contribution to the problem, the statistical analysis suggests that higher competence has a more substantial impact on Green Brand Equity than higher warmth. However, it's crucial to note that this effect is deemed statistically insignificant, as indicated by the p-value of 0.959. Similarly, for companies with low perceived contribution to the problem, the Box plot implies that higher levels of perceived warmth result in higher Green Brand Equity compared to higher levels of perceived competence. Nevertheless, the statistical assessment deems this differential effect to be non-significant with a p-value of 0.79.

Among the noteworthy findings, the most significant difference in Green Brand Equity is observed between companies with Low PCP and Warmth and those with High PCP and Competence (diff = 0.667, p value = 0.001***). At the same level of perceived warmth, companies with lower perceived contribution to a sustainability problem exhibit more Green Brand Equity than those with high perceived contribution (diff = 0.58, p value = 0.007***). Moreover, at the same level of competence, companies with lower perceived contribution demonstrate more Green Brand Equity than those with high perceived contribution (diff = 0.501, p value = 0.028**). Finally, a slightly significant difference in Green Brand Equity is noted between companies with Low PCP and Competence and those with High PCP and Warmth (diff = 0.41, p value = 0.1*). These findings collectively contribute to a nuanced understanding of how perceived contribution to the problem, warmth, and competence interact to shape Green Brand Equity across distinct manipulation conditions.

4.4 Summary of findings

Hypothesis	P-value	Result	Explanation
H1: *There is a significant interaction between the PCP level of a company and the effects of warmth versus competence frames of CSR messages on perceived greenwashing. Specifically, competence messages reduce the risk of perceived greenwashing more than warmth messages when PCP is high, but not when PCP is low.*	0.996 (High PCP, W – High PCP, C) 0.215 (Low PCP, W – Low PCP, C)	Rejected	In both cases the p-value is greater than 0.01. Therefore, there is no significant interaction between the PCP level of a company and the effects of warmth versus competence frames of CSR messages on perceived greenwashing.
H2: *There is a significant interaction between the PCP level of a company and the effects of warmth versus competence frames of CSR messages on green brand equity (GBE). Specifically, competence messages have stronger positive effects on GBE than warmth messages when PCP is high, but not when PCP is low.*	0.959 (High PCP, W – High PCP, C) 0.79 (Low PCP, W – Low PCP, C)	Rejected	In both cases the p-value is greater than 0.01. Therefore, there is no significant interaction between the PCP level of a company and the effects of warmth versus competence frames of CSR messages on green brand equity.

Signif. codes: 0.01 '***' 0.05 '**' 0.1 '*'

Table 15: Summary of hypothesis testing

CHAPTER 5 – FINDINGS & DISCUSSION

While specific result interpretations were delineated in sections 4.3.2.1 (Table 13) and 4.3.2.2 (Table 14), a concise overview of the findings has been presented in section 4.4 (Table 15). This chapter revisits our initial research question, evaluating its accuracy in light of the presented outcomes. Moreover, the insights derived from this research study hold relevance for both theoretical and managerial domains, so we have included a section that addresses these. Subsequent to this, a detailed analysis of the validity and reliability of the research model is provided. In the concluding remarks, we address the study's limitations and propose avenues for future research.

5.1 Main findings

Returning to our research question,

RQ: *Does the PCP level of a company moderate the effects of CSR messages on (a) green brand equity, (b) perceived greenwashing?*

Our findings from chapter 4 (section 4.4) suggest that there is no significant interaction effect between the PCP level of a company and the effects of warmth versus competence frames of CSR messages on both perceived greenwashing and green brand equity. Therefore, we reject our proposed hypotheses. Although some effects were in alignment with the hypotheses (see Tables 13 and 14), but essentially the PCP level of a company was not able to moderate the relationship between the warmth-competence framing in CSR messages and (a) perceived greenwashing, (b) green brand equity.

5.2 Theoretical implications

We had hoped that this thesis would be able to make some significant contributions to the literature of CSR, industry stereotypes as well as stakeholder evaluation of sustainability claims. However, as per our results, the interaction was not supported and the manipulation check of competence failed, leading us to reject our hypotheses, even though there were some effects that aligned with the hypotheses.

Perhaps if we had crafted a stronger stimulus, then the results would have maybe indicated otherwise. But we must consider that our respondents were exposed to the CSR frames only once before they answered the questionnaire, therefore how they perceived the nature of the CSR message on a first-time encounter influenced their stereotype development then and there. In reality, stakeholders would perhaps spend more time processing the stimuli message or even get exposed to several stimuli, therefore leading to more complex stereotype formation.

Regardless, to our knowledge, regarding the use of warmth and competence in explaining CSR motives to stakeholders, this study made the first attempt in using industry stereotypes (PCP levels of a company), a new variable constructed by Kunnumpuram et al. (2021), as a moderator in explaining the relationship between warmth-competence framing in CSR messages and sustainability assessments. But since our study failed to portray it as a moderator, the original relationship established by Kunnumpuram et al. (2021) needs to be accepted. According to his findings, PCP had a negative relationship with green brand equity (meaning it reduced green brand equity) and had a positive relationship with perceived greenwashing (meaning it raised perceived greenwashing). Moreover, since PCP has been derived from one of the ethical principles of stakeholder evaluation (do-no-harm principle), it demonstrates to us that not all ethical principles of stakeholder evaluation generate a positive effect on consumer evaluation of sustainability claims.

We also bring into discussion a relevant study that shares a similar finding to that of Kunnumpuram et al. (2021). We refer to a study conducted by Gidaković and Zabkar (2021), where they saw how industry as well as occupational stereotypes shaped consumers' trust, value and loyalty judgments concerning service brands. Their study indicated that industry stereotypes have become increasingly negative over the past decade, resulting in a dampening effect on the positive effects of satisfaction. Referring to our knowledge of brand equity, satisfaction is an important component of brand equity. Therefore, the relationship between industry stereotype and satisfaction seems direct. On the basis of this, we argue that PCP which is the industry stereotype in this study, can be deemed an important variable in determining consumer evaluations of sustainability claims.

5.3 Managerial implications

Amidst the increasing skepticism among stakeholders regarding corporate social responsibility activities, as highlighted in Chapter 1, this study aims to offer guidance to decision-makers in companies operating within controversial industries (Hoffman and Kristensen, 2017), such as oil and gas. Reevaluating CSR communication becomes imperative, as emphasized by Du et al. (2007), who asserts that corporate communications not only manage stakeholder CSR attributions but also reveal corporate identities. It is therefore crucial for firms across industries to employ the appropriate CSR framing in their communication strategies, considering that consumers often do not readily attribute positive motivations to CSR messages (Cone, 2013; Menon and Kahn, 2003; Miller and Ratner, 1998). We believe the PCP level of a company, which has been formulated as the industry stereotype, can have a major influence on the formation of stakeholder perceptions or stereotypes.

Drawing from the insights of Hoffman and Kristensen (2017) and Loveland et al. (2019), their observations indicated that if a company with a high PCP used a warmth frame in its CSR communication, it elicited stakeholder skepticism and perceived greenwashing. Conversely, adopting a competence CSR frame generated more favorable stakeholder perceptions. Despite our findings not achieving statistical significance, we still argue that practitioners could benefit from adopting this strategy, aligning with the success demonstrated in Loveland et al. (2019). Regardless of the negative industry stereotypes, an oil and gas company, employing a competence frame, signals to stakeholders that its CSR initiatives create tangible value in terms of social and economic well-being. Additionally, we advocate for tailoring the warmth-competence CSR frame to incorporate the concept of creating shared value (Porter and Kramer, 2011). Research supports the notion that value-creating CSR surpasses other forms, resulting in favorable stakeholder impressions.

Another managerial implication involves recommending high PCP industries to adopt coopetition strategies aimed at enhancing stakeholder perceptions, ultimately fostering loyalty and trust (Bengtsson and Raza-Ullah, 2016). For example, companies could perhaps collaborate on joint corporate social responsibility initiatives or ensure fair supply chain practices to positively influence the industry's warmth stereotypes (Shea and Hawn, 2019).

5.4 Validity

According to Saunders et al., (2019), validity ensures that the data collected by the researcher measures exactly the concepts originally intended by the researcher. In this section we tried to verify if the three types of Validity (Construct Validity, Internal Validity and External Validity) are ensured in our research.

5.4.1 Construct Validity

According to Saunders et al. (2019), Construct validity encompasses three measures of validity: 'face validity,' 'convergent validity,' and 'discriminant validity.' Face validity, as explained by Saunders et al. (2019), is a subjective evaluation of whether the survey questions effectively measure their intended concepts. Before we submitted the questionnaire to the external data collection firm, all survey questions underwent pilot testing. Furthermore, the quantitative questions were adapted from established measurement scales used by previous researchers, as detailed in Table 6 of Section 4.1. Considering these factors collectively, it can be concluded that the measurement model possesses the necessary degree of 'face validity.'

Fornell and Larcker (1981) argue that an average variance extracted (AVE) score exceeding 0.5 indicates satisfactory 'convergent validity.' Examining Table 7 in Section 4.1 reveals that all measurement items in this study achieved an AVE score greater than 0.5, affirming adequate 'convergent validity' for the research model. Additionally, Xie et al. (2015) suggests that 'discriminant validity' is established when the 'correlation value is less than 1 by an amount greater than two standard errors.' Tables 8, 9, and 10 in Section 4.1 indicate that all variables in this model achieve 'discriminant validity' at the 1% significance level ($p < 0.01$).

5.4.2 Internal Validity

As outlined by Saunders et al. (2019), internal validity assesses the degree to which the outcomes of a research study can be ascribed to the interventions under investigation rather than flaws in the research design. Malhotra et al. (2017) also emphasize the significance of extraneous variables as a notable threat to experimental validity. According to Saunders et al. (2019), flaws in the research design can stem from various extraneous variables, including maturation, history, testing effects,

instrumentation, selection bias, and mortality threats but the randomization procedure has addressed most of these issues in our study.

The term 'maturation threat' pertains to mental or physical changes occurring in participants due to external influences, potentially affecting overall accuracy (Saunders et al., 2019). Given that data collection occurred entirely online, with an average completion time of 4.47 minutes, it can be inferred that the respondents' attention span was not significantly impacted. Online data collection tools also minimized the likelihood of external interferences compared to physical questionnaire filling. In this research project, priming stimuli involved CSR initiatives of a fictional company, ensuring that the manipulation effect on respondents closely resembled reality to mitigate the risk of past events altering participants' perceptions (History threat).

The data collection procedure prioritized respondent anonymity and avoided potentially sensitive questions, allowing respondents to express their choices freely and reducing the chance of external testing effects. The questionnaire, derived from standardized measurement scales (refer to Table 6 in Section 4.1), was administered online without intermediary changes, minimizing the risk of an 'instrumentation' threat. The use of a random sampling technique by the data collection firm minimized the possibility of 'selection bias.' The unbiased distribution of respondents is evident from the descriptive statistics presented in Section 3.6. Note that five respondents were excluded from the dataset to address the respondent mortality threat.

In conclusion, hypothesis testing (Section 4.3) indicated that the framing of CSR messages in terms of warmth and competence failed to moderate the relationship between a company's (PCP) level and (a) green brand equity and (b) perceived greenwashing. This is because the manipulation checks for competence failed, so we could not test the causal effect of the competence CSR message. Considering the above aspects of internal validity, this part has had a significant impact on the internal validity of this research due to the failed manipulation check of competence.

5.4.3 External Validity

Saunders et al. (2019) defined external validity as 'the ability of research findings from a study to be applied to other relevant contexts.' As outlined in section 3.5 (Data collection procedure), the priming stimuli employed in this research were based on the CSR initiatives of a fictional

multinational company. Consequently, to enhance the precision of data collection, responses were exclusively gathered from residents in the United States. The rationale behind this approach is that respondents from the same country where the CSR initiatives are primarily implemented are expected to maximize the validity of the study. While external validity traditionally pertains to the generalizability of interpretations, aligning the respondent sample with the CSR initiative being assessed is believed to enhance the overall generalizability of the findings.

This methodological framework could be replicated in similar research studies, particularly when evaluating CSR claims by respondents with direct knowledge of the company and its environmental performance. In essence, if the CSR initiatives under scrutiny are implemented in the same country as the respondents evaluating the claims, the interpretations are anticipated to be highly applicable and generalizable.

5.4.4 Statistical Conclusive Validity

As outlined by Austin et al. (1998), statistical conclusive validity refers to the extent to which appropriate statistical techniques have been employed in a research study. Specifically, it assesses how well Type I and Type II errors have been minimized in a research model. Type I (α) error occurs when a difference or correlation is detected even though such an effect is not present, while Type II (β) error occurs when a difference or correlation is not detected despite the existence of such an effect (Cozby & Bates, 2009). Type I error involves rejecting the null hypothesis when it is true, while Type II error is the failure to reject a false hypothesis (Austin et al., 1998).

All statistical inferences drawn in this research paper were based on a significance level of 0.01, indicating a 1% chance of making a Type I error. Additionally, all measurement constructs used in the research underwent construct validity checks, with the percentage of variances explained assessed through confirmatory factor analysis at a significance level of 0.01. Furthermore, hypothesis testing employed one-way MANOVA with the significance level fixed at 1%.

The utilization of modern statistical computing techniques, specifically the lavaan package in R, contributed to maximizing the measure of statistical conclusive validity for this research model. In Section 4.1, it is evident that the CFA model underwent scrutiny for Global fit statistics, employing the maximum likelihood estimator (MLR), Bayesian estimator (Bayes), Chi-square value, RMSEA

(root mean square error of approximation), SRMR (standardized root mean square residual), Comparative Fit Index (CFI), and TLI (Tucker-Lewis index). The combination of these benchmarking standards for ensuring statistical significance, along with the use of advanced statistical computing software, ensures a robust measure of statistical conclusive validity.

5.5 Reliability

Saunders et al. (2019) suggest that 'Reliability' hinges on the consistency of collected data and the potential for research replication, encompassing the concepts of 'Internal reliability' and 'External reliability.' 'Internal Reliability' focuses on maintaining measurement consistency within the experiment, while 'External Reliability' assesses whether results can be replicated when analytical procedures are repeated by different researchers.

Examining Table 7 in Section 4.1 allows for the analysis of construct reliability scores (CR) for the measurement variables. Following the criteria set by Fornell and Larcker (1981, a CR score exceeding 0.6 indicates good reliability, and an average variance extracted (AVE) score greater than 0.5 indicates satisfactory convergent validity. With all five identified constructs in this research model demonstrating a reliability score of 0.8 or higher (Table 7), the research model is deemed reliable for analysis, and result interpretations are presumed to be statistically valid.

Beyond the theoretical aspects of reliability measurement, it is essential to discuss the 'Possible threats to reliability' in an experiment. The four potential threats to reliability include 'participant error,' 'participant bias,' 'researcher error,' and 'researcher bias.' Addressing the first threat, 'participant error,' the likelihood of errors when filling out the survey questionnaire was minimized through online data collection. The entire questionnaire was administered directly to respondents via an online platform, reducing the chance of errors from intermediaries. Section 3.3 (Survey logic) reveals that respondents encountered a 'filter question' at the survey's start, gauging their education level to eliminate those who chose the option 'no formal education.' Additionally, priming respondents with CSR initiatives from a fictional company aimed to eliminate preformed biases toward any specific industry segment.

As outlined in the previous section, the use of online data collection tools diminished the likelihood of observation mistakes (researcher error) during data collection. Since the data collection process

lacked human interference in administering questions or recording data, the potential for researcher bias threatening measurement reliability was minimized.

5.6 Limitations and Future Research

As for the limitations of our study, the manipulation checks for perceived competence of the companies between the (Competence vs No Competence condition) failed, indicating no significant difference between the group means, leading to the acceptance of the null hypothesis. Therefore, we could not test the causal effect of the competence CSR message.

Another limitation was that the online platform used for data collection suggested an average completion time of 4.47 minutes per person for the survey questionnaire. This could imply that some respondents completed the survey more quickly than anticipated. In contrast, pilot testing indicated a completion time range of 6 to 8 minutes. Consequently, participants in the online data collection may have devoted less time to analyzing the priming stimuli than initially expected. It is worth noting that the pilot testing involved individuals within the researchers' personal circle, who were not professional survey takers. In contrast, the targeted audience for the data collection firm comprises experienced and professional survey takers, who typically require less time for questionnaire completion. It could also be noted that perhaps our sample size was a bit low. Maybe targeting a sample size above 500 could be more reasonable to generate significant differences in the manipulation groups.

As for future research possibilities, we suggest that perhaps the use of 'perceived opportunity to solve a sustainability issue' or POS as a moderator, the second construct created by Kunnumpuram et al. (2021) in his original work, could help generate more significant findings to explain the relationship between warmth-competence CSR message framing and (a) perceived greenwashing, (b) green brand equity, as it was proven in the original research that POS led to a decrease in perceived greenwashing and increased green brand equity. Or perhaps repeat the experiment with a stronger stimulus and with better measurement scales borrowed from previous researchers.

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APPENDIX

Appendix A: United Nations Sustainable Development Goals (UNSDGs)

The 17 Sustainable Development Goals
Goal 1: End poverty in all its forms everywhere
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3: Ensure healthy lives and promote well-being for all at all ages
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5: Achieve gender equality and empower all women and girls
Goal 6: Ensure availability and sustainable management of water and sanitation for all
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts
Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

(United Nations: Department of Economic and Social Affairs: Sustainable Development, 2023).

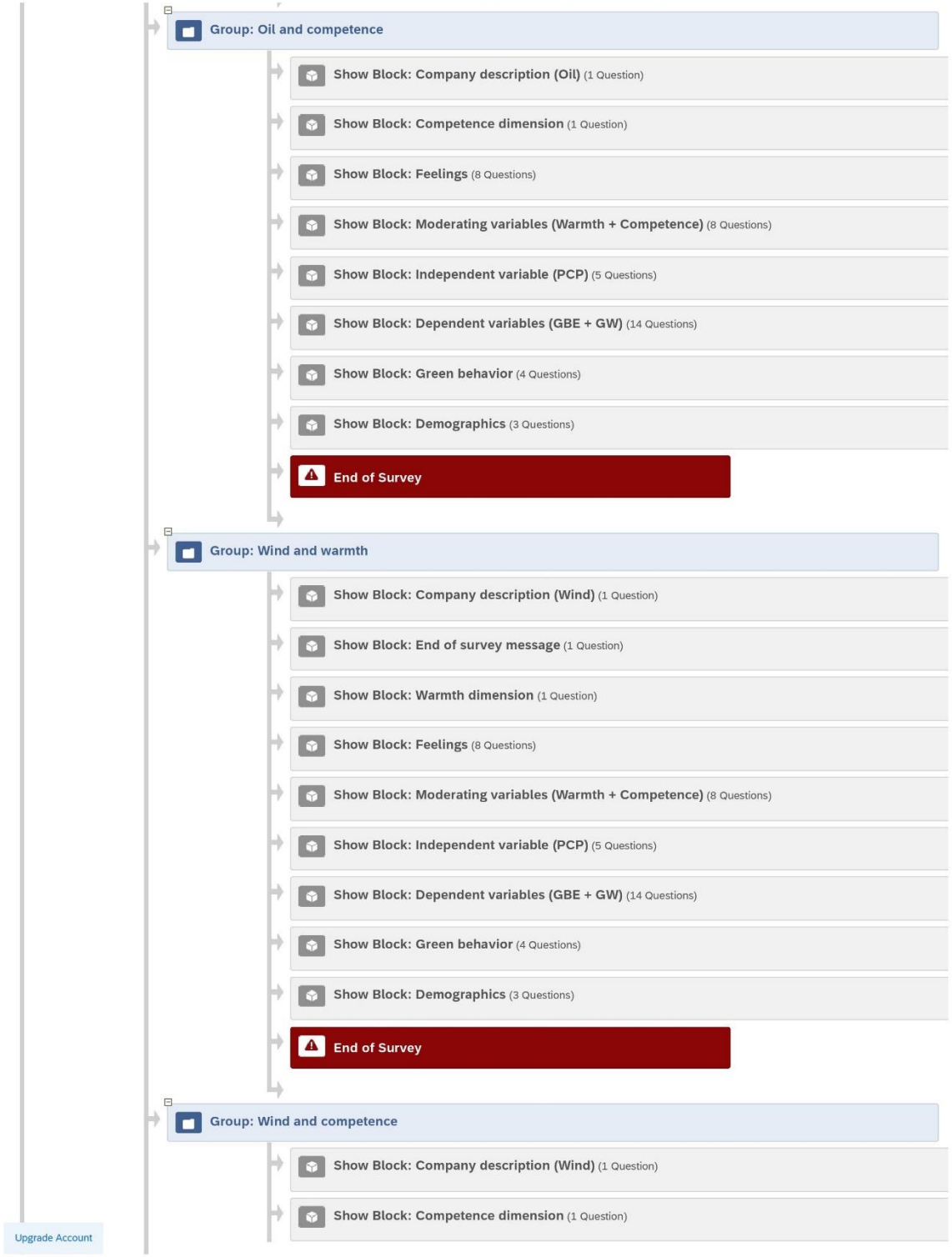
Appendix B: The 9 Ethical Principles

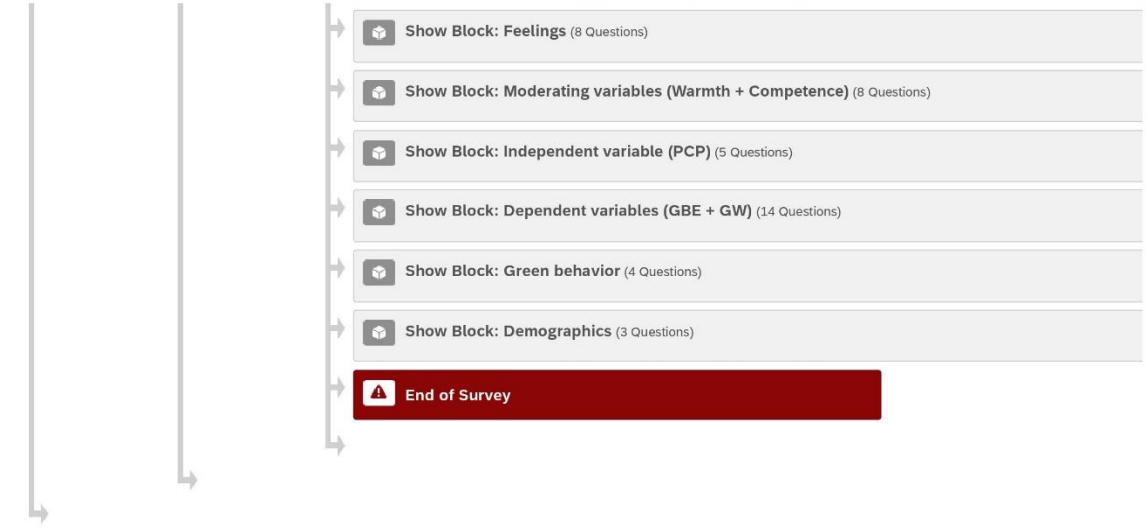
As introduced in Kunnumpuram et al. (2021), we have used Valle and Borm (2021)'s 9 ethical principles that guide the decision-makers in the analysis. They are as follows:

1) **Universalism (respect for others):** According to Weiss (2014), universalism is about being considerate to others and respecting the welfare and risks of all individuals. Furthermore, universalism consists of practicing fairness, compassion, cooperation, spiritual respect, humility, and respect for others.
2) **Act when you have the responsibility to do so ('Do no harm'):** As Cohen (2010) describes, if someone had power, they would have a responsibility to behave in a manner that would benefit others. Therefore, when company operations result in negative externalities, and to mitigate such externalities they engage in CSR activities, this approach is called the 'clean up your own mess' which is commonly referred to as the "do-no-harm" social responsibility (Crilly et al, 2016).
3) **Virtue Ethics (Do-good Social Responsibility):** This principle states that a person's good character will influence his or her ethical behavior (Weiss, 2014). Altruism, a form of prosocial behavior, plays a large part in virtue ethics where it manifests when the intention of the person is solely to benefit others without expecting anything in return (Soosai-Nathan et al, 2013). When this principle is applied to CSR, it creates a scope for 'do good' CSR activities. These CSR activities are focused on doing good things or the right thing because you are a good person (Minor & Morgan, 2011).
4) **Virtue ethics ('Tell the truth'):** This principle emphasizes the importance of being truthful to the various stakeholders. Should there be any form of doubt from the stakeholder side, it may weaken the trust relationship. Once a business adopts this truth principle, most ethical issues tend to fade ("Ethical principles", n.d.).
5) **Practice participation, not paternalism:** Taken from Crossley (1999), Business paternalism describes people who hold a position of authority that restricts the freedom and responsibility of those subordinate to them. However, Langhorne (2016) argues that including employees in the decision-making process not only improves their sense of ownership, but also improves information quality and preserves the executive prerogative.

6) **Rights, Moral & Legal Entitlement ('Obey the law'):** According to Langhorne (2016), the law is complex, ever-changing, and omnipresent. This principle is concerned with the legal branch of ethics as well as rights. This ethical theory describes legal rights as possessing the right to freedom of speech, freedom of belief, etc. Often such rights are determined by a legal system. Regardless, laws for businesses consist of a set of norms and behaviors that they must adhere to, otherwise they would be penalized for it.
7) **Utilitarianism ('The common good'):** Utilitarianism is an ethical theory that is widely used by corporations, governments and citizens, encompasses the theme 'the ends justify the means.' This theory posits that moral action will give the greatest good to the greatest number of people (Weiss, 2014).
8) **Justice Ethics:** Justice ethics focuses on punishment and retribution. As per ("Ethical principles", n.d.), justice ethics operates under these following four assumptions: (1) "All individuals should be treated equally", (2) "Justice is served when each person has equal opportunities to both societies opportunities and burdens", (3) "Fair decision-making practices should be in place and practiced" and lastly (4) "Those who have harmed others are punished, and those who have been harmed are compensated".
9) **Ethical Relativism:** Known as the self-interest principle and closely linked to cultural norms and behavior (Weiss, 2014), it helps in explaining why stakeholders view CSR activities as a self-serving action, rather than a moral action. This principle states that when judging an individual's behavior, the individual's values and self-interest are the only relevant considerations.

Appendix C: Survey Logic


Group: Oil and competence
Show Block: Company description (Oil) (1 Question)
Show Block: Competence dimension (1 Question)
Show Block: Feelings (8 Questions)
Show Block: Moderating variables (Warmth + Competence) (8 Questions)
Show Block: Independent variable (PCP) (5 Questions)
Show Block: Dependent variables (GBE + GW) (14 Questions)
Show Block: Green behavior (4 Questions)
Show Block: Demographics (3 Questions)
End of Survey
Group: Wind and warmth
Show Block: Company description (Wind) (1 Question)
Show Block: End of survey message (1 Question)
Show Block: Warmth dimension (1 Question)
Show Block: Feelings (8 Questions)
Show Block: Moderating variables (Warmth + Competence) (8 Questions)
Show Block: Independent variable (PCP) (5 Questions)
Show Block: Dependent variables (GBE + GW) (14 Questions)
Show Block: Green behavior (4 Questions)
Show Block: Demographics (3 Questions)
End of Survey
Group: Wind and competence
Show Block: Company description (Wind) (1 Question)
Show Block: Competence dimension (1 Question)
Upgrade Account



Upgrade Account

Appendix D: Survey Questionnaire

CONSENT FORM

CONSENT FORM

We are inviting you to take a survey for a research project.
You will be responding to this survey about attitudes towards some companies.
Once you have completed this survey, you will be redirected to Prolific to register your submission and claim your reward.

***Note:* There are 6 pages of short questions and it should not take more than 3 minutes to complete this survey.**

***All responses will be anonymized.**

I understand the above information, and

- ○ I consent
- ○ I do not consent

Prolific ID

What is your Prolific ID?
Please note that this response should auto-fill with the correct ID

${e://Field/PROLIFIC_PID}

Screener validation

Highest education level completed

- ○ No formal qualifications
- ○ Secondary education
- ○ High school diploma
- ○ Undergraduate degree
- ○ Graduate degree
- ○ Doctorate degree

- ○ Don't know/not applicable

Company description (Oil)

ANKOR INTERNATIONAL is an international producer of oil and gas, with operations in several countries.

Warmth dimension

Here is a text from the homepage of ANKOR INTERNATIONAL. Please read it carefully.

"**The world's most important energy source is the urge to make a difference**. Every day ANKOR INTERNATIONAL energizes millions of people and companies around the world. Behind this contribution is another kind of energy: *the urge to make a difference for people and the planet*. We believe this is the key to solving the energy transition – the greatest task of our time."

Feelings

Q1. When I think about this company, I get a feeling of gratitude.

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Somewhat disagree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q2. When I think about this company, I get a feeling of happiness.

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Somewhat disagree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat agree (5)

- Agree (6)
- Strongly agree (7)

Q3. When I think about this company, I get a feeling of pride.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q4. When I think about this company, I get a feeling of sadness.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q5. When I think about this company, I get a feeling of anger.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q6. When I think about this company, I get a feeling of disgust.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q7. When I think about this company, I get a feeling of contempt.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q8. When I think about this company, I get a feeling of fear.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Moderating variables (Warmth + Competence)

Q9. I believe ANKOR INTERNATIONAL is effective in implementing its social responsibility engagement.

- Strongly disagree (1)
- Disagree (2)

- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q10. I believe ANKOR INTERNATIONAL is capable of successfully executing its social responsibility engagement.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q11. In comparison to other companies, I believe ANKOR INTERNATIONAL is competent in its social responsibility engagement.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q12. I personally see the company's social responsibility engagement as intelligent.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)

- Agree (6)
- Strongly agree (7)

Q13. I would consider ANKOR INTERNATIONAL's approach to its social responsibility engagement as warm.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q14. I find ANKOR INTERNATIONAL's approach to its social responsibility engagement to be friendly.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q15. I think ANKOR INTERNATIONAL's commitment to its social responsibility engagement is good-natured.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q16. I personally see the company's social responsibility engagement as kind.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Independent variable (PCP)

Q17. I personally believe that the company mentioned above is partly responsible for the sustainability issue they are trying to solve.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q18. It is generally believed that the company mentioned above is contributing to the sustainability problem they are trying to solve.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q19. This social responsibility engagement means that the company is taking responsibility for its own problems.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q20. I believe that the company mentioned above has special competence in implementing this type of social responsibility engagement.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q21. The company possesses the right resources and capabilities in addressing the social responsibility engagement.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Dependent variables (GBE + GW)

Q22. I think that ANKOR INTERNATIONAL will succeed with implementing this social responsibility engagement.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q23. I feel that this social responsibility engagement will make a real difference.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q24. I believe that the company will do an excellent job with this engagement.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q25. I believe that this is the right responsibility engagement for ANKOR INTERNATIONAL.

- Strongly disagree (1)

- ○ Disagree (2)
- ○ Somewhat disagree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q26. I feel that this social responsibility engagement fits well to this type of company.

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Somewhat disagree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q27. I think that other companies in this industry should similarly engage in this type of social responsibility engagement.

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Somewhat disagree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q28. I believe that the social responsibility engagement is initiated out of genuine concern for the sustainability issue mentioned.

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Somewhat disagree (3)
- ○ Neither agree nor disagree (4)

- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q29. I find this social responsibility engagement to be misleading.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q30. I believe that ANKOR INTERNATIONAL is concerned with improving the general well-being of society.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q31. The social responsibility engagement from ANKOR INTERNATIONAL meets my expectations of sustainable performance.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q32. I feel that ANKOR INTERNATIONAL's sustainability initiatives are generally reliable.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q33. I believe that ANKOR INTERNATIONAL usually keeps its promises and commitments for environmental protection.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q34. I would prefer ANKOR INTERNATIONAL to other companies in the same industry segment, because of its environmental commitments.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q35. I trust the social responsibility engagement of ANKOR INTERNATIONAL over other companies in the segment, even if the sustainable engagements are the same.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Green behavior

Q36. In my everyday life, I put a lot of effort into making sustainable choices.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q37. I abstain from car use.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q38. I recycle whenever possible.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q39. I abstain from traveling by air, if possible.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Demographics

Q40. What is your gender?

- Male
- Female
- Prefer not to say

Q41. Which age group do you belong to?

- 18-29
- 30-44
- 45-60
- More than 60

Q42. What is your household income?

- ○ $0 - $9999
- ○ $10000 - $24999
- ○ $25000 - $49999
- ○ $50000 - $74999
- ○ $75000 – $99999
- ○ $100000 - $124999
- ○ $125000 - $149999
- ○ $150000 - $174999
- ○ $175000 - $199999
- ○ Above $200000
- ○ Prefer not to say

Competence dimension

Here is a text from the homepage of ANKOR INTERNATIONAL. Please read it carefully.

"**The world's most important energy source is competence.** Every day ANKOR INTERNATIONAL energizes millions of people and companies around the world. Behind this contribution is another kind of energy: *competence*.
We believe this is the key to solving the energy transition – the greatest task of our time."

Company description (Wind)

ANKOR INTERNATIONAL is an international producer of wind turbines (windmills for power production), with operations in several countries.

End of survey message

Thank you for taking part in this survey. Please click the button below to be redirected back to Prolific and register your submission.

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Appendix E: Confirmatory Factor Analysis (CFA) result

```
## lavaan 0.6.16 ended normally after 59 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                        44
##
##   Number of observations                           397
##
## Model Test User Model:
##                                                   Standard      Scaled
##   Test Statistic                                  332.032     223.148
##   Degrees of freedom                                  109         109
##   P-value (Chi-square)                              0.000       0.000
##   Scaling correction factor                                     1.488
##     Yuan-Bentler correction (Mplus variant)
##
## Model Test Baseline Model:
##
##   Test statistic                                 6757.423    4298.196
##   Degrees of freedom                                 136         136
##   P-value                                           0.000       0.000
##   Scaling correction factor                                     1.572
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                       0.966       0.973
##   Tucker-Lewis Index (TLI)                          0.958       0.966
##
##   Robust Comparative Fit Index (CFI)                            0.974
##   Robust Tucker-Lewis Index (TLI)                               0.968
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)                 -8968.348   -8968.348
##   Scaling correction factor                                     1.540
##       for the MLR correction
##   Loglikelihood unrestricted model (H1)         -8802.332   -8802.332
##   Scaling correction factor                                     1.503
##       for the MLR correction
##
##   Akaike (AIC)                                  18024.696   18024.696
##   Bayesian (BIC)                                18199.989   18199.989
##   Sample-size adjusted Bayesian (SABIC)         18060.376   18060.376
```

```
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                          0.072       0.051
##   90 Percent confidence interval - lower         0.063       0.043
##   90 Percent confidence interval - upper         0.081       0.059
##   P-value H_0: RMSEA <= 0.050                    0.000       0.378
##   P-value H_0: RMSEA >= 0.080                    0.065       0.000
##
##   Robust RMSEA                                               0.063
##   90 Percent confidence interval - lower                     0.051
##   90 Percent confidence interval - upper                     0.074
##   P-value H_0: Robust RMSEA <= 0.050                         0.039
##   P-value H_0: Robust RMSEA >= 0.080                         0.007
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.032       0.032
##
## Parameter Estimates:
##
##   Standard errors                             Sandwich
##   Information bread                           Observed
##   Observed information based on                Hessian
##
## Latent Variables:
##                            Estimate  Std.Err  z-value  P(>|z|)
##   Competence =~
##     comp_1                    1.000
##     comp_2                    0.962    0.042   23.096    0.000
##     comp_3                    1.029    0.043   23.960    0.000
##     comp_4                    0.926    0.051   17.982    0.000
##   Warmth =~
##     warm_1                    1.000
##     warm_2                    0.987    0.028   35.696    0.000
##     warm_3                    0.990    0.039   25.417    0.000
##     warm_4                    1.007    0.032   31.632    0.000
##   Contributiontoproblem =~
##     cont_prbm1                1.000
##     cont_prbm2                0.955    0.137    6.969    0.000
##   PerceivedGreenwashing =~
##     grn_wash1                 1.000
##     grn_wash2                 1.137    0.068   16.690    0.000
##   GreenBrandEquity =~
##     grn_eqty1                 1.000
```

```
##     grn_eqty2                 0.973    0.031   30.991    0.000
##     grn_eqty3                 0.904    0.035   25.983    0.000
##     grn_eqty4                 0.800    0.050   15.865    0.000
##     grn_eqty5                 0.840    0.037   22.636    0.000
##
## Covariances:
##                           Estimate  Std.Err  z-value  P(>|z|)
##   Competence ~~
##     Warmth                   1.508    0.135   11.130    0.000
##     Contrbtntprblm          -0.174    0.121   -1.440    0.150
##     PercvdGrnwshng          -1.310    0.141   -9.297    0.000
##     GreenBrandEqty           1.509    0.134   11.224    0.000
##   Warmth ~~
##     Contrbtntprblm          -0.090    0.129   -0.696    0.486
##     PercvdGrnwshng          -1.357    0.134  -10.142    0.000
##     GreenBrandEqty           1.557    0.133   11.725    0.000
##   Contributiontoproblem ~~
##     PercvdGrnwshng           0.453    0.137    3.316    0.001
##     GreenBrandEqty          -0.299    0.139   -2.152    0.031
##   PerceivedGreenwashing ~~
##     GreenBrandEqty          -1.581    0.151  -10.490    0.000
##
## Variances:
##                    Estimate  Std.Err  z-value  P(>|z|)
##    .comp_1            0.414    0.072    5.735    0.000
##    .comp_2            0.487    0.065    7.546    0.000
##    .comp_3            0.324    0.035    9.342    0.000
##    .comp_4            0.492    0.058    8.439    0.000
##    .warm_1            0.478    0.062    7.681    0.000
##    .warm_2            0.517    0.072    7.185    0.000
##    .warm_3            0.433    0.063    6.910    0.000
##    .warm_4            0.316    0.042    7.534    0.000
##    .cont_prbm1        0.431    0.265    1.626    0.104
##    .cont_prbm2        0.603    0.248    2.434    0.015
##    .grn_wash1         1.286    0.150    8.555    0.000
##    .grn_wash2         0.503    0.100    5.037    0.000
##    .grn_eqty1         0.558    0.065    8.621    0.000
##    .grn_eqty2         0.361    0.051    7.069    0.000
##    .grn_eqty3         0.514    0.065    7.867    0.000
##    .grn_eqty4         0.821    0.099    8.310    0.000
##    .grn_eqty5         0.669    0.069    9.759    0.000
##     Competence        1.554    0.154   10.070    0.000
##     Warmth            1.797    0.156   11.536    0.000
##     Contrbtntprblm    1.823    0.287    6.363    0.000
```

```
##      PercvdGrnwshng    1.505    0.190     7.913    0.000
##      GreenBrandEqty    1.883    0.151    12.443    0.000
```