UNIVERSITY OF LJUBLJANA
SCHOOL OF ECONOMICS AND BUSINESS

MASTER'S THESIS

THE ASSOCIATION BETWEEN PERCEIVED GREENWASHING AND THE VALIDITY OF GREEN MARKETING IN THE EYES OF THE CUSTOMERS CONSIDERING GREEN PURCHASING INTENTION

Ljubljana, September 2024 JOŽICA KITAK

AUTHORSHIP STATEMENT

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AIC – Akaike information criterion
AVE – Average variance extracted
CFI – Comparative fit index
CI – Credible interval
FSC – Forest Stewardship Council
GC – Green concern
GPI – Green purchasing intention
LGWOM – Lack of green word-of-mouth
MGM – Mistrust in green marketing
PG – Perceived greenwashing
Q-Q plot – Quantile-Quantile plot
RMSEA – Root mean square error of approximation
SEB LU – University of Ljubljana, School of Economics and Business
SRMR – Standardized root mean square residual
TLI – Tucker-Lewis index
VIF – Variance inflation factor

1 INTRODUCTION

As the demand for sustainable products rises, understanding how green marketing influences consumer behaviour is crucial. However, perceived greenwashing, threatens consumer trust and the success of green marketing. Numerous studies have focused on the role of green marketing and its influence on consumer behaviour (Ahmed et al., 2023; Ansar, 2013; Hussain et al., 2020; Rahman et al., 2017; Yang & Chai, 2022), including how the eco-friendly marketing communication influences purchasing intention (Correia et al., 2023) and the perceived credibility of green marketing (de Sio et al., 2022; Farooq & Wicaksono, 2021). Moreover, there has been growing interest in understanding the negative consequences of perceived greenwashing (Chen et al., 2020; De Jong et al., 2018; Lu et al., 2022; Nguyen et al., 2019; Sun & Shi, 2022; Szabo & Webster, 2021, Volschenk et al., 2022; Zhang et al., 2018;). The scepticism of consumers towards the green claims can bring down the confidence not only in the green marketing, but green market overall (Nygaard & Silkoset, 2023).

Addressing the problem of perceived greenwashing is necessary for many reasons. As green marketing became popular, many companies started focusing mostly on green packaging and labels to communicate their green strategy to consumers (Rahman et al., 2017). However, the green actions are connected with a lot of uncertainty and complexity in regard of how they impact customer satisfaction, which makes it important to explore it (Ioannou et al., 2023). Understanding what influences consumers' intention to buy green products is crucial for the companies when they plan their marketing strategies (Zhuang, et al., 2021). It leads to a better understanding of the underlying psychological and behavioural changes that drive consumer decision. This can help companies to build trust among consumers and save their performance in the competitive marketing of sustainability (Sun & Shi, 2022). Addressing perceived greenwashing is therefore crucial for strengthening of sustainable market, which in the end benefits consumers, as well as companies committed to environmental responsibility.

Despite extensive research on consumer responses to perceived greenwashing, there remains a gap in understanding its wider effect. While in the past studies focused on how the consumers respond to greenwashing by specific companies, Sun & Shi (2022) propose to broaden the research into how the perception of greenwashing influences general readiness of consumers to purchase green products. The aim of this study is to explore the broader effect of perceived greenwashing on consumer behaviour, particularly in terms of green word-of-mouth, green purchasing intention and mistrust in validity of green marketing. This research also aims to examine the moderating role of green concern and mediating role of mistrust in green marketing in the relationship between perceived greenwashing and green purchasing intention. By addressing these factors, the study provides valuable insights for

companies developing trustworthy advertisements, which in the end strengthens sustainable consumer market.

Consumer behaviour theory by Schiffman & Kanuk (2000) investigates the process and reasons of choosing to purchase products. It particularly focuses on problem recognition, information search, comparison of alternatives, purchase decision and post-purchase evaluation. The theory also explores how psychological, social and cultural factors influence consumer decisions. Therefore, it offers valuable insights into the factors influencing consumer choices. I used the theory of consumer behaviour to guide the selection of key constructs for this thesis. By analysing the consumer decision-making process, I identified relevant constructs that are a reflection of critical stages of this process. Perceived greenwashing relates to problem recognition, when consumers identify and start questioning the company's environmental claims and its actual green practices. This recognition is crucial for understanding the initial scepticism. Green purchasing intention aligns with purchase decision. It measures the consumer's willingness of choosing environmental products. Lack of green word-of-mouth relates to the information search. It explores how the lack of positive green recommendations about company's green practices influences how consumers gather information. Green concern is a psychological factor, and it affects how consumers perceive importance of environmental issues, which can influence their attitudes and decisions regarding green products. Mistrust in green marketing aligns with information search, as sceptical consumers are more likely to seek information about green claims of companies. These constructs were chosen because they address different stages of consumer decision-making process, from recognizing the potential issues to making a purchase. Each construct contributes to a comprehensive understanding of how perceived greenwashing affects behaviour of consumers.

Perceived greenwashing, defined as "consumer reactions to situations where green advertising messaging and actual corporate social responsibility (CSR) interact" (Nyilasy et al., 2014, p. 694) can significantly undermine consumer trust (Milfeld et al., 2024). This can directly influence green purchasing intention which leads to the green buying, defined by Kevitha & Kumar (2023, p. 721) as "the practice of acquiring ecologically friendly goods that have little negative influence on the environment, such as organic and recycled goods." There is a need for a deeper understanding and the broader influence of greenwashing and its effect on the behaviour which is important for businesses operating in markets driven by sustainable demand.

Furthermore, it is important to consider how perceived greenwashing may influence various factors. Green word-of-mouth is defined by Chen et al. (2014, pp. 2414-2415) as "the extent of to which a customer would infer friends, relatives, and colleagues about positive environmental messages of a product or a brand". Lack of it can reduce the social value as sharing of positive experiences on green products is perceived by the customers as trustworthy (Natasya, 2023). Franzen & Bahr (2024, para. 2) build on existing definitions to describe green concern "as consisting of three dimensions: the insight that the environment

is endangered by human activities (cognitive component); the emotional reaction that finds environmental destruction threatening (affective component); and the willingness to do something about it (conative component)." Consumers with higher green concern can feel more strongly about greenwashing and can be more sceptical about the green claims (Diaz-Bustamante-Ventisca et al., 2024). Therefore, they would not be willing to purchase goods associated with greenwashing (Zhang et al., 2018). Farooq & Wicaksono (2021, para. 2) describe mistrust in green marketing as consumers being "sceptical when they do not trust the sustainability claims made by companies." The perceived greenwashing of companies contributes to scepticism about greenness of the products. This harms the green products as well, as the customers do not trust their claims of environmental responsibility (Nygaard & Silkoset, 2023). Considering these factors can help businesses to develop more effective and transparent marketing strategies which would lead to trust and encourage the consumers to buy sustainable products. This would contribute to progress towards sustainable future.

The purpose of this research is to understand the consumer behaviour in the context of environmental marketing practices. The study contributes to the development of science and adds important insights to the existing literature and knowledge on the consumer actions and sustainable marketing. By highlighting the importance of transparent green marketing this study could influence how companies make efforts towards sustainability, leading to more effective business strategies which go hand in hand with environmental goals. Therefore, I believe that my research will lead to consideration of more responsible business practices, especially in the field of environmental sustainability.

The research question of this study is: How does perceiving greenwashing, influence the lack of green word-of-mouth and green purchasing intention with moderating role of green concern and mediating role of invalidity of green marketing? The goal of this study is to analyse the reaction of consumers once they notice and perceive the greenwashing of a company. More specifically, the research aims to check whether perceiving greenwashing of one company influences customers' motivation to talk about the greenness of the products of the company that is perceived as misleading. Additionally, it investigates how perceived greenwashing influences consumers intention of buying green products in general. Furthermore, it examines whether level of concern for the environment influences the strength of this relationship. Moreover, it explores the direct relationship between perceived greenwashing and mistrust in green marketing and direct relationship between green marketing and green purchasing intention. It also examines whether the doubts about green marketing validity which are triggered by perceiving greenwashing, lead to a reduced consumers' intention to purchase green products. The understanding of these changes in consumers behaviour is an important knowledge for the companies and their promotion of sustainability.

The study used an online survey with 5-point Likert scale questions, ranging from 1 (strongly disagree) to 5 (strongly agree), providing the information on respondents' attitudes. With this approach, I obtained quantitative data which were later analysed using statistical

analysis. Initially, I used summary statistics techniques to summarize the data and to ensure the reliability and validity. The method also helps to determine which technique can be used to examine the relationships between the constructs. As I want to keep ordinal nature of the data, ordinal logistic regression was used to analyse the direct interactions, Bayesian logistic regression to analyse moderation and Bayesian mediation model to check for mediation.

The thesis is organized into four main sections. Firstly, I review the literature. I examine the existing studies on perceived greenwashing, lack of green word-of-mouth, green purchasing intention, green concern and mistrust in green marketing. Based on this, I develop my hypotheses and build my conceptual model. Secondly, in the methodology section, I explained the process of data collection, described the participants, performed statistical data analysis and discussed my results. Thirdly, I offered theoretical and managerial recommendations based on my findings. I also presented limitations of the research, recognizing the potential biases and areas for future studies. Lastly, I concluded by highlighting the key findings and summarising my research and its contributions.

2 PERCEIVED GREENWASHING

2.1 Perceived greenwashing and its contributing factors

Perceived greenwashing is defined as "consumer reactions to situations where green advertising messaging and actual corporate social responsibility (CSR) interact" (Nyilasy et al., 2014, p. 694). It refers to consumers perceiving green marketing with misleading communication, which is not based on the actual green practices. It is important to note that these perceptions may not align with the actual practices of the company, but they are very important in influencing consumer behaviour (Nyilasy et al., 2014). In some cases, companies make excessive commitments and then cannot deliver their promises of being green. This leads to customers dissatisfaction due to firms' pretence which is also perceived as greenwashing (Ioannou et al., 2022).

Several factors contribute to the rise of perceived greenwashing. As environmental problems are getting a lot of attention, corporations are under pressure to be seen as environmentally responsible. This pressure comes from society and other stakeholders, who made sustainability a priority (Gil-Cordero et al., 2021). As a result, companies use green marketing to promote their green initiatives to meet these expectations and gain competitive advantage (Guerreiro & Pacheco, 2021). However, when these advertisements are not completely thought through, making them less transparent and seen as not credible, company risks being perceived as greenwashing (Santos et al., 2024).

This growing trend of green demand, led to people being prepared to pay more for products that do not harm the environment. However, this trend also introduced new challenges (Volschenk et al., 2022). While being green has become fashionable and can increase

company's reputation (Zhang & Berhe, 2022), it also raises risks. If customers perceive that a company is taking advantage of the environmental problems, mostly to gain profit from it, while not actually focusing on contributing to sustainability, they could think of company as greenwashing. This can be particularly damaging, when companies market their greenness, because they feel pressured to do so (Santos et al., 2024).

Misleading or unclear environmental claims further contribute to perception of greenwashing. These claims are often hard to recognize or detect for customers (Volschenk et al., 2022). It was proven that the claims of being green do have the positive effect on consumers even though the consumers have enough information to be wary or to doubt the truthfulness of the claims. Compared to those organizations that are silent, but do not contribute to environmental preservation, the consumers perceive their environmental performance more highly, but their impression of the organization is lower than to the green organizations. However, this positive perception of companies is short-term, and once the consumers realize the false claims, it can result in complete loss of trust (De Jong et al., 2018).

Another factor contributing to perceived greenwashing is the standards on what is green, which can vary significantly across different countries and industries. This can lead to confusion among the decision-makers in the company and it can bring challenges when implementing sustainability practices. As a result, even the real effort from managers trying to be sustainable, can actually lead to greenwashing perceived by other stakeholders, because there is no one accepted definition of what is green (Zhang & Berhe, 2022; Rajput et al., 2022).

The complexity of the global supply chains and interconnectivity of the world are hard to manage, which makes the issue of perceived greenwashing worse. As consumers do not have full visibility of the companies' supply chains, they need to rely on the information provided by the companies. When there is asymmetric information and companies know more than consumers about the impact of products on environment, this can lead to consumers not trusting and perceiving greenwashing, even though the company is trying to be sustainable (Zhang & Berhe, 2022).

To reduce the concerns, companies often use eco-labels, which serve as the indicator of environmental responsibility, so customers can be sure that products meet certain sustainability standards, but they can also bring more issues. If customers discover or assume that the product with the label is associated with harmful practices towards environment, this label itself can be perceived as greenwashed. Eco-labels which are used to reduce scepticism, may instead make customers even more doubtful about the company's commitment to genuine environmental responsibility (Shahrin et al., 2017).

2.2 The consequences of perceived greenwashing

While it is important to communicate the striving for better and cleaner future to the public, following these trends can end badly, if customers suppose, it is all just words, and no actions, solely for the purpose of maximizing the profit (Guerreiro & Pacheco, 2021). Customers nowadays do expect companies to contribute to preserving environment, but when their practices are not perceived as trustworthy, consumers will be suspicious, and they could lose trust in the brand (Milfeld et al., 2024).

Research by Volschenk et al. (2022), shows that customers would rather buy a product that does not make any green claims, than the one where those claims are false. This highlights the risk that perceived greenwashing can have. Therefore, the perceived greenwashing for companies can have higher negative impact than the benefits of green marketing would bring, as consumers may become sceptical of green claims, even though they could be true. According to Fella & Bausa (2024), even authentic green products were perceived as greenwashed to some extent, when customers were presented with the option, that it could be greenwashed product.

The influence of perceived greenwashing can be negative, not only for the individual company, but for the entire market of green products. When greenwashing is perceived, the consumers can lose trust in all green products, not just those which customers perceive are greenwashing. This reduces the overall value of sustainable goods. Consequently, perceived greenwashing can bring down confidence in the whole green market, which disrupts the adoption of green supply chains and sustainable practices of companies (Nygaard & Silkoset, 2023). This does not only influence the purchasing decisions of consumers, but also companies, which may stop investments in the authentic green practices, so sustainable transformation of the industry is not happening. This has significant environmental effects. (De Jong et al., 2018; Nygaard & Silkoset, 2022; Sun & Shi, 2022).

Hence, not only does perceived greenwashing have a very negative effect on the integrity of the organisation, but also poses a threat for the entire system and other organization's initiatives and campaigns for the environmental preservation (De Jong et al., 2018). Therefore, perceived greenwashing by companies, whether based on the real misleading practices or not, negatively influences company, industry as well as society as a whole (Sun & Shi, 2022).

2.3 Companies' strategies to avoid perceived greenwashing

Companies need to promote green attributes on their products and provide relevant information on green products and the benefits they bring to the environment. Educating consumers, raising awareness on green issues and highlighting how their products contribute to a broader sustainability efforts can help them differentiate themselves from their competitors (Yang & Chai, 2022). By adopting transparent green marketing strategies, they

can increase consumer knowledge and trust, which can lead to greater green purchasing intention and contribute to a more sustainable economy (Ahmad et al., 2022).

To avoid perceived greenwashing, companies should inform about facts and not exaggerate (Lu et al., 2022). They must adopt authentic practices of communication and be genuine about their green initiatives. With taking responsibility and making efforts for reaching sustainable goals, they can avoid the possibility of greenwashing and gain trust and reputation of honest company, which helps with building long-term relationships with their customers and provide competitive advantage (Santos et al., 2024).

Educating consumers on how to identify greenwashing, so the companies who try to mislead them, would not be successful, is another key strategy (Eng et al., 2021). The understanding of greenwashing makes customers more cautious when buying green products, therefore, if companies would educate them on it, they would be more inclined to buy from companies that offer green products or services. Consumers would be more informed, while also companies would be more motivated to use authentic green claims (Jog & Singhal, 2024).

Another way to avoid perceived greenwashing is by providing a proof of authenticity of their green practices with third-party certifications. This can help with the credibility (Cai et al., 2017). It was proven that when distrust in eco labels exists among consumers, trust can be increased by certificates from third parties. Investing in such certifications not only helps with credibility of the green products, but also increase consumer confidence when the scepticism exists in the market (Darnall et al., 2018).

Companies could use technology. In the study by Nygaard & Silkoset (2023), the researchers point out the potential use of blockchain technology for companies which could provide reliable and transparent information for their whole supply chain. With this technology, companies could save every step from sourcing to delivery and share it with consumers. This transparent information would allow consumers to check whether the claims of company are true. Consumers would, therefore, have greater confidence in the greenness of the products, as they could prove it. The consumers would be able to make informed decisions and contribute to change towards sustainability.

3 GREEN WORD-OF-MOUTH

3.1 Green word-of-mouth and its importance

Green word-of-mouth is defined as “the extent of to which a customer would infer friends, relatives, and colleagues about positive environmental messages of a product or a brand” (Chen et al., 2014, pp. 2414-2415). This includes recommending the products to their acquaintances as well as general discussion about company’s sustainability efforts (Chen et al., 2014).

This active discussion on company's green initiatives is vital for company, as it further promotes their environmental efforts (Román-Augusto et al., 2022) and it reduces scepticism of consumers towards the green products. When consumers hear positive feedback from their acquaintances, they are more likely to trust the authentic green image of the companies. This is because feedback from other consumers is often perceived as more genuine compared to the promotional information provided by companies (Guerreiro & Pacheco, 2021).

According to Ikhsan et al. (2024) when customers feel like they do not get enough information on the greenness of the products from the companies, they often search for them online, by exploring the reviews of other consumers. Only after the information that consumers received from company, are confirmed by positive reviews, consumers decide to purchase the product, and they believe in its genuineness. The product reviews of consumers about the environmentally friendly aspect of product are seen as validators of the provided information by the company.

Green word-of-mouth is crucial not only for promotion and validation of companies' efforts, but for general raising of awareness and educating consumers about the importance and benefits of making green purchases. When consumers share their experiences with green products, consumers are promoting environmental sustainability. Therefore, the awareness about importance of making environmentally conscious choices is spread among consumers. This also do motivate others into making their own environmentally positive choices. So, the overall green concern is increased (Ikhsan et al., 2024). The awareness therefore not only increases the conversations on eco-friendly products, but also encourages others, who might not yet try the products, to at least consider them based on their environmental benefits (Wu & Chiang, 2023).

3.2 Consequences of lack of green word-of-mouth

Lack of green word-of-mouth can have significant negative consequences, not only on individual companies, but also on the broader sustainable market. As pointed out earlier, talking about green products and claims of companies is crucial in promoting, as well as validating the companies' green efforts. When this communication between consumers is missing, it can lead to several issues (Ikhsan et al., 2024).

When there is lack of green word-of-mouth fewer people are informed about the availability and benefits of the green products. Consumers do not help to raise awareness among people, who may previously not be aware of green products. The interest and demand for sustainable products is not influenced. As a result, fewer people think about buying green. So, lack of green word-of-mouth contributes to the slower adaption of sustainable business practices (Wu & Chiang, 2023).

When customers do not speak about green products, this can lead to increased doubts about environmental friendliness of the products. Research has shown, that having low perception

of greenwashing for the company and having trust in company's green claims was found not to be enough to actually encourage green purchases. The green word-of-mouth was crucial in promoting the green efforts of companies to actually increase green consumption, so without it, there is actually less people deciding to buy environmentally friendly products (Guerreiro & Pacheco, 2021). As a result, sceptical consumers remain hesitant to try new products (Ikhsan et al., 2024).

3.3 Strategies to encourage green word-of-mouth

To increase green word-of-mouth, the consumers need to believe that their individual actions can make a difference and contribute to a more sustainable world. When they feel empowered, they feel like their actions can drive positive change, so they are more likely to share their experiences with green products and motivate others to do the same. The companies should make customers feel that they alone can make a change, and the green word-of-mouth is likely to increase (Wu & Chiang, 2023).

Researchers Wu & Chiang (2023) found that environmental awareness positively impacts the green word-of-mouth. The more individuals are aware of environmental issues, the causes of them and the importance of taking responsibility for them, the more likely they are to share their knowledge and spread positive green word-of-mouth. Therefore, education on environmental challenges by companies and governments is very important.

Similarly, green satisfaction has a positive role in influencing green word-of-mouth. When customers are happy with their green purchases, they are more likely to share their satisfaction with others. They recommend the products and promote the green initiatives by company. This happiness can make other customers aware of the products and convince them to try them out (Román-Augusto et al., 2022).

Román-Augusto et al. (2022) found that when green marketing practices have a positive influence on trust, they also increase the likelihood that customers will recommend the company to others. Therefore, green trust plays a crucial role in positively impacting green word-of-mouth. When the customers have confidence in green claims made by companies, they are more likely to share their positive experiences with other.

4 GREEN PURCHASING INTENTION

4.1 Green purchasing intention and its contributing factors

Green buying is defined as "the practice of acquiring ecologically friendly goods that have little negative influence on the environment, such as organic and recycled goods" (Kevitha & Kumar, 2023, p. 721). This type of purchasing aims to minimize the use of natural

resources, reduce the pollution and the use of toxic chemicals in order to contribute to sustainability and improve the quality of life (Shang et al., 2024).

Green purchasing intention is a reliable representation for measuring consumer behaviour towards environmentally friendly products. It illustrates the willingness of consumers to choose sustainable products, which gives important insights into their behaviour. It is widely used in studies on green demand, as it helps researchers to approximate the actual purchasing decisions. Therefore, researchers can use it to analyse the trends and consumer choices (Zhuang et al., 2021).

In the past decades the environmental problems increased significantly. Humans generate a big amount of waste; the climate is changing and there is decline in natural resources availability (Mehta & Chahal, 2024). The growth of the worldwide population, the overall development of the nations and with-it industrialization harm the environment (Srivastava & Gupta, 2023). The awareness of people of their impact on the environment and businesses adopting green practices, made eco-friendly products widely available and taking care of the environment became a worldwide concern. As a result, the trend of sustainable consumerism emerged and spread with speed (Wu & Chiang, 2023).

People became aware of their purchasing behaviour and companies' products having negative impact on environment, and consequently on their health (Majeed et al., 2022). Consumers being aware of the environmental problems want to help with decreasing their impact (Saut & Saing, 2021) and help the environment by making better decisions (Kar et al., 2024). Therefore, the concern for the issues facing the environment is connected to increase green purchasing intention. (Saut & Saing, 2021).

According to Šálková et al. (2024) personal responsibility is the main reason for green purchasing. It can make consumers feel good because their shopping behaviour matches their values and helps to create a more sustainable world. When customers feel that they can make a change, they would buy green and contribute to more positive impact on the environment (Zhuang et al., 2021).

Customers choose the green shopping because of the perceived higher quality of the product, as the products are expected to bring more benefits to the consumers than non-green products (Zhuang et al., 2021). Similarly, in the study by Mehta & Chahal (2024), the researchers found out that the quality is very important when consumers purchase green. But the consumer purchase intention is not only influence by their own individual factors, but also social environment to which they are exposed. Therefore, subjective norms and what others approve of significantly drives green purchasing intention. (Zhuang et al., 2021).

4.2 Impact of increased green purchasing intention on companies

On one hand increased green purchasing intention pushes companies to become more socially responsible, as they are judged based on the criteria of being green (Gil-Cordero et al., 2021). The environmental problems are getting a lot of attention from the public, and this increased the demand for green products and services, as firms try to gain competitive advantage (Guerreiro & Pacheco, 2021). So, companies' number one focus is implementation of the green practices, in order to capture this big demand (Majeed et al., 2022). The company that focuses on environmental protection, consequently, also chooses to help the customers with preserving environment and limiting the negative effects the environment has on humans, therefore, developing their reputation which in turn leads to better performance of the company (Zhang & Berhe, 2022).

On the other hand, the pressure from customers to integrate sustainability can have negative impact on organizations, as they often lack clear guidance and information on how to adopt sustainable practices (Santos et al., 2024). They are expected to be environmentally friendly and are aggressively marketing their green initiatives, which can have just the adverse effect, when their sustainability efforts are perceived as misleading (Milfeld et al., 2024). As a result, customers are becoming more cautious about the companies' green claims, which influences their green purchasing intention (Guerreiro & Pacheco, 2021).

4.3 Methods to increase green purchasing intention

Green marketing is used as a tool used to give customers information about the greenness of products and in that way increase the demand (Shi et al., 2022). In the previous studies, it was proven that environmental advertising positively correlates with the intention of buying green (Ansar, 2013; Yang & Chai, 2022; Zhang & Berhe, 2022). Packaging and labels should clearly point out the environmental and health benefits of the product, so the higher quality of the products would be perceived, which could result in green purchasing (Mehta & Chahal, 2024). Social media influencers, especially those that are considered credible, could help to promote the positive impact of green products on the environment, as the new generations tends to trust them more than companies' advertisements (Rizomyliotis et al., 2024).

Green products should also be widely available, as limited access can prevent consumers from making green choices (Mehta & Chahal, 2024) and the intention to purchase green is increased by green product availability (Weissmann & Hock, 2022). Additionally, companies should consider lowering the price, as the high cost of green products can restrict them to only those consumers with higher incomes, which leaves out a big population of people who would be interested in buying green (Mehta & Chahal, 2024). One way of how the lower prices could be possible, is by governments support and their incentives to businesses for reducing the costs of green products (Srivastava & Gupta, 202).

5 GREEN CONCERN

5.1 Green concern and its contributing factors

Franzen & Bahr (2024, para. 2) build on existing definitions to describe green concern "as consisting of three dimensions: the insight that the environment is endangered by human activities (cognitive component); the emotional reaction that finds environmental destruction threatening (affective component); and the willingness to do something about it (conative component)." So, green concern is not just a feeling towards natures' problems, but it is a driver of responsibility and motivation for green behaviours (Chao et al., 2023). The individuals are conscious about the consequences their actions have on the environment and take accountability for them (Borusiak et al., 2023). When they are worried about environment, they care about its problems and are involved in taking care of it (Ren & Ren, 2024).

According to paper from Pizza & Kelemen (2023) green concern is increased in the individuals that are connected to nature and feel like they are personally part of it. Particularly those who are eco-spiritual and view caring for nature as their spiritual responsibility are more likely to prioritize the well-being of the environment. This influences their green concern (Billet et al., 2023). Similarly, people who identify themselves more strongly with being part of the global community are likely to care more about environmental issues. They have a sense of belonging to the society which impacts their actions on the planet (Pong & Tam, 2023).

Environmental knowledge plays and important role in boosting the environmental concern, as it increases awareness and understanding of environmental problems (Li et al., 2022). Additionally, perception of environmental risk plays an important role. When individuals perceive more risk from environmental problems, their concern becomes stronger (Saari et al., 2021). As people become more informed about the issues, their green concern strengthens, which motivates them to adopt more responsible actions (Dai et al., 2022). However, it is not enough to educate individuals about sustainability. They also need to believe that they can make a change. So, environmental knowledge with strong belief of people in making a difference, further strengthens the environmental concern (Saribas et al., 2014).

Trust in media, news and science increases the green concern of individuals. When they believe in the credibility of the information from these sources about environmental issues, they are more likely to have higher concern for the environment (Franzen & Bahr, 2024). Additionally, green trust, that eco-friendly products really help the environment, strengthens the concern and their commitment to purchase green. For this reason, businesses should provide reliable information on green products and inform the customers about the benefits

they bring, which can boost the concern, as well as end in higher green purchasing intention (Vinoth et al., 2024).

5.2 Behavioural changes driven by green concern

Green concern positively influences the individual's motivation towards recycling. When the concern for the environment is high, the individuals are more likely to have a positive attitude towards recycling and as a result they feel more motivated to engage in recycling behaviour. The concern makes them aware of the negative impact products have on the environment and that proper disposal of materials helps (Jekria & Daud, 2016). The research by Chao et al. (2023), supports this, by again showing an important role of green concern and its impact on properly disposing waste.

Individuals with higher green concern are more likely to engage in the energy saving behaviours, which include reducing the use of energy, as well as making investments in the energy efficient appliances in their homes (Urban & Ščasný, 2012). This is particularly evident among youths. Their belief in climate change leads to high environmental concern which positively impact the behaviour of energy-conservation. So, green concern actually explains the relationship between the belief in climate change and the actual actions of saving the energy (Han et al., 2022).

Green concern is a motivator for environmental activism, especially among young people. They are the ones that experience the negative side effects of destruction of environment because of climate change and are the ones that are concerned about environment. The individuals are motivated to advocate for sustainable policies and business practices (D'Uggento et al., 2023).

5.3 Green concern and business practices

The environmental concern helps to shape how the companies and authorities handle the environmental issues, which later on leads to higher economic growth, as the sustainable practices improve efficiency and attract the customers. Therefore, governments and businesses should take into account the green concern of people, address it and provide the appropriate solutions (Fan et al., 2024).

Green concern of managers explains the positive relationship between corporate social responsibility and innovative sustainable practices in the organization. So, when managers are concerned about the environment, they are more likely to look into sustainable innovations, which can benefit the environment (Mo et al., 2022). Green concern in a company influences how well does the management in the company build the workforce which is skilled in sustainable practices and contributes to green innovation (Song et al., 2021). In the study by Tang et al. (2018), it was proven that the green process innovation

has a stronger positive impact on improving the company's performance when management is very concerned about environment.

6 MISTRUST IN GREEN MARKETING

6.1 Mistrust in green marketing and its contributing factors

Green marketing acts as a tool used to give customers information about the greenness of products and in that way increase the demand (Shi et al., 2022). Trust plays an important role when consumers are deciding on making green purchases (Rashid & Lone, 2024). Farooq & Wicaksono (2021, para. 2) describe mistrust in green marketing as consumers being "sceptical when they do not trust the sustainability claims made by companies."

In the paper by Margariti et al. (2024), the authors argue that even though green marketing positively impacts the consumer attitudes, intentions and behaviour, this does not always lead that to the actual green purchasing. There is a gap between the attitudes, intentions and behaviours, mostly due to the fact that consumers were exposed to greenwashing and because of that, they often distrust green marketing strategies. When companies practice greenwashing, they deliberately deceive consumers about their environmental practices or the benefits of their products, violating consumers' expectations and further contributing to this mistrust (Santos et al., 2024).

Some companies falsely claim the greenness of the products and are not transparent about it. They do not provide enough information about it, which leads to consumers searching about it on their own, as they do not trust the company. The scepticism persists despite the labels of eco-friendly packaging (Ikhsan et al., 2024).

Similarly, when the consumers notice a difference between the company's advertisements of being green and their actual actions, they become sceptical. They might think that they have hidden motives and are just pretending to be environmentally friendly for the economic reasons. Therefore, instead of green advertising actually improving the image of the brand and with that increase purchasing intention, it harms the reputation of the brand and turns the consumers away (Nyilasy et al., 2014).

6.2 Consequences of mistrust in green marketing

Mistrust in green marketing can lead to a wide range of negative consequences for businesses. It influences the perceptions of consumers and has negative effects on companies' performance. This ultimately harms the company's long-term growth and financial stability (Guo et al., 2017).

The scepticism can contribute to negative attitude towards the brand. When the proves of green claims are not presented, consumers can perceive that the brand is not transparent about their green practices, which leads to scepticism towards brand. This can impact the confidence of consumers in the brand's practices of sustainability. Once this happens, it can be hard to rebuild the trust (ShabbirHusain & Varshney, 2019).

Mistrust in green claims can damage the brand's reputation. Over time, this can lead to a decline in customer loyalty, as customers do not believe the brand anymore and rather switch to brands which they perceive as honest and transparent. The long-term success of the brand can be ruined (Guo et al., 2017).

Mistrust can trigger negative word-of-mouth, where the consumers share their concerns with their acquaintances and in that way discourage them from buying from the that company. This can further damage the brand's reputation. As nowadays information spreads very quickly, the impact of negative word-of-mouth can have detrimental effects (Leonidou & Skarmeas, 2017).

In the wider context, mistrust in green marketing for one business, can result in mistrust towards the companies which are honest in their green claims. Therefore, the sustainable companies cannot distinguish themselves from the unsustainable ones. This can have overall effect on the slower adoption of sustainable practices, which is bad for consumers as well as businesses (De Jong et al., 2018).

6.3 Strategies to maintain trust in green marketing

To maintain trust, companies need to improve the way they communicate their environmental efforts, so that consumers can connect with the brand and have confidence in it. The way company positions itself as a green brand, is very important for building trust in the greenness of the brand. When company from beginning positions its products as environmentally friendly with reliable, trustworthy information about the environmental contribution, it sends a strong message which contributes to increased trust in the brand and reduced information asymmetry (Riva et al., 2024).

Furthermore, companies should make consumers aware of their positive environmental impact, which can reduce the mistrust towards their green marketing (ShabbirHusain & Varshney, 2019). By transparently highlighting the benefits they provide to the environment, they can be seen as more credible and trustful. The genuine communication ensures that the consumers have enough information and can be confident in the company's environmental efforts (Mezger et al., 2020).

The companies also need to provide the appropriate evidence that their communication is truthful. They need to share information, so they can position themselves as a green brand (ShabbirHusain & Varshney, 2019). They should focus on clear communication of their

environmental efforts and then also go through with the promises they made. They should as well explain the origins of products, and the investments they made (Mezger et al., 2020). Even if the company builds a brand with strong associations of being environmentally friendly, they still need to focus on clear communication to be seen as genuine in the eyes of the consumers, especially when they become sceptical about the claims (Riva et al., 2024).

7 HYPOTHESES DEVELOPMENT

Based on the knowledge I gained from literature review, I developed my hypotheses. With them, I aim to check how are described constructs related and identify patterns. The study explores these relationships to contribute to a deeper understanding of consumer behaviour.

7.1 Relationship between perceived greenwashing and lack of green word-of-mouth

When consumers perceive greenwashing, where companies misleadingly present their products as environmentally friendly, they are less likely to engage in positive green word-of-mouth. Green word-of-mouth is very important for promoting the green products to spread awareness and build trust among potential customers. When consumers believe that company is not authentic and misleads with their environmental claims, they do not trust it and might not want to recommend the products of the company (Guerreiro & Pacheco, 2021).

In the study by Chen et al. (2019), authors found that in the context of environmentally friendly hotels, when the greenwashing by companies is perceived, customers did not engage in positive green word of mouth. This suggests that when consumers suspect the greenwashing, they may choose to remain silent, as they do not want to support the misleading practices of companies. Many consumers when they are sceptical about the greenness of the products, search for more information online, specifically the reviews from other consumers. With less consumers willing to advocate for the green products, over time, this could lead to the truly sustainable products not being talked about, making them less visible in the market (Ikhsan et al., 2024).

Thus, this study proposes the following hypotheses:

H1: Perceived greenwashing positively influences lack of green word-of-mouth.

7.2 Relationship between perceived greenwashing and green purchasing intention

Authors agree that perceived greenwashing has a direct negative influence on green purchasing intention. When the customers believe that they have been lied to and mislead

by greenwashing of company, they are likely to avoid purchasing from the company (Chen et al., 2020; Lu et al., 2022; Sun & Shi, 2022; Zhang et al., 2018).

Perceived greenwashing has wider impact on the whole market of sustainable products. When companies falsely advertise their products as environmentally friendly, it creates confusion among consumers, making it hard to distinguish between genuine sustainable products and those that are falsely marketed as those products. This confusion brings the value of the authentic green products down, as consumers are less confident and more sceptical in their ability to make an informed decision (Nygaard & Silkoset, 2022). In the paper by Fella & Bausa, (2024) it was proven that even real green products were perceived as greenwashed by customers, which is alarming and can significantly damage the market for sustainable goods. Therefore, when consumers cannot distinguish between real and not real green products, they can accidentally cause harm to the genuine companies which are trying to minimise their environmental impact.

Therefore, I am proposing the following hypothesis:

H2. Perception of greenwashing negatively influences the green purchase intention.

7.3 Relationship between perceived greenwashing and green purchasing intention moderated by green concern

The perception of greenwashing negatively impacts consumers' green purchasing intentions, as consumers tend to avoid products from companies they perceive as misleading. This relationship is moderated by green concern. Individuals that have high environmental awareness and a strong sense of responsibility to help the environment, respond differently when they perceive greenwashing (Sun & Shi, 2022). Specifically, strong green concern strengthens the negative effect of greenwashing perception on green purchasing intention. The more concerned consumers are about the environment, the more likely they are to avoid products from companies they perceive as misleading (Sun & Shi, 2022; Zhang et al., 2018).

Consumers with higher concern for sustainability are more sensitive to detect the attempted greenwashing with environmental messaging from companies (Diaz-Bustamante-Ventisca et al., 2024). They are also more aware of the impact the products they use have on environment and therefore, they more often buy the real, authentic green products. Because they consider themselves more responsible for the environment and keep themselves accountable for its preservation, they act more responsible and recognise the firms who use greenwashing. So, the more there is green concern, the stronger is the willingness to not purchase the products when they are perceived and associated with greenwashing (Zhang et al., 2018).

This strong green concern motivates them to actually find the genuine sustainable products, so they reduce the negative impact perceived greenwashing has on green purchasing

intention (Sun & Shi, 2022). When consumers perceive that brands are genuinely committed to sustainability, their positive environmental attitude significantly boosts green purchasing intentions (Ahmad et al., 2022; Hussain et al., 2020; Martins, 2021; Zhuang et al., 2021). Therefore, the higher concern for the environment, actually fights against the greenwashing of the companies. This suggests that while green concern reduces the willingness to buy greenwashed products, it does contribute to higher purchasing of the actual green products. (Sun & Shi, 2022).

Therefore, this paper proposes the hypothesis:

H3. The green concern negatively moderates the relationship between perception of greenwashing and green purchase intention.

7.4 Relationship between perceived greenwashing, mistrust in green marketing and green purchasing intention

Despite the growing importance put on sustainable living, greenwashing is on the rise, which causes deception among consumers, and it leads to more scepticism when buying the green products (Kevitha & Kumar, 2023). As misleading green claims became more common, the mistrust in green marketing increased among consumers. Efforts by companies to highlight their environmental practices often fail and make consumers more doubtful, rather than trustful (Nguyen-Viet & Nguyen, 2024).

The mistrust comes from past experiences with greenwashing, which makes customers sceptical of new green claims. Research indicates that when customers have previously been in contact with misleading green marketing, they are likely to be suspicious about other environmental claims (Szabo & Webster, 2021). In the fashion industry for example, this scepticism can be very problematic. Despite companies attempting to promote their green initiatives, consumers can perceive these as deceptive because of past experiences with greenwashing (Diaz-Bustamante-Ventisca et al., 2024). As a result, consumers become confused about which products genuinely do help and benefit the environment, even the organizations that have good intentions regarding the environment, will not be recognized anymore (Singh et al., 2022).

Perceived greenwashing reduces trust in green marketing, leading to doubts about the authenticity of environmental claims (Nguyen et al., 2019). Similarly, the study by Farooq and Wicaksono (2021) found that the most important cause for the doubting of green claims are the past experiences with greenwashing. This mistrust negatively impacts their willingness to purchase green products (de Sio et al., 2022; Farooq & Wicaksono 2021; Szabo & Webster, 2021,). Even though the companies try to make consumers aware of their environmental practices, to increase their purchasing intention, often, the advertisements have just the opposite effect. They make consumers doubt, which actually reduces green purchasing (Nguyen-Viet & Nguyen, 2024).

Therefore, I propose the following hypotheses:

H4a: Perceived greenwashing positively influences mistrust in green marketing.

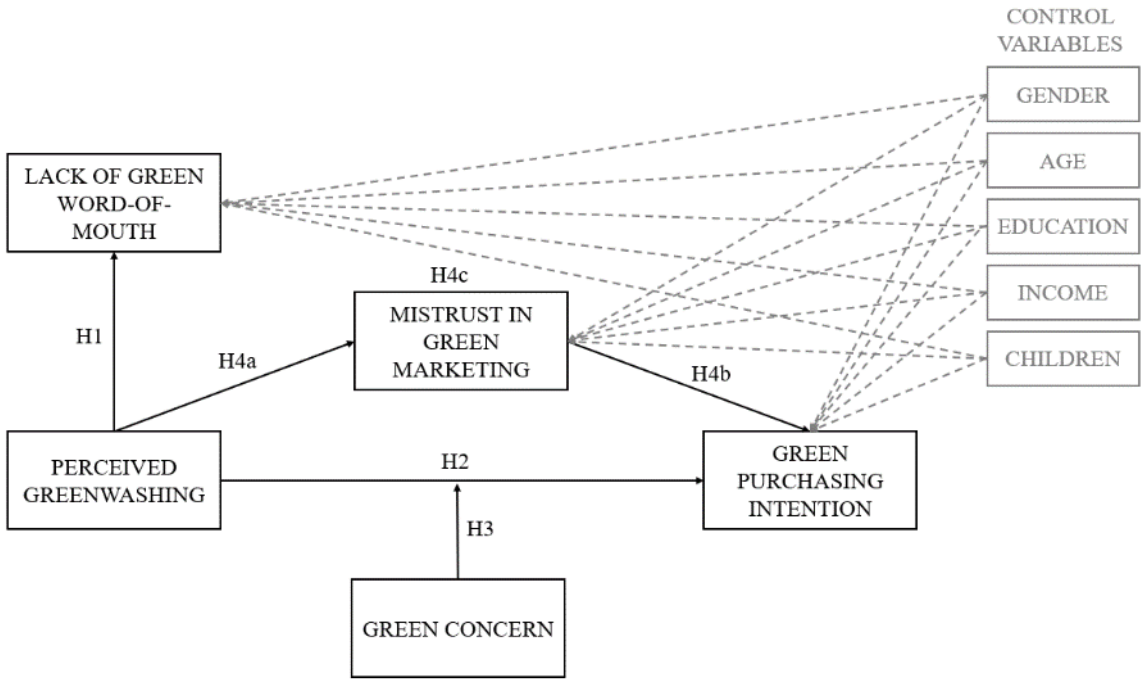
H4b: Mistrust in green marketing negatively influences green purchasing intention.

H4c: The relationship between perceived greenwashing and green purchasing intention is mediated by mistrust in green marketing.

7.5 Conceptual model

Figure 1 presents the conceptual model which visually describes the hypothesized relationships between perceived greenwashing, lack of green word-of-mouth, green purchasing intention, green concern and mistrust in green marketing. The model suggests that perceived greenwashing positively influences lack of green word-of-mouth and negatively influences green purchasing intention. Also, the relationship between perceived greenwashing and green purchasing intention is negatively moderated by green concern. Furthermore, perceived greenwashing positively influences mistrust in green marketing and mistrust in green marketing negatively influences green purchasing intention. Additionally, the relationship between perceived greenwashing and green purchasing intention is mediated by mistrust in green marketing. The model also includes control variables – gender, age, education, income and the presence of children, to make sure that these variables do not affect the results.

Figure 1: Conceptual model



Source: own work

8 METHODOLOGY

8.1 Data collection

The study used non-random online survey to collect data from the adults in English language. The survey was available on online survey platform 1ka.si from 5.3.2024 to 10.4.2024. The potential respondents were persuaded to solve the survey with incentive. At the end of the questionnaire, they could leave their email addresses in order to participate in a draw for Amazon voucher worth 20 Euros. I used incentive, so they would be more motivated to solve the survey till the end and it would compensate for their time and effort. I received positive feedback on it.

The questionnaire presented the respondents with the IKEA stating its environmental responsibility and their green strategy for the forest preservation. The statement is written on their website. After this, the respondents read about how the nongovernmental organization revealed that IKEA was potentially accountable for the forest degradation in Ukraine. The two texts therefore lead to IKEA potentially greenwashing.

The case description is as follows: "At IKEA, we believe we can accomplish more by working together. For many years, we have been committed to working together with different stakeholders to protect and strengthen the world's forests. One of our key partners in the Forest Stewardship Council (FSC) - an organization that brings together different voices that represent a wide range of needs for responsible forest management. IKEA was one of several founders in 1994. Wood which is FSC-certified means it comes from sources where the forest is always regenerated as trees are replanted. This means there is no net loss of forest cover over time" (IKEA, n.d.). This text follows with: “Now imagine that you learned that in June 2020 non-governmental organization Earthsight revealed that IKEA is responsible for sourcing illegal timber from Ukraine's Carpathian forests. Earthsight reported widespread lawbreaking including logging without required assessment, cutting more than allowed by the license, and logging during the prohibited "silence periods". The wood was certified by FSC, which suggests their system did not recognize it or it allowed the illegal activities and is therefore not reliable” (Earthsight, 2020a). “IKEA responded with their own investigation and later on denied any allegations” (Earthsight, 2020b). I used IKEA as an example of greenwashing, as they are known for their sustainability actions, and the greenwashing would not be expected from it.

The questionnaire was formulated using the findings from the existing literature in order to make sure that the content and the structure were reliable. The questionnaire was done in English language. The developed questionnaire items were chosen based on the previous studies. It consists of two parts. First part was researching the measuring variables, while the second part consisted of demographic questions researching control variables, as they could influence the results of the study (Sun & Binbin, 2022). The items in the first part of the

study were evaluated with 5-point Likert scale, which ranged from strongly disagree (1) to strongly agree (5).

Perceived greenwashing was measured using four following items from Sun & Binbin (2022): (1) “The company omits or hides important information to make green claims sound better than they are.” (2) “The company is misleadingly literal about its environmental attributes.” (3) “The company’s green claims are vague or unprovable.” (4) “The company exaggerates the reality of its green features.”

The study measured green word-of-mouth using four items that were adapted from the Zhang et al (2018) and later used as well in the paper from Guerreiro & Pacheco (2021). Those items are: (1) “I would highly recommend this company to others because of its environmental image.” (2) “I would positively recommend this product to others because of its environmental functionality.” (3) “I would encourage others to purchase from this company because it is environmentally friendly.” (4) “I would say good things about this company to others because of its environmental performance.”

Based on Sousa et al. (2022) green purchasing intention was measured with nine items: (1) “I am willing to buy products that use recycled and/or recyclable packaging.” (2) “I am willing to buy products that are not tested on animals.” (3) “I am willing to buy products with the eco-friendly label.” (4) “I am willing to buy products without (or few) chemical ingredients.” (5) “I am willing to buy products that support fair trade.” (6) “I am willing to buy recycled products.” (7) “I am willing to buy organic products or products without any pesticides.” (8) “I am willing to buy energy-efficient appliances.” (9) “I am willing to buy products from companies with a sustainable and environmentally friendly stance.”

Mistrust in green marketing was measured based on Nguyen et al (2019) and de Sio et al. (2022) with four items: (1) “Most environmental claims made on package labels or in advertising are true.” (2) “Because green claims are exaggerated, consumers would be better off if such claims in advertising were eliminated.” (3) “Most environmental claims on package labels or in advertising are intended to mislead rather than to inform consumers.” (4) “I do not believe most environmental claims that are made on package labels or in advertising.”

According to Guerreiro & Pacheco (2021), four items were used to measure green concern. Those were: (1) “I’m worried about the worsening of the quality of environment.” (2) “The environment is a major concern for me.” (3) “I am passionate about environmental protection issues.” (4) “I often think about how the condition of the environment can be improved.”

The questionnaire asked for demographic profile of respondents: gender, age, education level, income and if the respondents have children or no. Those were taken as control variables that could impact the respondent’s perception of greenwashing (Zhang et al., 2018). The questions were adapted from the Sun & Shi (2022). The results are shown in Table 1. First, as no respondent answered the gender question with the option “other”, the

gender in the survey is measured by dummy variable 0 that represents male gender and variable 1 that represents female gender. Second, age was divided in five groups and measured by year, 1 (18-25 years old), 2 (26 – 35 years old), 3 (36 – 45 years old), 4 (46-55 years old) and 5 (over 55 years old). Third, education level was divided in five groups, 1 (Under high school), 2 (High school), 3 (Apprenticeship), 4 (Undergraduate/College), 5 (Graduate (master's or doctorate)). Fourth, income per month was measured by money (Euros) and was divided in seven groups: 1 (Under 500€), 2 (500€ - 1000€), 3 (1000€ - 1500€), 4 (1500€ - 2000€), 5 (2000€ - 2500€), 6 (2500€ - 3000€) and 7 (More than 3000€). Last, with or without children was taken as binary variable, where 0 represents yes and 1 represents no.

The test questionnaire was sent to the professor to improve it before the official survey was published. Additionally, the respondents were assured that their responses would be treated with complete anonymity and confidentiality and will be used only for the completion of my master's thesis, so that the answers would be completely honest, and I would reduce the impact of the social expectation bias.

To distribute the questionnaire, I used convenience and snowball sampling, due to the accessibility of the respondents and the cost effectiveness. The survey was sent to my acquaintances, posted on three Facebook groups for solving surveys (Survey Circle, Survey sharing 2024 and Student Survey Exchange) and on the website for solving surveys surveycircle.com. Additionally, it was sent around by my acquaintances.

8.2 Participants

Out of 748 people who clicked on a survey, I received 211 valid questionnaires with a questionnaire efficiency rate of 28,2%. Due to missing data, 194 fully solved questionaries were used in the further analysis. Table 1 shows the respondents' demographic results of the survey data.

Table 1: Respondents' demographic results of the survey data

Demographic Variable	**Frequency**	**Percent**
Gender		
Female	146	75%
Male	48	25%
Other	0	0%

Continues

Table 2: Respondents' demographic results of the survey data (cont.)

Demographic variable	Frequency	Percent
Age		
18 - 25 years old	136	70%
26 - 35 years old	46	24%
36 - 45 years old	11	6%
46 - 55 years old	0	0%
over 55 years old	1	0%
Education level		
Under high school	0	0%
High school	28	14%
Apprenticeship	3	2%
Undergraduate/College	114	59%
Graduate (master's or doctorate)	49	25%
Income per month		
Under 500€	46	24%
500€ - 1000€	48	25%
1000€ - 1500€	38	20%
1500€ - 2000€	35	18%
2000€ - 2500€	9	5%
2500€ - 3000€	10	5%
More than 3000€	8	4%
With or without children		
With	19	10%
Without	175	90%

Source: own work

8.3 Handling data issues

The questionnaire was checked for missing data and listwise deletion was adopted. The participants with missing value in at least one of the variables were dropped. The analysis was performed on the participants, who answered all the questions completely. This technique was used, as the sample size remained sufficiently large; instead of 211 valid responses, 194 were used in the analysis.

Statistical analysis was performed with the software R. The reasons for that are, firstly, because of familiarity with it, as we used it at university for the analysis. Secondly, it offers a wide range of methods and packages, including visualisations. Thirdly, it is free, open for everyone, which is good for reproduction of the research. Lastly, there is a large community of users, who provide tutorials and offer support in dealing with R.

Outliers were not removed, as the questionnaire measures the attitudes, perceptions which are subjective, so I cannot justify removing any value, just because they are rare. Therefore, all responses were kept, even if they were uncommon. With this approach I ensured that even the perspectives of respondents which are rare, were taken into account, which provides a more complete understanding of the data.

Reverse coding was used for the construct of mistrust in green marketing. The answers to the first statement: "Most environmental claims made on package labels or in advertising are true" were reverse coded, so it did not measure the trust, but mistrust in green marketing and it matched with other three items. Reverse coding was also used for the construct of lack of green word-of-mouth, as the items in the questionnaire measured green word-of-mouth. Therefore, after reverse coding, they measured lack of green word-of-mouth.

8.4 Statistical analysis tools and techniques

To analyse the data, I checked for summary statistics. Mean and standard deviation, of the constructs which were measured are presented in Table 2. The mean of the construct perceived greenwashing is 3.72, so I can conclude that the average perception of greenwashing is moderately high. Therefore, the respondents generally did perceive the greenwashing by the company. Standard deviation of 0.69 suggests that the respondents generally agreed on perceiving greenwashing. Further, the high mean score of green purchasing intention of 4.24, indicated that the respondents have a high intent to engage in green purchasing. The low standard deviation shows that the respondents agree regarding green purchasing intention. Moreover, the respondents have on average, a moderately high level of concern and are worried about worsening of the environment. The standard deviation suggests some level of variation among the respondents considering the concern for the environment. Additionally, the average score for lack of green word-of-mouth of 3.30 suggests that on average respondents only moderately avoid green word-of-mouth about the company. Standard deviation of 0.92 reveals that there is some variability in the responses, meaning that while some respondents are more likely to not engage in the green word-of-mouth, others not as much. Furthermore, the respondents show a moderate level of mistrust towards green marketing with the mean score of 3.30. The standard deviation indicated some level of variation in the mistrust among the respondents. Detailed summary statistics of each item of the constructs is in the Appendix 3.

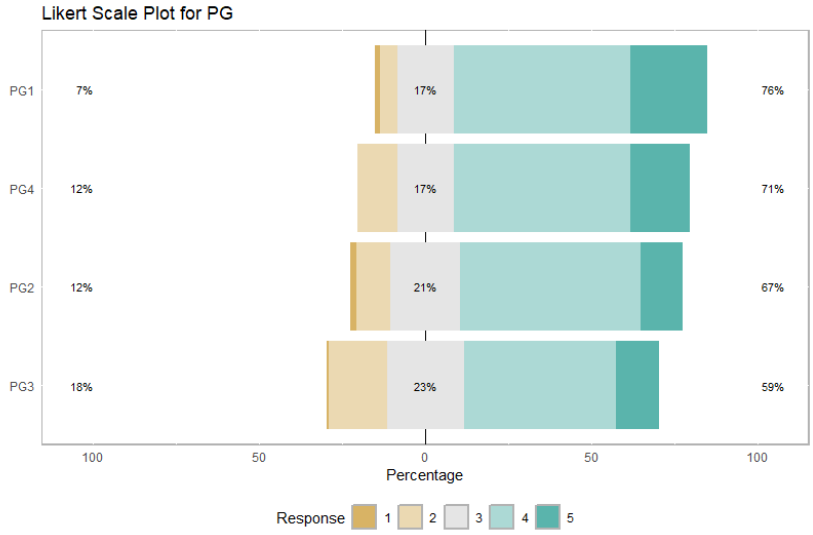
Table 3: Summary statistics (mean and standard deviation) for constructs measured for hypotheses testing

Construct	**Mean**	**Standard deviation**
Perceived greenwashing	3.72	0.69
Green purchasing Intention	4.24	0.59
Green concern	3.83	0.81
Lack of green word-of-mouth	3.30	0.92
Mistrust in green marketing	3.30	0.75

Note: measured on a 5-point Likert scale
Source: own work

I used Likert scale plots to visualise the distribution of the responses to the questionnaire. By using this method, I could identify patterns and trends in the data. The Likert scale plot for perceived greenwashing in Figure 2 shows the distribution for items: PG1, PG2, PG3, and PG4, named after the order, they were presented in the survey.

Figure 2: Response distribution for perceived greenwashing



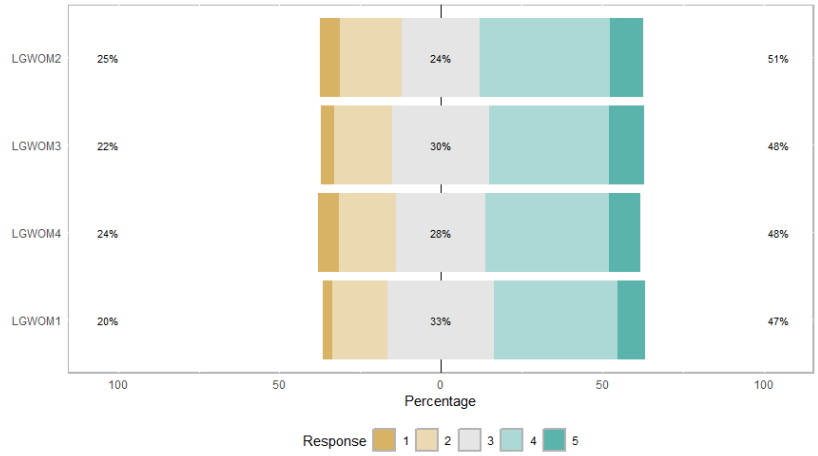
Note: 1 - strongly disagree, 2 - disagree, 3 - neither agree not disagree, 4 - agree, 5 - strongly agree
Source: own work

A significant percentage of respondents agree with the items related to perceived greenwashing, with the highest agreement (76%), for the item PG1 stating: "The company omits or hides important information to make green claims sound better than they are." Although PG3 has the highest percentage of disagreement (18%), the majority (67%) still agrees that companies' green claims are vague or unprovable. Overall, the plot shows that

most respondents agree with the items related to perceived greenwashing. This indicated a strong perception of greenwashing among the respondents.

Likert scale plot for lack of green word-of-mouth in Figure 3 displays the distribution of responses for the four items: LGWOM1, LGWOM2, LGWOM3 and LGWOM4, named after the order, they were presented in the survey. The items were reverse coded as mentioned in the chapter: Handling data issues. LGWOM2, if respondents would not recommend the company to others, had the highest level of agreement, 51% selected agree (4) or strongly agree (5). LGWOM1, which addresses, if respondents would not recommend the company, based on its environmental image, has the highest level of disagreement (20%). Overall, the plot suggests that many respondents would not recommend the company based on its green actions. The answers are consistent among the items but with little variability.

Figure 3: Response distribution for lack of green word-of-mouth

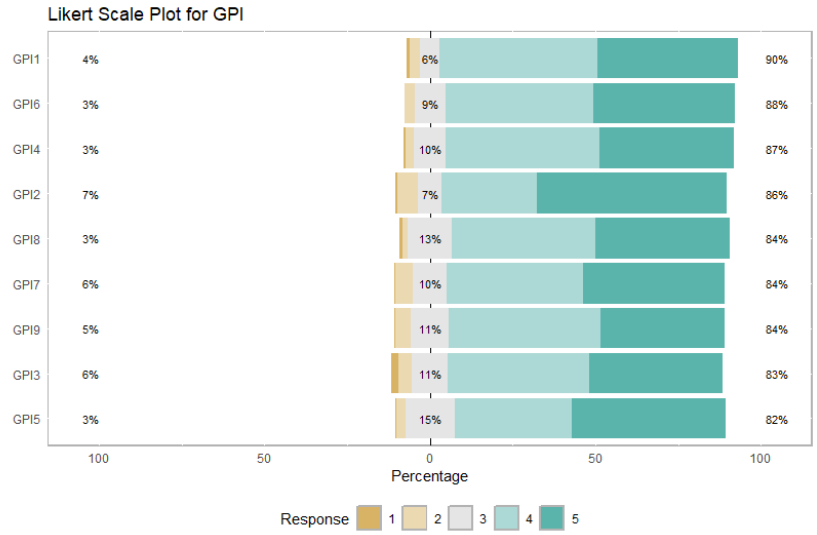


Note: 1 - strongly disagree, 2 - disagree, 3 - neither agree not disagree, 4 - agree, 5 - strongly agree

Source: own work

Likert scale plot for green purchasing intention in Figure 4 shows the distribution of responses for nine different items: GPI1, GPI2, GPI3, GPI4, GPI5, GPI6, GPI7, GPI8 and GPI9, named after the order, they were presented in the survey. GPI1 has the highest level of agreement (4 and 5) with 90% of respondents stating that they have the intention to buy green. GPI2, has the highest level of disagreement, but only 7% of respondents, while it shows that the majority actually picked that they strongly agree with this item. Overall, there is a general trend of respondents, having intention to buy green with consistent responses across the items with slight variability.

Figure 4: Response distribution for green purchasing intention

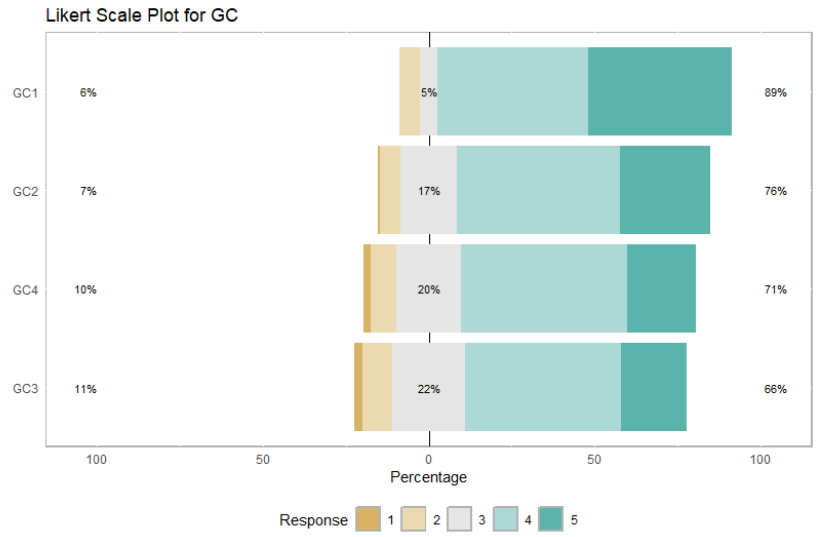


Note: 1 - strongly disagree, 2 - disagree, 3 - neither agree not disagree, 4 - agree, 5 - strongly agree

Source: own work

Likert scale plot for green concern in Figure 5 displays the distribution of responses for items: GC1, GC2, GC3 and GC4, named after their survey order. GC1 is standing out, since 89% of all respondents agreed or strongly agreed with the item, and only 6% disagreed. GC3 has the highest disagreement at 11%. Plot reveals the trend of respondents answering that they are concerned about the environment. It also shows slight variability in data.

Figure 5: Response distribution for green concern

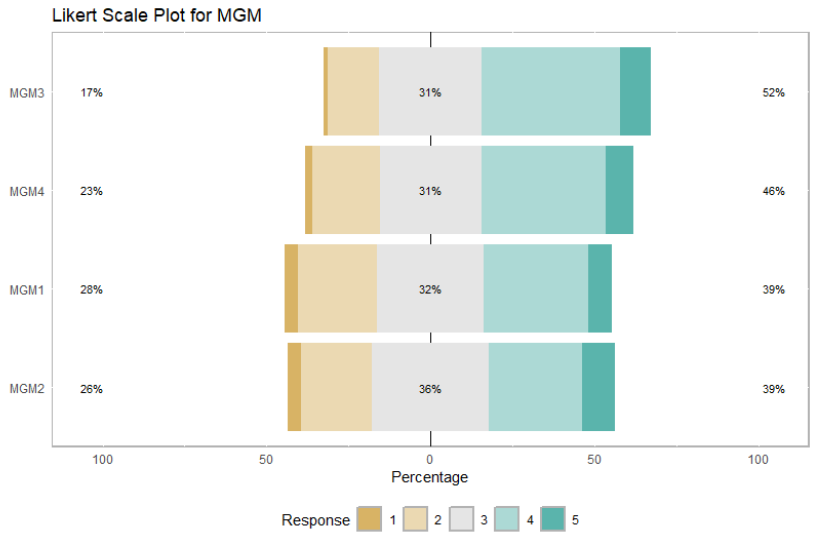


Note: 1 - strongly disagree, 2 - disagree, 3 - neither agree not disagree, 4 - agree, 5 - strongly agree

Source: own work

Likert scale plot for mistrust in green marketing in Figure 6 shows the distribution of responses for four items: MGM1, MGM2, MGM3, MGM4, named after the order, they were presented in the survey. As mentioned in the chapter: Handling data issues, MGM1 was reverse coded, so it now represents mistrust. The most respondents agreed with MGM3 (52%). MGM2 has the highest disagreement with 26% choosing either 1 or 2. All in all, plot shows some variability among the items. Looking at the general trend, the most respondents agreed that they do not trust green marketing, but there was also more than 30% of respondents who neither agreed nor disagreed consistently for all the items.

Figure 6: Response distribution for mistrust in green marketing



Note: 1 - strongly disagree, 2 - disagree, 3 - neither agree not disagree, 4 - agree, 5 - strongly agree

Source: own work

To check for reliability and validity, I calculated Cronbach's alpha, performed Confirmatory factor analysis and checked for Composite reliability. While performing those, I decided to drop the first item of the construct green concern and first item of mistrust in green marketing leading to improved reliability and validity of the constructs. All results and interpretations are based on the revised model that excludes those two items.

Cronbach's alpha was used to measure reliability or internal consistency of the questionnaire. It measures the consistency of responses across the items in the questionnaire. Cronbach's alpha values above 0.70 are considered acceptable and suggest a moderate level of internal consistency between the items. Looking at the values, Cronbach's Alpha for the constructs of perceived greenwashing, green purchasing intention, green concern and lack of green word-of-mouth was above 0.70, indicating a good internal consistency and reliability. The Cronbach's Alpha of mistrust in green marketing is 0.66 which is close to 0.70 and can be accepted. The results are shown in the Table 3. Detailed summary and

comparison of Cronbach's Alpha with and without first item of green concern and first item of mistrust in green marketing is in the Appendix 4.

I checked again for reliability by calculating Composite reliability, to check the consistency of the results I received. Composite reliability checks how much each item relates to the construct, which compliments Cronbach alpha, that assumes that all items have the same importance. Almost all of the constructs have the composite reliability above 0.60, therefore, they are reliable and indicate a good internal consistency.

Additionally, Confirmatory factor analysis was performed to check for validity. With it, I checked how well do the constructs (latent variables), I was measuring, relate to the items which were observed (observed variables). Further, AVE is a measure of confirmatory factor analysis which assesses the amount of variance that a construct captures from the observed variables. An AVE higher than 0.50 indicates that the construct explains at least 50% of the variance of its observed variables and this is acceptable. Looking at the AVE of perceived greenwashing, green purchasing intention and mistrust in green marketing, they are below this threshold, but still close to it, therefore it is still acceptable. Constructs green concern and lack of green word-of-mouth have a value above 0.50, confirming the validity. Detailed Confirmatory analysis and comparison of the model with and without the first item of green concern and first item of mistrust in green marketing is in the Appendix 4.

Table 4: Results of reliability and validity tests for measured constructs

Measured construct	**Cronbach's alpha**	**AVE**	**Composite reliability**
Perceived greenwashing	0.77	0.46	0.77
Green purchasing intention	0.87	0.44	0.88
Green concern	0.86	0.67	0.86
Lack of green-word-of-mouth	0.91	0.72	0.91
Mistrust in green marketing	0.66	0.41	0.67

Source: own work

The data were checked for normality with Shapiro-Wilk and Kolmogorov-Smirnov test, as well as visually with Q-Q plots. The results from normality tests are presented in the Table 4. Q-Q plots are in the Appendix 5. Distribution is statistically different than normal as p-values from both tests are less than 0.05 and in Q-Q plots data does not fall along the normal distribution line. Therefore, I cannot conclude normality.

Table 5: Results of statistical tests to check for normality of measured constructs

Normality test	**Construct**	**P-value**
Shapiro-Wilk test	Perceived greenwashing	< 0.001
	Lack of green word-of-mouth	< 0.001
	Green concern	< 0.001
	Mistrust in green marketing	< 0.001
	Green purchasing intention	< 0.001
Kolmogorov-Smirnov test	Perceived greenwashing	< 0.001
	Lack of green word-of mouth	< 0.001
	Green concern	< 0.001
	Mistrust in green marketing	< 0.001
	Green purchasing intention	< 0.001

Source: own work

Correlation analysis was performed with Spearman's rank correlation coefficient. It measures the strength and direction of relationship between the two constructs. The composite means for the construct which were calculated for each responded from multiple variables, were used to check the correlation. The mean was used, as it represents a central tendency of responses and adequately summarizes the data. The Spearman's rank correlation coefficient was chosen as it does not assume normality or equal variances of data. It focuses on difference in the rank orders of the data. The Spearman's rank correlation coefficient takes value from +1 and -1. +1 means perfect correlation of ranks. When one construct increases, the other one increases as well in the same rank. 0 means no correlation between the ranks of the constructs. -1 means perfect negative correlation of ranks, meaning when the rank of one construct increases, the rank of the other one decreases by just the opposite rank. Correlations and Rho values are presented in Table 5.

Rho value between PG and LGWOM is 0.56 and p-value below 0.001. This means, the relationship between the two constructs is moderate and positive statistically significant. When PG increases, the LGWOM increases as well. Further, the rho value that represents correlations between PG and MGM is 0.16, which indicates very weak positive correlation between the two constructs. When PG increases, MGM slightly increases. Looking at the p-value, it is below 0.05, meaning the relationship could is statistically significant. Moreover, the correlation between PG and GPI is represented by rho value of 0.26, meaning weak, positive relationship between the two. The p-value is below 0.05, which suggests the relationship is statistically significant. Additionally, relationship between PG and GC is positive, but very weak, with the Spearman's rho of 0.05. The p-value is 0.48, which is above 0.05 threshold, and it means, the relationship might not be statistically significant and could be due to chance. Furthermore, constructs LGWOM and MGM have negative weak

correlation with rho value of -0.06. The relationship between them is not significant, as the p-value is 0.40, which is above the threshold 0.05. Therefore, the weak relationship could be due to chance. Besides, looking at the relationship between LGWOM and GPI, the rho value is 0.17, which means that there is a weak positive correlation between the two. The p-value is 0.02, which is below 0.05, so I can conclude the relationship is significant. In addition, rho value of -0.16 which represents the correlation between LGWOM and GC, means, that the two are negatively correlated. There is weak but significant relationship between them, with the p-value of 0.00226, which is below 0.05. Moreover, relationship between MGM and GPI is negative and very weak, with the rho value of -0.08. It is not a significant relationship with the p-value of 0.2898, meaning it could be due to chance. Further, MGM and GC are positively correlated with a weak relationship with the rho value of 0.09. The relationship is not statistically significant, having a p-value of 0.22. Lastly, looking at the relationship between GPI and GC, they are positively correlated with the rho value of 0.17. Their relationship is weak and statistically significant with the p-value of 0.02. To conclude, the relationships between PG and LGWOM, PG and MGM, PG and GPI, LGWOM and GPI, LGWOM and GC and GPI and GC are statistically significant with the p-value with the threshold of 0.05.

Table 6: Correlation matrix for measured constructs

Measured Constructs	**Perceived greenwashing**	**Lack of green word- of-mouth**	**Mistrust in green marketing**	**Green purchasing intention**	**Green concern**
Perceived greenwashing	1.00	**0.56** *p < 0.001*	**0.16** *p = 0.02*	**0.26** *p < 0.001*	0.05 *p = 0.48*
Lack of green word-of-Mouth		1.00	-0.06 *p = 0.40)*	**0.17** *p = 0.02)*	**-0.16** *p = 0.02*
Mistrust in green marketing			1.00	-0.08 *p = 0.29*	0.09 *p = 0.22*
Green purchasing intention				1.00	**0.17** *p = 0.02*
Green concern					1.00

Note: correlation coefficients are presented with their corresponding p-values below them. Significant correlations (p-value < 0.05) are in bold.
Source: own work

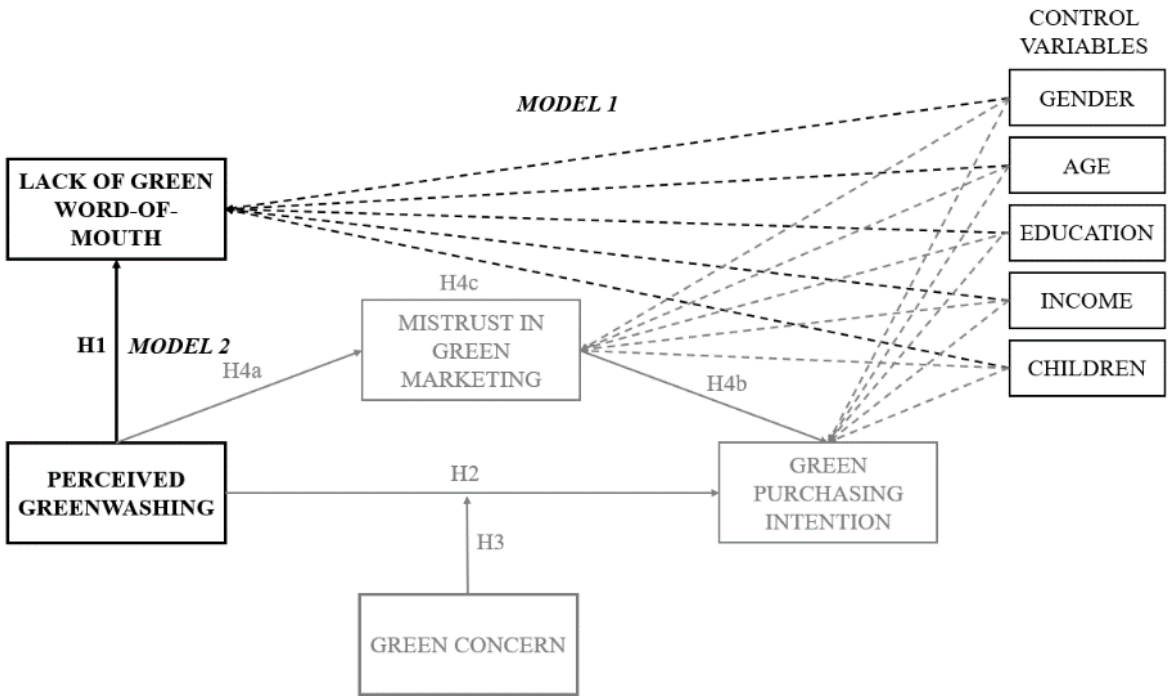
9 RESULTS

The hypotheses testing was performed using statistical tests. Direct relationships were checked using ordinal logistic regression, to keep the ordinal nature of data. Further, moderation was checked using Bayesian moderation model and mediation was performed using Bayesian mediation model.

9.1 Influence of perceived greenwashing on lack of green word-of-mouth

In the first step of my data analysis, I tested hypothesis H1: Perceived greenwashing positively influences lack of green word-of-mouth, using ordinal logistic regression. I constructed two models. In model 1, only control variables were predictors of lack of green word-of-mouth. In model 2, I added perceived greenwashing as a predictor, to check whether, this model fits the data better. The conceptual models are depicted in Figure 7.

Figure 7: Relationship between perceived greenwashing and lack of green word-of-mouth controlling for control variables



Source: own work

First, I checked for the assumptions of ordinal logistic regression. I performed multicollinearity analysis. The VIF value of all variables are between 1.06 and 1.33, therefore, multicollinearity is not a concern in this model. The results of the analysis are in the Appendix 6. Second, I checked for the assumption of proportional odds using Brant test. Only the construct children did not meet the assumption, so I decided to still use ordinal

logistic regression approach, as children is not the main variable of the analysis. The results of Brant test are in Appendix 6.

Third, I performed ordinal logistic regression and compared the two models. Results are in Table 6. Results from the first model, excluding perceived greenwashing, show that out of all control variables, only education significantly contributes to lack of green word-of-mouth (p-value < 0.01). It influences it negatively (-0.43), which means that the higher the educational level, the less likely are the respondents to not engage in lack of green word-of-mouth. In model 2, where perceived greenwashing is added, only perceived greenwashing significantly positively influences lack of green word-of-mouth (p < 0.001) Therefore, the more greenwashing is perceived from a company, the higher the likelihood that respondents will not talk about green products of the company. Additionally, comparing the two models, model 2 fits data significantly better, as both values, residual deviance and AIC, are lower for this model compared to model 1.

To further asses which model fits data better, I performed likelihood ratio test. Model 1, with 174 residual degrees of freedom, has a residual deviance of 940.62, while model 2, with 173 residual degrees of freedom, has a residual deviance of 876.85. The likelihood ratio statistic is 63.77, with a p-value less than 0.001, proving once again that model 2 significantly better fits the data, compared to model 1. All in all, results show that H1: Perceived greenwashing positively influences lack of green word-of-mouth, is supported.

Table 7: Summary of ordinal logistic regression for H2

Variable	**Coefficient**	**Std. error**	**t-value**	**p-value**	**Residual deviance**	**AIC**
Model 1					940.62	980.62
Gender	-0.29	0.30	0.98	0.33		
Age	-0.21	0.24	-0.86	0.39		
Education	-0.43	0.14	-2.86	< 0.01		
Income	0.04	0.08	-0.45	0.65		
Children	0.21	0.49	0.43	0.67		
Model 2					876.85	918.85
Gender	0.44	0.30	1.48	0.14		
Age	-0.25	0.24	-1.02	0.31		
Education	-0.19	0.15	-1.27	0.20		
Income	0.04	0.08	-0.47	0.64		
Children	0.68	0.53	1.29	0.20		
Perceived greenwashing	1.73	0.23	7.47	<0.001		

Source: own work

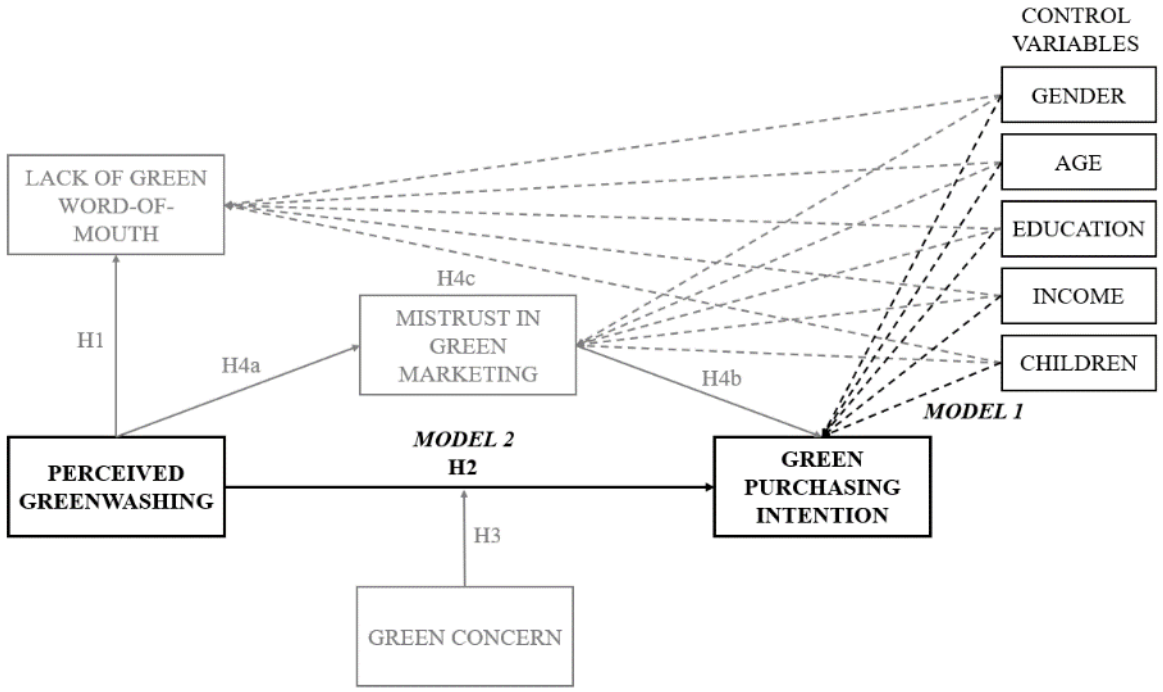
9.2 Influence of perceived greenwashing on green purchasing intention

In the second step of my hypotheses testing, I tested whether perceived greenwashing significantly negatively impact green purchasing intention, with ordinal logistic regression. It was used as I wanted to keep ordinal nature of the data. In my analysis, I used control variables (gender, age, education, income, children) to more accurately assess the direct impact of perceived greenwashing on green purchasing intention. This helps to ensure that the observed relationships are not due to the influence of other factors. I conducted two models with green purchasing intention as dependent variable. With model 1, I checked for the influence of control variables on dependent variable with ordinal logistic regression. In model 2, I added perceived greenwashing as independent variable. The models are depicted in Figure 8.

I checked for the assumptions of ordinal logistic regression, to ensure the validity of the models. First, I checked for the assumption of no multicollinearity in the ordinal logistic regression model. The VIF values are between 1.08 and 1.52, therefore no multicollinearity is detected. The results of assumption check are in the Appendix 7.

Second, the assumption of proportional odds was checked with Brant test. The assumption holds for perceived greenwashing, gender, education and children, and does not hold for age and income. Despite this, I used ordinal logistic regression model, because it allowed me to compare the effects of all variables. The results are in Appendix 7.

Figure 8: Relationship between perceived greenwashing and green purchasing intention controlling for control variables



Source: own work

Third, I performed ordinal logistic regression and compared the two models. Results are in Table 8. Analysis shows a statistically significant positive relationship between perceived greenwashing and green purchasing intention. In the model 2, which includes perceived greenwashing as a predictor, the coefficient is 0.66 with p-value below 0.01, suggesting that the more greenwashing is perceived, the more likely the green purchasing intention increases. Looking at residual deviance and AIC, the fit of the model improves when adding perceived greenwashing, as residual deviance and AIC both decrease. So, the perceived greenwashing does have a significant role in influencing green purchasing intention, controlling for gender, age, education, income and children.

I performed likelihood ratio test to further compare the fit of the two models. Model 1, with 166 residual degrees of freedom, has a residual deviance of 1067.68, while model 2, with 165 residual degrees of freedom, has a residual deviance of 1056.87. The likelihood ratio statistic is 10.81 with p-value being less than 0.01. Therefore, the results suggest that model 2 significantly fits data better than model 1. All in all, my hypothesis, H2: Perceived greenwashing negatively influences green purchasing intention in general, is not supported, as perceived greenwashing does have a significant influence on green purchasing intention in general, but a positive one.

Table 8: Summary of ordinal logistic regression for H2

Variable	**Coefficient**	**Std. Error**	**t-value**	**p-value**	**Residual deviance**	**AIC**
Model 1					1067.68	1123.68
Gender	-0.29	0.31	-0.92	0.36		
Age	-0.34	0.25	-1.37	0.17		
Education	-0.25	0.15	-1.75	0.08		
Income	0.18	0.09	2.11	0.03		
Children	0.34	0.46	0.74	0.46		
Model 2					1056.87	1114.87
Gender	-0.30	0.31	-0.97	0.33		
Age	-0.37	0.25	-1.47	0.14		
Education	-0.13	0.15	-0.84	0.40		
Income	0.18	0.08	2.07	0.04		
Children	0.49	0.46	1.06	0.29		
Perceived Greenwashing	0.66	0.20	3.23	< 0.01		

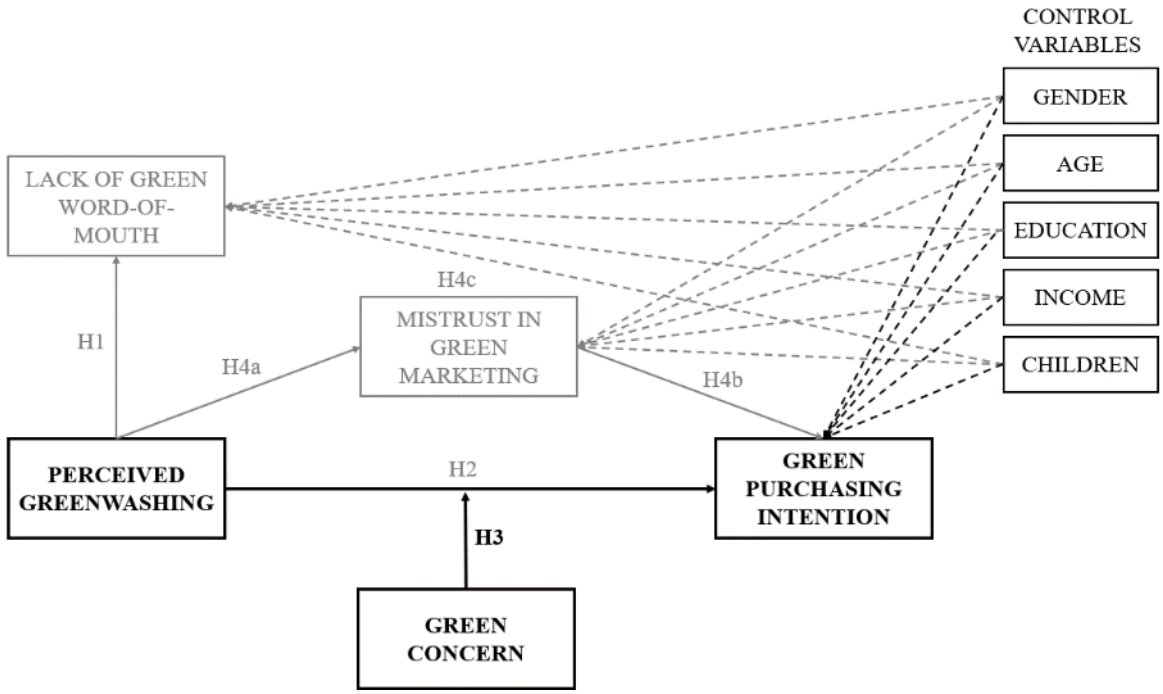
Source: own work

9.3 Moderating influence of green concern on the relationship between perceived greenwashing and green purchasing intention

In third step of my statistical analysis, I checked H3: Green concern moderates the relationship between perceived greenwashing and green purchasing intention in general. As multicollinearity of perceived greenwashing, green concern and their interaction was detected, I centred both variables and with-it reduced multicollinearity. Now the VIF value of all the variables and interaction are between 1.12 and 1.56, multicollinearity is not a concern for this model. Results of multicollinearity analysis are in Appendix 8.

As I checked for proportional odds assumption, green concern as well as the interaction between perceived greenwashing and green concern were violating this assumption. You can check the results in Appendix 8. Therefore, I decided to use Bayesian ordinal regression, which does not assume proportional odds and it is more flexible. I constructed the model (Figure 9) which included the moderating effect of green concern on relationship between perceived greenwashing and green purchasing intention controlling for control variables.

Figure 9: Relationship between perceived greenwashing and green purchasing intention moderated by green concern controlling for control variables



Source: own work

The model was run with 4 chains and 2000 iterations each, including 1000 warm-up iterations. The model showed good convergence with Rhat values being all 1. The results indicate that perceived greenwashing as well as green concern have a statistically significant effect on green purchasing intention with positive coefficients. Therefore, the higher values of those predictors are associated with higher intention to buy green. The interaction between

perceived greenwashing and green concern has coefficient of -0.14 with 95% credible interval ranging from –0.63 to 0.37. this suggests that moderation effect of green concern on the relationship between perceived greenwashing and green purchasing intention is not statistically significant because 95% credible interval includes 0. Amon control variables, income has a small statistically significant positive effect on green purchasing intention and age has a statistically significant negative effect on green purchasing intention. Other control variables do not show significant effect, as their intervals include 0. The results from the analysis are presented in the Table 10. To conclude, based on my data, H3: Green concern negatively moderates the relationship between perceived greenwashing and green purchasing intention in general, is not supported.

Table 9: Results of Bayesian ordinal regression for H3

Variable	**Coefficient**	**Est. error**	**95% CI (lower)**	**95% CI (upper)**	**Significance**
Gender	0.30	0.31	-0.33	0.91	Not statistically significant
Age	-0.50	0.26	-0.99	-0.02	Statistically significant
Education	-0.18	0.15	-0.49	0.11	Not statistically significant
Income	0.21	0.09	0.05	0.38	Statistically significant
Children	0.69	0.48	-0.28	1.61	Not statistically significant
Interaction perceived greenwashing and green concern	-0.14	0.25	-0.63	0.37	Not statistically significant
Perceived greenwashing	0.59	0.21	0.19	1.00	Statistically significant
Green concern	0.61	0.19	0.97	1.00	Statistically significant

Source: own work

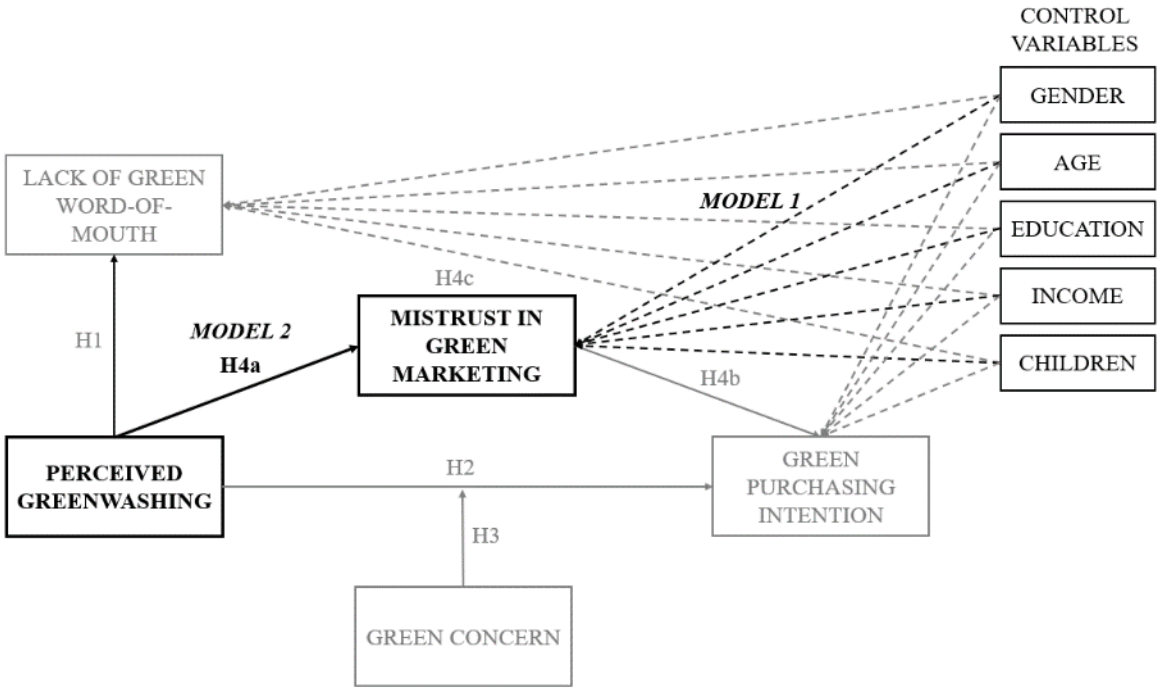
9.4 Influence of perceived greenwashing on mistrust in green marketing

In fourth step of my statistical analysis, I checked whether perceived greenwashing positively influences mistrust in green marketing, using ordinal logistic regression. I constructed 2 models. Model 1, where the control variables are predicting mistrust in green marketing and model 2, where perceived greenwashing is added as predictor. The models are presented in Figure 10.

First, I checked for the assumption of no multicollinearity. As in the next steps, I also checked for relationship between mistrust in green marketing and green purchasing intention and the mediating effect of mistrust in green marketing and green purchasing intention, I performed multicollinearity analysis, using all of the predictors. The VIF values are between 1.16 and 1.79, therefore, the assumption holds. The results of multicollinearity analysis are in Appendix 9.

Second, Brant test was conducted to assess the proportional odds assumption for the ordinal logistic regression model. The assumption holds for all predictors (p-value > 0.05), therefore ordinal logistic regression was performed. The results of Brant test are in Appendix 10.

Figure 10: Relationship between perceived greenwashing and mistrust in green marketing controlling for control variables



Source: own work

Third, I conducted ordinal logistic regression and compared the two models. Results are in the Table 11. Results in the model 1, indicate that only gender has a significant negative effect on mistrust in green marketing (-0.68, p-value < 0.05). As gender is coded as 0

representing male and 1 representing female, I can conclude that females tend to trust green marketing more than males. The relationship stays the same in the model 2, when perceived greenwashing was added. Besides gender, perceived greenwashing has a significant effect on mistrust in green marketing, and a positive one (0.43, p-value < 0.05). So, when customers perceive greenwashing, they are less likely to trust green marketing. Looking at residual deviance and AIC, the results are inconclusive, of which model fits data better, as residual deviance of model 1 is lower than residual deviance of model 2 and AIC of model 2 is lower than AIC of model 1.

Table 10: Summary of ordinal logistic regression for H3a

Variable	**Coefficient**	**Std. Error**	**t-value**	**p-value**	**Residual Deviance**	**AIC**
Model 1					821.87	851.87
Gender	-0.68	0.32	-2.15	0.03		
Age	0.02	0.23	0.08	0.93		
Education	-0.06	0.15	-0.40	0.69		
Income	0.05	0.09	0.62	0.54		
Children	-0.37	0.46	-0.81	0.42		
Model 2					849.46	849.46
Gender	-0.68	0.32	-2.15	0.03		
Age	0.01	0.23	0.06	0.95		
Education	-0.01	0.15	-0.06	0.95		
Income	0.05	0.09	0.56	0.58		
Children	-0.32	0.47	-0.69	0.49		
Perceived Greenwashing	0.43	0.20	2.09	0.04		

Source: own work

I checked likelihood ratio test to additionally assess the fit of the two models. Model 1, with residual degrees of freedom of 179, has residual deviance of 821.87 and model 2, with residual degrees of freedom of 178, has residual deviance of 817.46. The likelihood ratio statistic from the test is 4.41 with p-value of 0.04. Based on this, model 2 fits data better than model 1 and the improvement is statistically significant (p-value < 0.05). All in all, results show that H4a: Perceived greenwashing positively influences mistrust in green marketing, is supported.

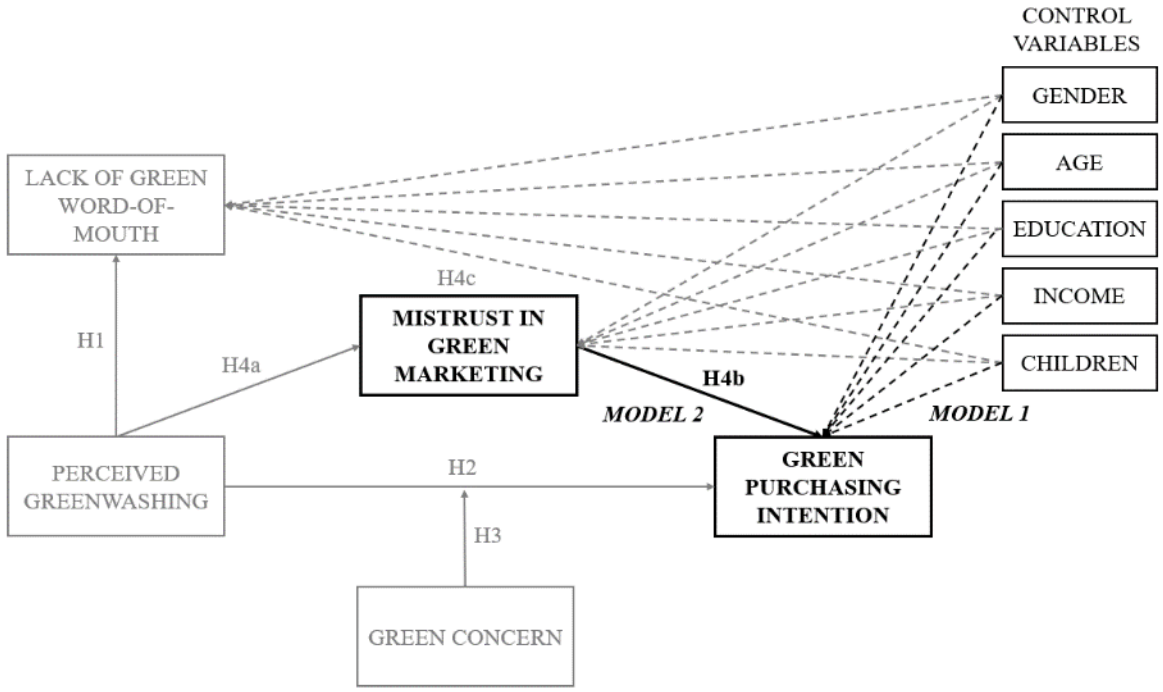
9.5 Influence of mistrust in green marketing on green purchasing intention

In fifth step of my statistical analysis, I checked H4b: Mistrust in green marketing negatively influences green purchasing intention, using ordinal logistic regression. I constructed two models. Model 1 included only control variables as predictors of green purchasing intention.

Model 2 added mistrust in green marketing as predictor. The models are depicted in Figure 11.

As assumption of no multicollinearity analysis was already confirmed (Appendix 9), I checked whether assumption of proportional odds holds using Brant test. As the assumption was violated only by age and children (p-value < 0.05), which are not main variables of observation, I still conducted ordinal logistic regression. Results of Brant test are in Appendix 11.

Figure 11: Relationship between mistrust in green marketing and green purchasing intention controlling for control variables



Source: own work

Further, ordinal logistic regression was performed for both models. Results are in Table 13. Results indicate that in model 1, only income has a statistically significant effect on purchasing intention (p-value > 0.05). The more income respondents have, the more likely are they to purchase green products. In model 2, where mistrust in green marketing was added, again only income had a statistically significant effect. Mistrust in green marketing does not statistically significant influence green purchasing intention (p-value > 0.05). The residual deviance of model 2, is lower than model 1 and AIC was lower in model 1, than 2. So, it is inconclusive which model fits data better.

I performed a likelihood ratio test to compare the fit of the two models. Model 1, with residual degrees of freedom of 106, has residual deviance of 1067.68 and model 2, with residual degrees of freedom of 165, has residual deviance of 1066.34. The likelihood ratio statistic from the test is 1.33 with p-value of 0.25. So, based on the results, the difference

between the two models is not statistically significant (p-value > 0.05). All in all, there is not enough evidence to conclude that mistrust in green marketing influences green purchasing intention. Therefore, H4b: Mistrust in green marketing negatively influences green purchasing intention, is not supported.

Table 11: Summary of ordinal logistic regression for H3b

Variable	**Coefficient**	**Std. Error**	**t-value**	**p-value**	**Residual Deviance**	**AIC**
Model 1					1067.68	1123.68
Gender	0.29	0.31	0.93	0.35		
Age	-0.34	0.25	-1.37	0.17		
Education	-0.25	0.15	-1.75	0.08		
Income	0.18	0.09	2.11	0.03		
Children	0.34	0.46	0.74	0.46		
Model 2					1066.34	1124.34
Gender	0.23	0.31	0.75	0.45		
Age	-0.36	0.25	-1.44	0.15		
Education	-0.25	0.15	-1.75	0.08		
Income	0.19	0.09	2.21	0.03		
Children	0.33	0.47	0.71	0.48		
Mistrust in green marketing	-0.20	0.18	-1.16	0.25		

Source: own work

9.6 Mediating effect of mistrust in green marketing on relationship between perceived greenwashing and green purchasing intention

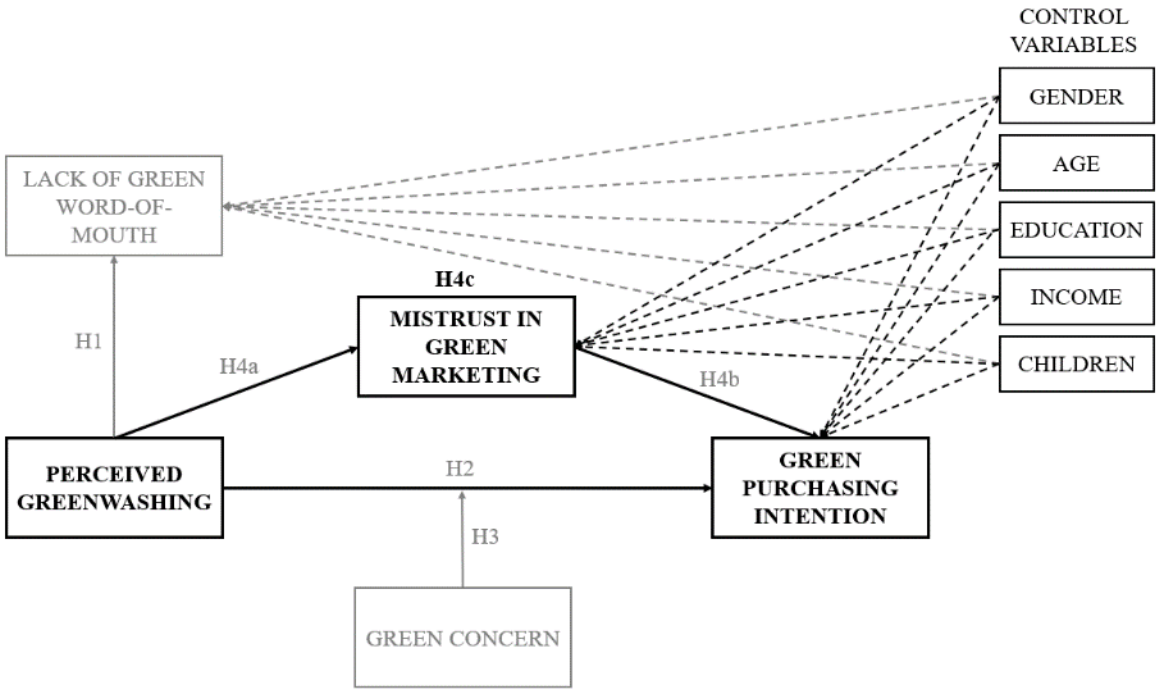
In sixth step of my analysis, I tested hypothesis H4: Mediating effect of mistrust in green marketing on relationship between perceived greenwashing and green purchasing intention. I conducted the analysis, to check for proportional odds assumption. As construct mistrust in green marketing violated this assumption, I decided to use Bayesian mediation model for further analysis, which offers more flexibility and handles the problem of violation of proportional odds assumption. Therefore, my model is valid, even though the assumption is not met. The results of the brant test, which was used for checking of proportional odds assumption, are in the table in Appendix 12.

Firstly, total effect model assessed the overall impact of PG on GPI without considering mediator, while controlling for control variables. Secondly, the direct effect model, evaluated the direct influence of PG on GPI while controlling for the mediator MGM and

covariates. Thirdly, mediator model, determined the effect of PG on MGM, with the control variables included. The model is depicted in Figure 12.

Table 15 represents the results of mediation analysis. Log-odds for the indirect effect of PG on GPI through MGM are -0.14 with 95% credible interval (-0.40 to 0.03) including 0, indicating that the indirect effect is not statistically significant. This suggests that mistrust in green marketing does not significantly mediate the relationship between PG and GPI. The direct effect of PG on GPI, controlling for MGM and the covariates, has a log-odds of 0.72 with 95% credible interval (0.32 to 1.13) not including 0, indicating a statistically significant direct effect. This means that perceived greenwashing has a strong and significant direct influence on green purchasing intention, even when controlling for mistrust in green marketing and other control variables. The total effect of PG on GPI, without considering the mediator, has a log-odds of 0.59 with 95% credible interval (1.30 to 2.89) not including 0, showing that the total effect is statistically significant. This demonstrates that perceived greenwashing has a significant overall impact on green purchasing intention.

Figure 12: Relationship between perceived greenwashing and green purchasing intention mediated by mistrust in green marketing controlling for control variables



Source: own work

Table 12: Results of Bayesian mediation method for H4c

Effect	**Log-Odds (Effect Size)**	**Lower CI (95%)**	**Upper CI (95%)**	**Significance**
Indirect Effect	-0.14	-0.40	0.03	Not statistically significant
Direct Effect	0.72	0.32	1.13	Statistically significant
Total Effect	0.59	1.30	2.89	Statistically significant

Source: own work

These results suggest that while the direct path of perceived greenwashing significantly impacts green purchasing intention, the mediation through mistrust in green marketing is not significant. All in all, there is not enough evidence to conclude that mistrust in green marketing mediates the relationship between perceived greenwashing and green purchasing intention. So, the hypothesis: H4c: Mediating effect of mistrust in green marketing on relationship between perceived greenwashing and green purchasing intention, is not supported.

9.7 Data analysis conclusion

I summarised all the results of the hypotheses testing in Table 16. Findings indicate that not all hypotheses are supported by the data. While, some relationships show significant effects, others do not.

There is enough evidence to conclude that perceived greenwashing significantly and positively influences the lack of green word-of-mouth. However, the data does not support the hypothesis that perceived greenwashing negatively influences green purchasing intention. Instead, my findings suggest that perceived greenwashing significantly and positively influences green purchasing intention. Similarly, the results do not provide enough evidence to conclude that green concern negatively moderates the relationship between perceived greenwashing and green purchasing intention. The findings also confirm that perceived greenwashing significantly and positively influences mistrust in green marketing. Lastly, the data do not support the hypothesis that mistrust in green marketing negatively influences green purchasing intention, and they do not confirm the hypothesis that mistrust in green marketing mediates the relationship between perceived greenwashing and green purchasing intention.

Table 13: Overview of hypotheses results

Hyp.	Relationship	Method	Coeff.	Signif.	Conclusion
H1	Perceived greenwashing -> lack of green word-of-mouth	Ordinal logistic regression	1.73	p-value < 0.001	Supported
H2	Perceived greenwashing -> green purchasing intention	Ordinal logistic regression	0.66	p-value < 0.01	Not supported
H3	Perceived greenwashing*green concern -> green purchasing intention	Bayesian ordinal regression	-0.14	Lower CI (95%) = -0.63, upper CI (95%) = 0.37	Not supported
H4a	Perceived greenwashing -> mistrust in green marketing	Ordinal logistic regression	0.43	p-value < 0.05	Supported
H4b	Mistrust in green marketing -> green purchasing intention	Ordinal logistic regression	-0.20	p-value > 0.05	Not supported
H4c	Perceived greenwashing -> mistrust in green marketing -> green purchasing intention	Bayesian mediation model	-0.14 (log-odds)	Lower CI (95%) = -0.40, upper CI (95%) = 0.03	Not supported

Source: own work

10 DISCUSSION

10.1 Theoretical implications

The findings of this master's thesis present a valuable contribution to the existing literature and have significant theoretical implications for the understanding of green marketing and consumer behaviour. Specifically, the results highlight the complex relationship between perceived greenwashing, green concern, lack of green word-of-mouth, mistrust in green marketing and green purchasing intention in general, suggesting that these interactions present a challenge for development of a truly sustainable market.

My findings suggest that perceived greenwashing significantly positively influences green purchasing intention in general. On the contrary, existing literature argues that perceived greenwashing has a broader negative impact on sustainable market. When companies falsely

claim the greenness of the products, this leads to a confusion and scepticism towards advertising of being environmentally green, which ends in customers not purchasing even genuine sustainable products (De Jong et al., 2018; Nygaard & Silkoset, 2022; Sun & Shi, 2022). The result of this thesis should be interpreted with caution. It is crucial to recognize that this correlation might be influenced by other factors, not fully explored in this study. Consumers' increased intention to buy green products despite perceived greenwashing could be due to motivation to contribute to the environmental sustainability not approval or misleading practices.

Additionally, the results indicate that green concern does not moderate the positive relationship between perceived greenwashing and green purchasing intention in general. So, no matter the level of green concern, customers might still be motivated to buy green products overall, even after they perceive greenwashing by some companies. While previous research suggests that customers with strong green concern are more sensitive to greenwashing, which leads them to avoid products from companies they suspect are misleading (Sun & Shi, 2022; Zhang et al., 2018), it seems that green concern was not a significant factor in influencing green purchasing intention in general. This could be because consumers with high green concern continue to support the green market, even if they are sceptical of some companies. As a result, green concern could stop them from buying from certain companies, this doesn't stop them from purchasing from green companies overall.

Moreover, my findings suggest that perceived greenwashing positively influences lack of green word-of-mouth. This align with existing literature, which indicates that when consumers perceive a company is engaging in greenwashing, they are less likely to speak positively about company's environmental claims (Chen et al., 2019; Guerreiro & Pacheco, 2021). When companies are perceived as misleading and potentially greenwashing, the consumers are likely to not share their view on company's products, which would be very important for promoting its initiatives. This is a big problem, as consumers often rely more on opinion of other consumers or their acquaintances, than on marketing made by companies, as discussed in Guerreiro & Pacheco (2021).

Further, my findings indicate that perceived greenwashing positively influences mistrust in green marketing. This aligns with previous research, where it was proven that past experiences with greenwashing, makes customers more sceptical about the claims of the companies being green (Szabo & Webster, 2021). So, as companies engage in greenwashing, customers might be doubtful not only of the companies where they recognize greenwashing, but also truthful companies, with genuine green products and their communication. Therefore, green marketing could not be used as a tool to promote sustainability.

In addition, the results suggest that mistrust in green marketing does not negatively influence green purchasing intention. This finding is contrary to previous literature, which shows that mistrust in environmental claims leads to decrease in green purchasing behaviour (Nguyen-Viet & Nguyen, 2024). This could be due to customers being doubtful, may not influence

them to not purchase green, but as they want to help the environment, they continue purchasing green. It suggests that consumers' green values might be more important in purchasing decision than the level of trust they have in marketing claims.

Lastly, the results indicate that mistrust in green marketing does not mediate the relationship between perceived greenwashing and green purchasing intention in general. So, the perceived greenwashing does not positively influence green purchasing intention is not explained by the level of mistrust in green marketing. Contrary to the previous literature, where it was suggested that uncertainty about truthfulness of company's environmental claims is mediator between perceived greenwashing and green purchasing intention (de Sio et al., 2022; Farooq & Wicaksono 2021; Szabo & Webster, 2021), in my study, mistrust in green marketing was not proven to be a significant factor influencing this interconnection. While customers do recognize greenwashing, they are still prepared to buy green products, despite their mistrust in green promotion.

10.2 Managerial implications

Based on its result, this master's thesis offers several important managerial implications for companies. These findings on perceived greenwashing of customers and its impact, can help managers to develop more reliable and trustworthy marketing strategies. I discuss implications from my main findings for managers in the following paragraphs.

Surprisingly, the thesis indicates that perceived greenwashing positively influences green purchasing intention overall. However, this does not mean that companies will benefit from being perceived as misleading with their environmental claims. Instead, this increase could be due to consumers wanting to help the environment by buying genuine green products. Managers should be careful, as this finding suggests that when customers are sceptical about green claims of one company, their purchasing intention to buy green remains. Therefore, this could make them switch the brands, purchasing from the one, they perceive as trustworthy. Moreover, greenwashing might not push back purchasing of green products in the short term, but over time this could lead to distrust in green market in general. For that reason, managers should make a priority to build and maintain trust with transparent, authentic green practices and promoting only true green efforts. This could be done, as discussed in the paper by Darnall et al. (2018), using third party certifications, which are proven to help with credibility and increasing trust among consumers, when the reasons to doubt already exist. Even more effective method reported by Nygaard & Silkoset (2023), is incorporating blockchain technology in the company. In this way, they could share every step from sourcing to delivery of the product, providing proof of its greenness.

My results suggest that green concern does not moderate positive relationship between perceived greenwashing and green purchasing intention in general. For managers this means, that even customers with high green concern, might still support green market, even though they are perceiving greenwashing by some companies. This insight is very important for

managers, as it indicates, that even though greenwashing exists in the market, they will not be influenced by its consequences, if they focus on building trust and credibility of their company. As discussed before, this could be done with third party certificates (Darnall et al., 2018), blockchain technology (Nygaard & Silkoset, 2023), but also with clearly stating what kind of benefits, environmental and health, does a green product bring to the consumer, as discussed in Mehta & Chahal (2024).

The thesis indicates that perceived greenwashing positively influences lack of green word-of-mouth. This finding is very important for managers, as green word-of-mouth is crucial and considered more genuine in promoting the companies, than the marketing campaign developed by companies (Guerreiro & Pacheco, 2021). Also, by not talking about the green practices, the awareness of the benefits of acting green is not spreading, so less people are actually considering buying green (Ikhsan et al., 2024). In addition to practices previously mentioned, managers should also create platforms, where green consumers could share their opinions on positive green practices of companies and in that way promote the company.

The results of my thesis also suggest that customers perceiving greenwashing positively influences mistrust in green marketing. This is very important finding for managers because mistrust in green marketing can make consumers doubtful of company's efforts to promote their sustainability practices. This can lead to damaging the reputation of the brand, as well as decreased loyalty (Guo et al., 2017). However, this should not discourage managers to not promote the green products, just change the way they do it, to be perceived more trustworthy. For new companies, managers should immediately position themselves as green, which is connected to increased trust in its green claims according to Riva et al. (2024). Moreover, once the brand is established, the managers should, adding to suggestions mentioned before, also maybe focus on providing any challenges they face along the way of incorporating green practices and straightforward put them in their marketing campaigns, as customers are usually aware of the costs the green investments take, and company might be seen as more genuine.

Furthermore, thesis results show that mistrust in green marketing does not influence green purchasing intention. The managers can benefit from this finding, as it indicates that even if customers are sceptical towards green claims made by companies, this might not influence their purchasing intention of green products. However, even though it does not influence the green purchasing, managers should still address it, as trust is very important when consumers are making green purchases according to Rashid & Lone (2024). Maybe managers instead of focusing on marketing, they could try to educate consumers on how to recognize genuine green products and in that way increase trust.

My findings also show that mistrust in green marketing does not mediate the relationship between perceived greenwashing and green purchasing intention. Therefore, managers should rather focus on the direct factors that could contribute to green purchasing intention, like increasing quality of products (Mehta & Chahal, 2024), making them more widely

available in traditional grocery stores (Weissmann & Hock, 2022) and pointing out the responsibility of each individual for the environment with green campaigns (Šálková et al., 2024). By giving attention to these influences, companies can strengthen the market for green products and encourage more sustainable consumption.

10.3 Limitations and recommendations for future research

This study provided important insights into consumer behaviour and leads to better understanding of consequences of perceived greenwashing. However, it should be noted that certain limitations might have been present and that there are areas for improvement. I would like to point out these constrains and propose the ways to enhance them for future research, to strengthen the validity of future studies.

Social desirability bias could be present, as the respondents could answer based on what they think is socially acceptable, which may not show their true feelings or behaviour on the topic. This could happen with the topic like greenwashing and green purchasing, as the respondents might have felt pressured to answer what is expected from them by society, which is to be concerned for the environment and acting responsibly towards it, as well as being against greenwashing. Therefore, this could lead to results which could be too pro-environmental. I tried to reduce these potential biases by pointing out the anonymity and confidentiality of the respondents' answers in the introduction of the survey. This is how I assured the participants that the responses will be used only for the completing of my thesis.

5-point Likert scale used in a survey, could have some limitations. On one hand, the Likert scale is very useful, as I could quantify the opinions and attitudes of respondents and therefore could statistically analyse them. On the other hand, it offers only close-ended questions, and the respondents could decide for the answer that is closest to their real opinion but could not offer any new ideas on the topic. Also, the central tendency bias could be present, as there is a tendency that people avoid extreme responses and rather decide for the middle option. Therefore, it could lead to wrong results.

External factors like news and other media, could influence the answers from respondents. For example, more focus on environmental issues and businesses being caught greenwashing could influence the responses, so respondents would be more concerned about environment, or they could also be more sceptical about green marketing. This means that the timing when the survey was conducted can significantly influence the attitudes of respondents and as a result influence the results of this study.

Self-selection bias could be present in the study, as when I sent out the survey, people who are more interested in the topic of greenwashing could be more likely to participate. This could lead to the results, which cannot be generalized and do not explain the trend in broader population. I tried reducing it by offering an opportunity to participated in a draw for Amazon voucher after completion, so I would encourage the individuals who might not be

interested in greenwashing, to participate and therefore contribute to different views on the topic.

While the intention to buy is common to use as a predictor of purchasing behaviour, as it was in my study, it may not always accurately reflect the actual behaviour of the customers. For this, the observational study or experiment would be a more appropriate method than survey, to actually measure behaviour directly. This research would more accurately reflect true purchasing behaviours.

I checked whether demographic variables affected the results, however, the influence of prince was not examined in this thesis. Price is a significant factor which could affect consumer decisions, including their willingness to purchase green products. Future research could explore price sensitivity. Also, while IKEA was used as an example in the survey, to illustrate perceived greenwashing, the thesis did not check whether respondents like or dislike the company. The consumer attitude towards IKEA could influence their perception of greenwashing and the motivation to continue recommending its green products. Investigating the brand attitude could therefore provide a deeper understanding of consumer's perception of greenwashing.

While my study provides valuable insights into behaviours, recognizing the long-term effects may require additional research with longitudinal studies. This would help to track how certain predictors influence the behaviour over time. Such research could identify trends which cannot be seen in the short-term studies and would lead to a deeper understanding of how behaviours change.

11 CONCLUSION

To conclude, this research provides important insights into how consumers react to greenwashing and highlights the complex consumer behaviour when it comes to marketing environmental products. By examining how consumers respond once they perceive greenwashing and the potential factors that influence their green purchasing intention, this study contributes to a deeper understanding of the challenges and opportunities in effective promotion of green products.

Based on the results, I can confirm that perceived greenwashing positively impacts lack of green word-of-mouth. This means that customers are less likely to share their opinion or recommendations, once they suspect company of greenwashing. This can have broader influence on reputation of the business, as word-of-mouth is a tool, which strengthens the trust and credibility among consumers. The company, without word-of-mouth, can experience challenge when it comes to attracting new consumers or keeping the existing ones. This could lead to weaker position in the market.

The study found that even when customers recognize greenwashing, they might still intend to buy green products. This suggests that even though they know that some companies mislead with their information on their green practices, they continue to purchase the environmentally friendly products. This finding emphasizes the conflict consumers experience between their doubts and their willingness to support sustainability. When consumers are perceiving misleading claims, they would still choose and prioritize the green products, which offer environmental benefits, over their scepticism of specific companies.

The research also found that this relationship is not moderated by green concern. A consumer's level of concern for the environment does not significantly impact how they respond to perceiving greenwashing in terms of green purchasing intention. This suggests that even consumers who do not care or care less about the environment, might still choose to buy green products, for reasons that are not connected to environmental protection.

Furthermore, perceived greenwashing leads to mistrust in green marketing, making consumers more sceptical of the environmental claims by companies. This rising scepticism can influence the broader market for sustainable goods. As more consumers are doubtful of green claims, they become more cautious about buying green and focus on finding out more information. This pressures companies to be more transparent and encourages them to prioritize genuine environmental commitments.

Additionally, mistrust in green marketing based on my research does not influence green purchasing intention and is not a mediator in relationship between perceive greenwashing and green purchasing intention. However, despite this, it is essential for companies to address the issue of mistrust. Not doing that, could lead to lack of consumer confidence, which may not affect the immediate purchasing decisions, but can have significant long-term consequences on trust. The lack of trust could influence firm's reputation as well as its success.

All in all, while perceived greenwashing can influence consumer behaviour in many ways, its impact on green purchasing intention is complex. Understanding these relationships is crucial for companies, which aim to survive in an increasingly sustainably driven market. As consumers become more aware of environmental issues, companies must know how to operate transparently and successfully show genuine commitment to sustainability. Therefore, my research can help companies to navigate these challenges and develop effective strategies for a long-term success in the sustainable market.

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APPENDICES

Appendix 1: Povzetek (Summary in Slovene language)

Namen te magistrske naloge je razumeti vedenje potrošnikov v okviru promocij t.i. "zelenih" izdelkov. Cilj raziskave je analizirati, odnose med zaznavanjem t.i. greenwashinga, pomanjkanjem širjenja pozitivnega mnenja o zelenih izdelkih, skrbjo za okolje, nezaupanjem v trajnostno trženje in splošne namere kupovanja okolju prijaznih izdelkov. V analizo je bilo vključenih 194 pravilno izpolnjenih vprašalnikov. Najprej sem raziskala povezavo med zaznavanjem "greenwashinga" podjetja in pomanjkanjem širjenja pozitivnih mnenj o zelenih izdelkih tega podjetja. Nato sem preučila vpliv zaznavanja greenwashinga na splošno namero potrošnikov, da kupujejo okolju prijazne produkte. Prav tako sem preverila, ali skrb za okolje vpliva na ta odnos. Zatem sem raziskala, ali ima zaznavanje "greenwashinga" vpliv na nezaupanje v trajnostno trženje in ali to nezaupanje vpliva na splošno pripravljenost za nakup zelenih izdelkov. Nazadnje sem preverila, ali nezaupanje v trajnostno trženje igra posredniško vlogo med obema konstruktoma. Hipoteze o neposrednem vplivu sem preverila z ordinalno logistično regresijo, moderacijski učinek z Bayesiansko ordinalno regresijo in posredniški učinek z Bayesianskim posredniškim modelom. Rezultati so pokazali, da zaznavanje greenwashinga podjetja pozitivno vpliva na pomanjkanje širjenja pozitivnega mnenja o zelenih izdelkih tega podjetja, pa tudi na splošno pripravljenost potrošnikov za nakup zelenih izdelkov. Prav tako se je izakzalo, da zaznavanje greenwashinga pozitivno vpliva na nezaupanje v trajnostno trženje. Vendar pa raziskava ni dokazala, da skrb za okolje vpliva na odnos med zaznavanjem greenwashinga in namero kupovanja zelenih izdelkov. Poleg tega ta študija ni potrdila, da nezaupanje v zeleno trženje vpliva na namero kupovanja zelenih izdelkov, niti ni bilo dokazano, da je nezaupanje v trajnostno trženje posrednik med zaznavanjem greenwashinga in namero kupovanja zelenih izdelkov. Pomembno je poudariti, da so rezultati morda omejeni na primer zaradi morebitnega odgovarjanja na podlagi socialne zaželenosti, uporabe Likertove lestvice, ki omejuje natančnost izražanja stališč in vpliva zunanjih dejavnikov, kot so novice in drugi mediji, ki bi lahko vplivali na odgovore anketirancev. Kljub temu ta raziskava ponuja pomembna priporočila za izboljšanje praks podjetij. Čeprav zaznavanje greenwashinga morda ne bo takoj zmanjšalo namere po nakupu zelenih izdelkov, lahko potrošnike spodbudi k kupovanju le-teh od bolj zaupanja vrednih podjetij. Dolgoročno, lahko greenwashing povzroči zmanjšano zaupanje v zeleno trženje na splošno, zato morajo podjetja graditi zaupanje s transparentnimi zelenimi praksami, kot so na primer zeleni certifikati neodvisnih organizacij ali uporaba tehnologije "blockchain." Prav tako je pomembno spodbujati izmenjavo mnenj med potrošniki, saj to pomaga ohranjati zvestobo na dolgi rok. Magistrska naloga predstavlja izvirno raziskavo preučevanja širšega vpliva zaznanega greenwashinga na splošno pripravljenost potrošnikov za nakup okolju prijaznih izdelkov. Študija prispeva k razvoju znanosti in prinaša vpoglede v spremembe v vedenju potrošnikov, kar predstavlja pomembno znanje za podjetja, ki želijo povečati zaupanje potrošnikov in uspešno delovati na vse bolj trajnostno naravnanem trgu.

Appendix 2: Questionnaire

Thank you for being prepared to participate in a survey on perception of greenwashing!

Your participation is crucial and adding valuable perspectives to the understanding of this area of the research. The survey is part of my master's thesis for the International Business program at the School of Economics and Business, University of Ljubljana.

It needs to be pointed out that your responses will be treated with complete anonymity and confidentiality and will be used only for the completion of my master's thesis.

At the end of the survey, you can give your email for a chance to win an Amazon gift card worth 20€. One lucky participant will be randomly selected after the survey ends. Your email address will only be used for the purpose of contacting the winner and will not be shared or used for any other purpose. Participation is voluntary, and you may choose not to provide your email address.

To complete the survey, you will need approximately 5 minutes.

I appreciate your help and support!

Sincerely,

Jožica Kitak

Please click on "Next Page" to start with filling out the survey.

Text - Please read the following statement of IKEA on their website.

"At IKEA, we believe we can accomplish more by working together. For many years, we have been committed to working together with different stakeholders to protect and strengthen the world's forests. One of our key partners in the Forest Stewardship Council (FSC) - an organization that brings together different voices that represent a wide range of needs for responsible forest management. IKEA was one of several founders in 1994" (IKEA, n.d.).

"Wood which is FSC-certified means it comes from sources where the forest is always regenerated as trees are replanted. This means there is no net loss of forest cover over time" (IKEA, n.d.).

Now imagine that you learned that in June 2020 non-governmental organization Earthsight revealed that IKEA is responsible for sourcing illegal timber from Ukraine's Carpathian forests. Earthsight reported widespread lawbreaking including logging without required assessment, cutting more than allowed by the license, and logging during the prohibited "silence periods". The wood was certified by FSC, which suggests their system did not recognize or it allowed the illegal activities and is therefore not reliable

(Earthsight, 2020a).

IKEA responded with their own investigation and later on denied any allegations (Earthsight, 2020b).

Q1 - Based on the above text, please indicate how much you agree or disagree with each of the statements below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The company omits or hides important information to make green claims sound better than they are.					
The company is misleadingly literal about its environmental claims.					
The company's green claims are vague or unprovable.					
The company exaggerates the reality of its green features.					

Q2 - Based on the above text, please indicate how much you agree or disagree with each of the statements below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I would highly recommend this company to others because of its environmental image.					

I would positively recommend this company to others because of its environmental functionality.					
I would encourage others to purchase from this company because it is environmentally friendly.					
I would say good things about this company to others because of its environmental performance.					

Q3 - Please indicate how much you agree or disagree with each of the statements below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I am willing to buy products that use recycled and/or recyclable packaging.					
I am willing to buy products that are not tested on animals. environmental functionality.					
I am willing to buy products with eco-friendly label.					

I am willing to buy products without (or few) chemical ingredients.					
I am willing to buy products that support fair trade.					
I am willing to buy recycled products.					
I am willing to buy organic products or products without any pesticides.					
I am willing to buy energy-efficient appliances.					
I am willing to buy products from companies with a sustainable and environmentally friendly stance.					

Q4 - Please indicate how much you agree or disagree with each of the statements below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Most environmental claims made on package labels or in advertising are true.					
Because green claims are exaggerated, consumers would be					

better off if such claims in advertising were eliminated.					
Most environmental claims on package labels or in advertising are intended to mislead rather than to inform consumers.					
I do not believe most environmental claims that are made on package labels or in advertising.					

Q5 - Please indicate how much you agree or disagree with each of the statements below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I am worried about the worsening of the quality of the environment.					
The environment is a major concern for me.					
I am passionate about environmental protection issues.					
I often think about how the condition of the environment can be improved.					

Q6 - What is your gender?

- Female
- Male

- Other

Q7 – What is your age?

- 18 – 25 years old
- 26 – 35 years old
- 36 – 45 years old
- 46 – 55 years old
- Over 55 years old

Q8 – What is your finished education level?

- Under high school
- High school
- Apprenticeship
- Undergraduate/College
- Graduate (master's or doctorate)

Q9 – What is your income per month?

- Under 500€
- 500€ - 1000€
- 1000€ - 1500€
- 1500€ - 2000€
- 2000€ - 2500€
- 2500€ - 3000€
- More than 3000€

Q10 – Do you have children?

- Yes
- No

Q11 - If you would like to participate in a draw for Amazon voucher please write your email address below.

_____

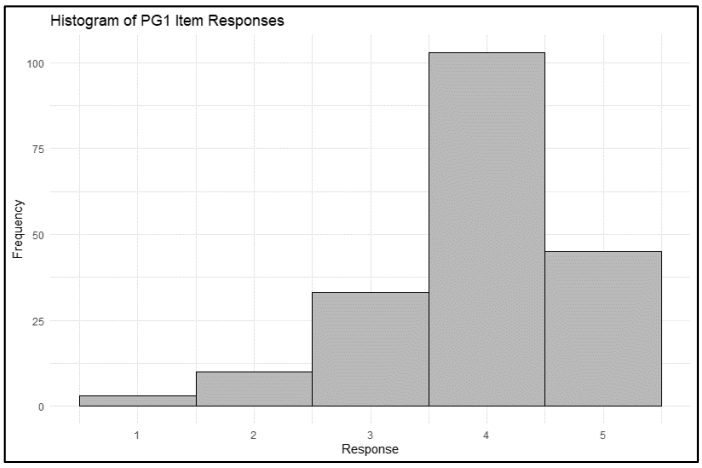
Appendix 3: Summary statistics and histograms

Variable	Mean	Median	Mode	Standard deviation	Min.	Max.	Skew-ness	Kurtosis
PG1	3.91	4	4	0.86	1	5	-0.89	1.06
PG2	3.66	4	4	0.89	1	5	-0.73	0.31
PG3	3.53	4	4	0.94	1	5	-0.35	-0.72
PG4	3.77	4	4	0.88	2	5	-0.58	-0.28
LGWOM1	3.32	3	4	0.96	1	5	-0.30	-0.43
LGWOM2	3.29	4	4	1.08	1	5	-0.40	-0.66
LGWOM3	3.32	3	4	1.02	1	5	-0.30	-0.55
LGWOM4	3.27	3	4	1.07	1	5	-0.39	-0.57
GPI1	4.27	4	4	0.79	1	5	-1.40	2.84
GPI2	4.36	5	5	0.90	1	5	-1.44	1.44
GPI3	4.15	4	4	0.92	1	5	-1.26	1.66
GPI4	4.24	4	4	0.77	1	5	-1.04	1.43
GPI5	4.25	4	5	0.84	1	5	-0.96	0.50
GPI6	4.27	4	4	0.76	2	5	-0.92	0.63
GPI7	4.21	4	5	0.86	1	5	-1.08	0.88
GPI8	4.21	4	4	0.81	1	5	-1.04	1.46
GPI9	4.15	4	4	0.84	1	5	-0.98	0.87
MGM1	3.14	3	3	1.00	1	5	-0.09	-0.69
MGM2	3.19	3	3	1.02	1	5	-0.04	-0.61
MGM3	3.42	4	4	0.91	1	5	-0.32	-0.43
MGM4	3.30	3	4	0.96	1	5	-0.20	-0.67
GC1	4.26	4	4	0.82	2	5	-1.18	1.18
GC2	3.96	4	4	0.86	1	5	-0.71	0.25
GC3	3.72	4	4	0.96	1	5	-0.71	0.22
GC4	3.79	4	4	0.93	1	5	-0.79	0.49

Source: own work

First, I will discuss items PG1, PG2, PG3 and PG4 which together represent construct perceived greenwashing (PG). All items have the same median and mode, this value being 4. As both present central tendency, this shows consistency in the data and respondents agreeing with perceiving greenwashing. Moreover, average values are also very close to 4 with PG3 having the lowest mean, 3.53 and PG1 having the highest with the value of 3.91. The standard deviation is close across all items ranging from 0.86 (PG1) to 0.94 (PG3). This suggests only slight variability and therefore, stable data distribution. Moreover, the items PG1, PG2, PG3 have minimum value of 1 and PG4 value 2 for PG4. This indicates that the respondents agreed more with the PG4 statement than others. All items have maximum value of 5. This shows that some respondents strongly agree with

perceiving greenwashing. Looking at skewness, all items are negative and slightly below 1, meaning the distributions are moderately left skewed. Most responses are therefore on the right side and respondents mostly agree with the items of perceived greenwashing. However, there are some lower scores which slightly decrease the mean. Kurtosis values are ranging from -0.72 (PG3) to 1.06 (PG1). They are below 3, meaning that the distributions are flatter than normal distribution. The histograms visually describe the distribution of responses for each item.



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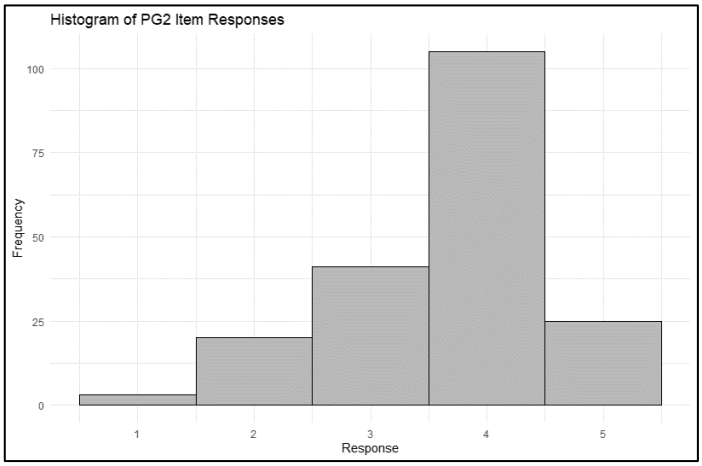

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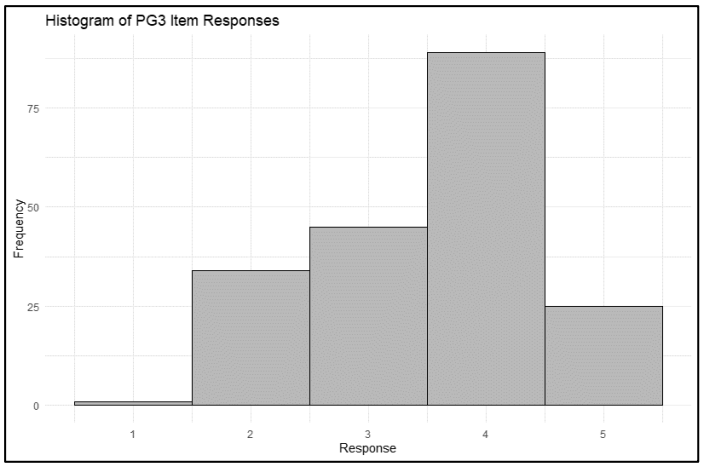

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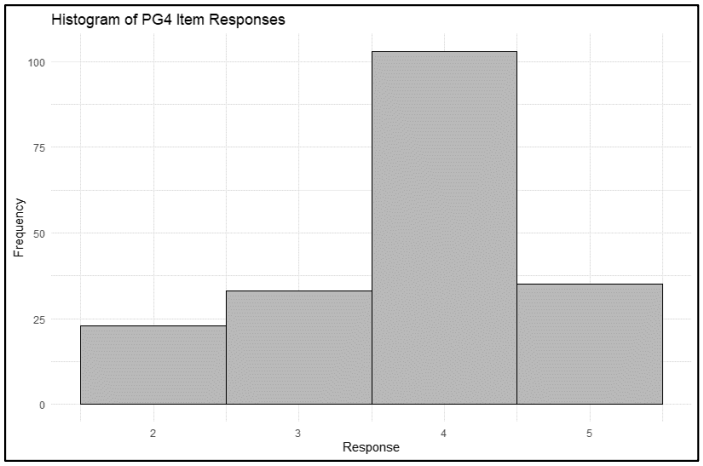
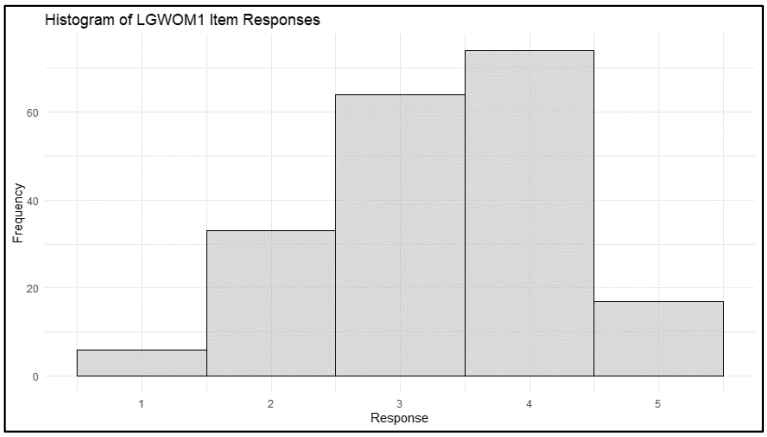


Source: own work

Second, construct lack of green word-of-mouth is represented by items LGWOM1, LGWOM2, LGWOM3 and LGWOM4. All of the items have the same mode value of 4, which shows consistency across the items. The most respondents would not talk green about the company. The items LGWOM1, LGWOM3 and LGWOM4 share the median value of 3, LGWOM2 has the middle value of 4. Therefore, the distribution of responses for LGWOM2 is shifted towards 4. The means are very similar, ranging from 3.27 (LGWOM4) to 3.32 (LGWOM1, LGWOM3) to which shows the consistency of the average scores. Standard deviations vary from 0.96 (LGWOM1) to 1.08 (LGWOM2), which means, there is a slight variability in respondents' answers. So, even though there is certain consistency in the data, there is still some variability in the responses. All items have the same minimum value of 1 and maximum value of 5. Therefore, the respondents were consistently answering on the whole range of the scale, which shows that the respondents have different perspectives on lack of green word-of-mouth, some respondents strongly agree and some strongly disagree with the items. The values of skewness are negative and close to zero, ranging from -0.40 (LGWOM2) to 0.30 (LGWOM1, LGWOM3), suggesting that distributions are nearly symmetric, meaning

that respondents scores are approximately symmetrical around the mean. Kurtosis values are negative ranging from -0.66 (LGWOM2) to -0.43(LGWOM1), so the distribution is flatter than normal, and the data are more spread out. The histograms visually describe the distribution of LGWOM1, LGWOM2, LGWOM3 and LGWOM4 item responses.



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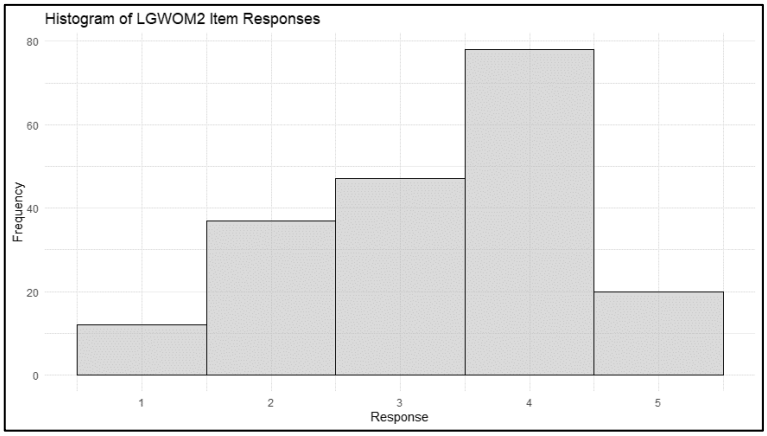

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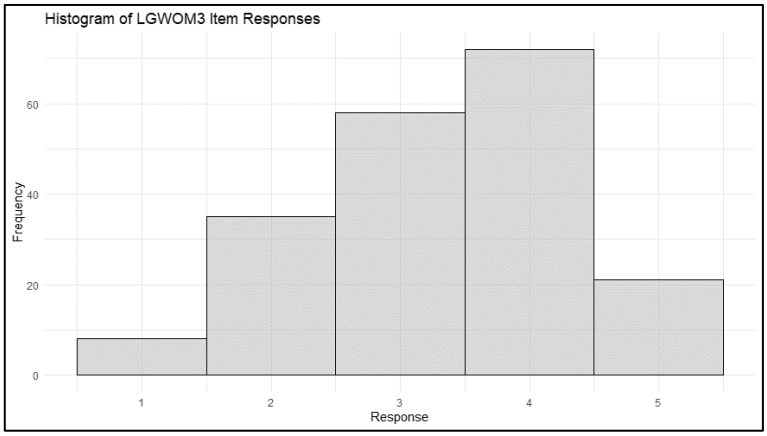

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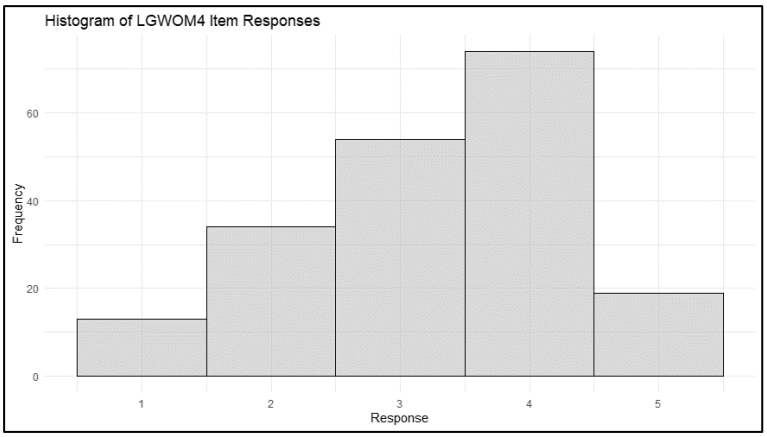

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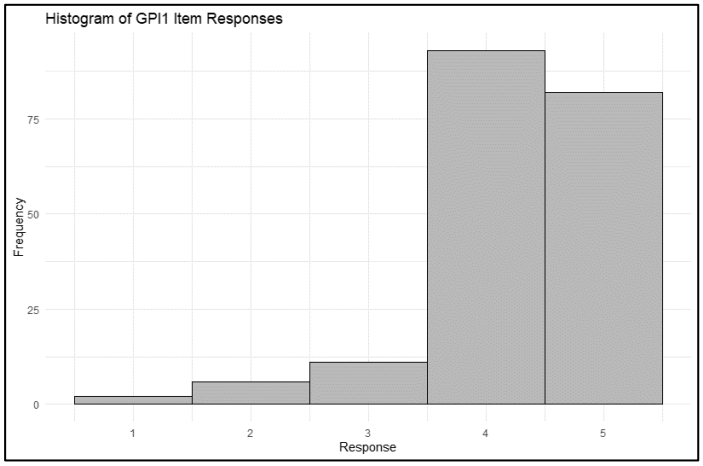
Third, items GPI1 to GPI9 represent construct green purchasing intention. The mode for GPI1, GPI3, GPI4, GPI6, GPI8, GPI9 is 4, while for GPI2, GPI5 and GPI7 is 5. Median of all the items is 4, except for GPI2, for which it is 5. Therefore, the most respondents were responding with the score 4, which means they agreed, that they do have an intention to buy green. Furthermore, the mean is ranging from 4.15 (GPI3, GPI9) to 4.36 (GPI2), which once again shows that most respondents agreed with the items. Standard deviation goes from 0.77 (GPI4) to 0.92 (GPI3), suggesting slight variability in the dataset. This means that the answers are generally consistent with little variation. Minimum value of all is 1, except for GPI6, where minimum value is 2. Maximum value is 5 in all items. This indicates the consistency in the data, but also different intention to buy green of the respondents. Skewness values are ranging from -0.92 (GPI6) to -1.44 (GPI2). All the distributions are therefore moderately skewed to the left. More respondents answered with higher scores, than with lower, so most of them have a high intention to buy green. Kurtosis of all the items is below 3, meaning that the distributions are flatter than normal distribution. Histograms visually describe the distributions of the items.



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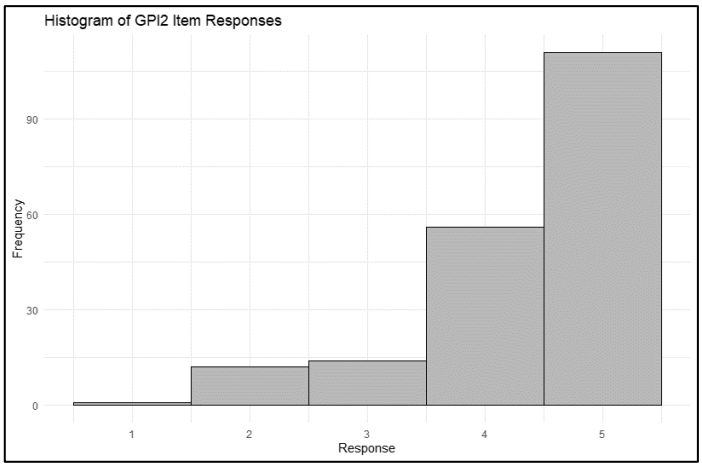

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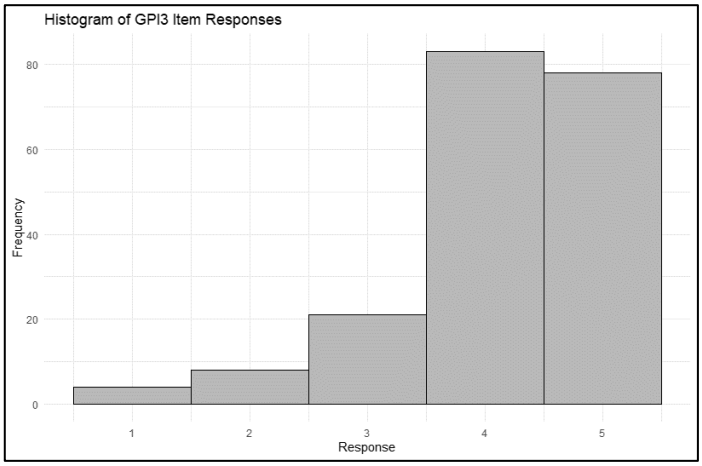

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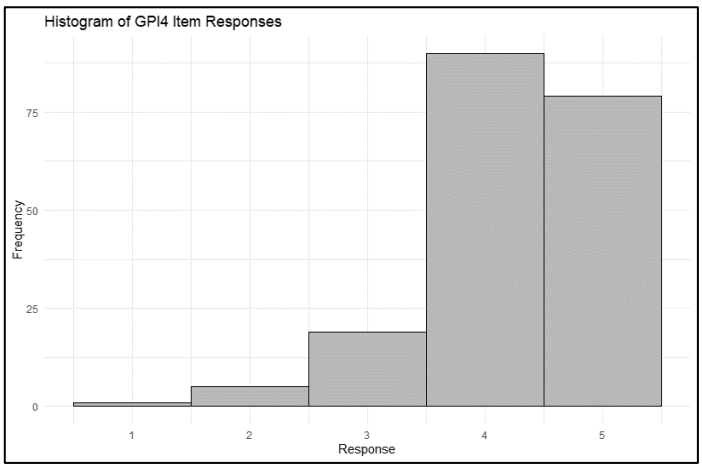

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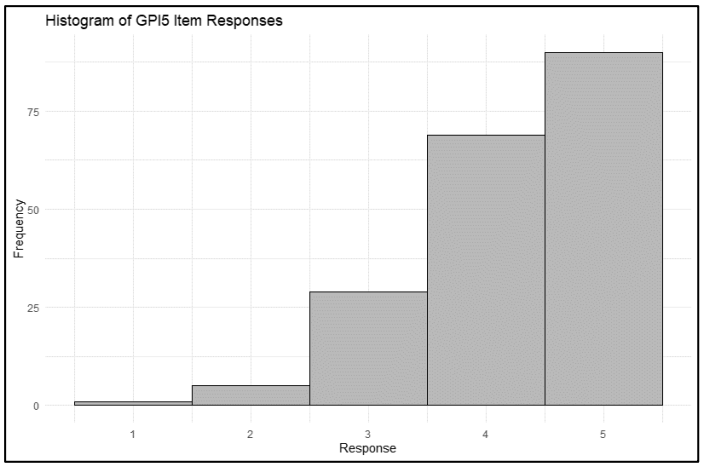

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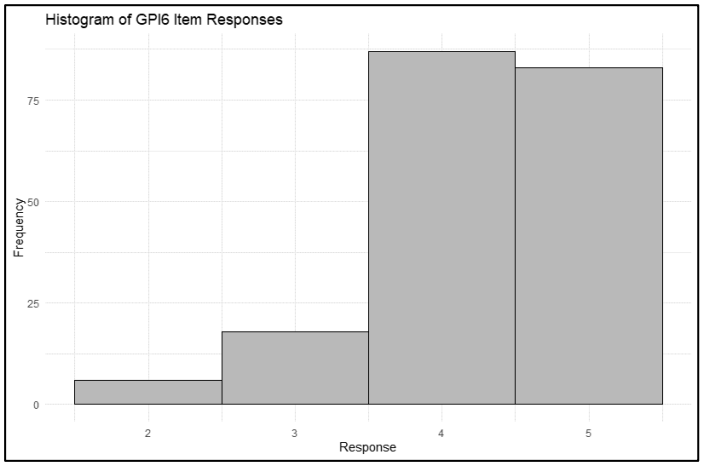

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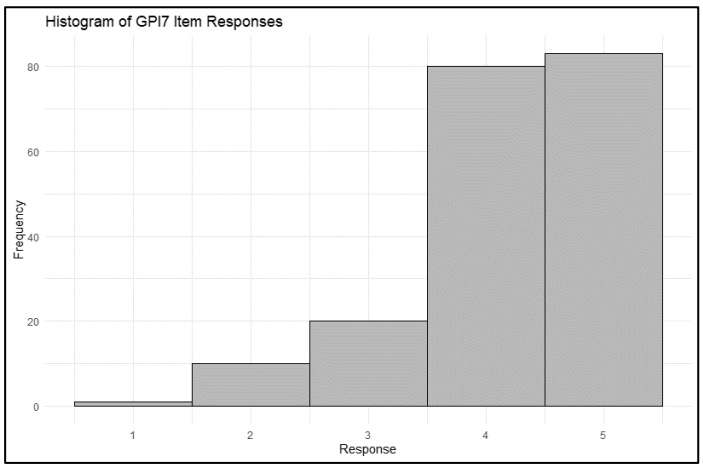

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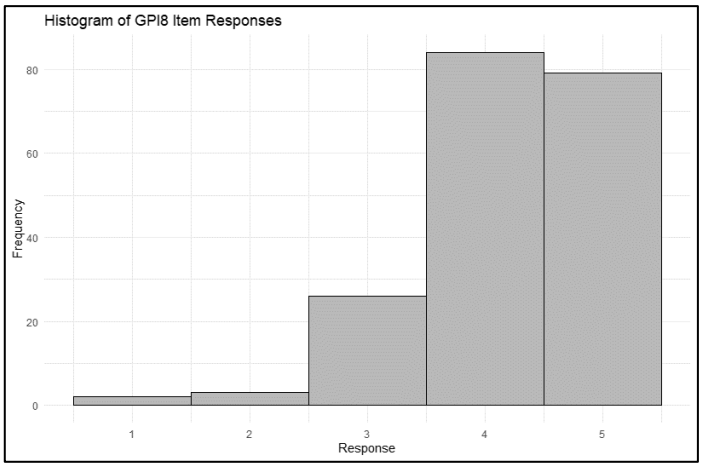

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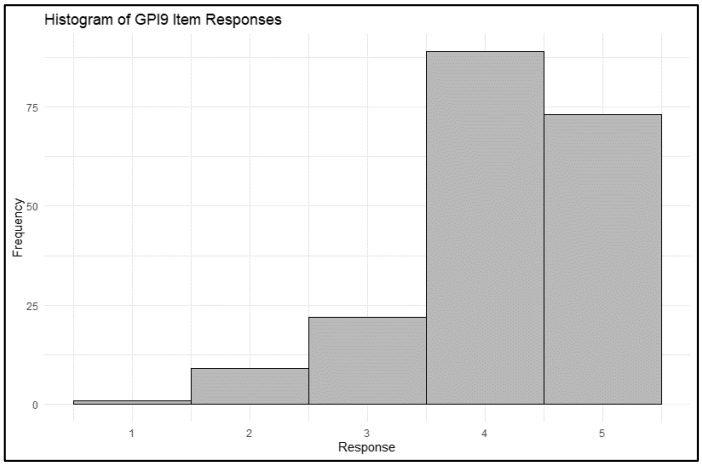

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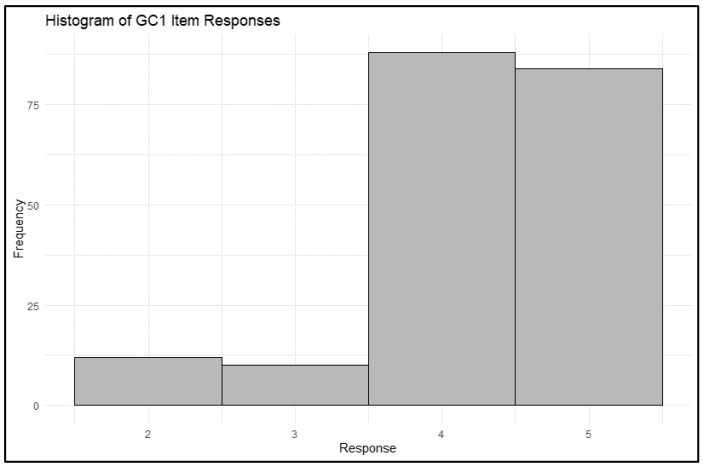
Fourth, green concern is represented by four items, GC1, GC2, GC3 and GC4. The items have the same mode with value of 4 and median with value 4, suggesting consistency across items. This means that most of the respondents agreed with the items and are concerned about the environment. The average values vary from 3.72 (GC3) to 4.26 (GC1). In fact, all other means are below 4, while mean for GC1 is above, meaning that respondents were more agreeable with the first statement. Standard deviation ranges from 0.82 to 0.96, indicating some variation in the data. Moreover, the minimum for all the items is 1, except for GC1, where the minimum value is 2, showing once again that the answers to GC1 have higher scores. The maximum value for all the items is 5. This shows that respondents have different levels of green concern. Skewness values of items are negative, around -1, suggesting moderate left-skewed distributions. Therefore, more respondents agree with the items. Kurtosis values are ranging from 0.22 (GC3) to 1.18 (GC1) suggesting flatter distributions than normal, meaning the data are more spread out. The histograms show distribution of the responses.



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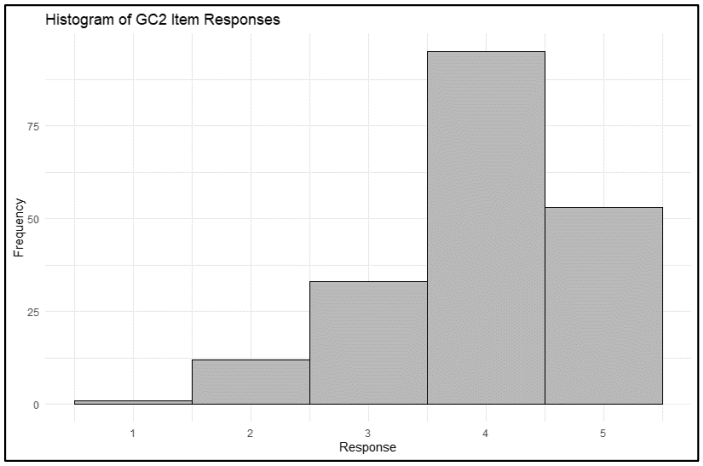

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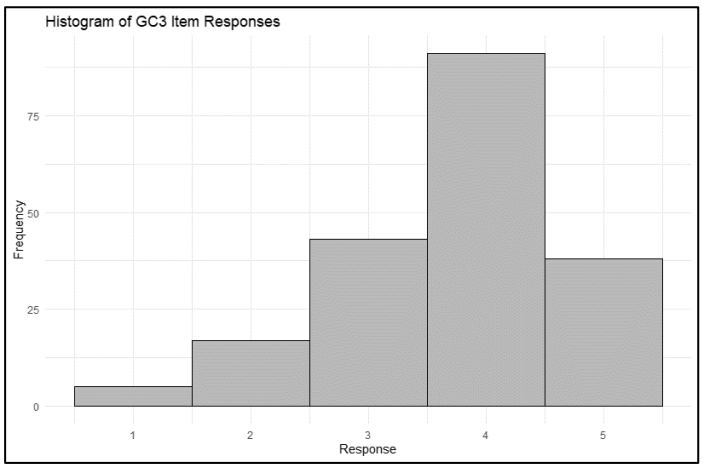

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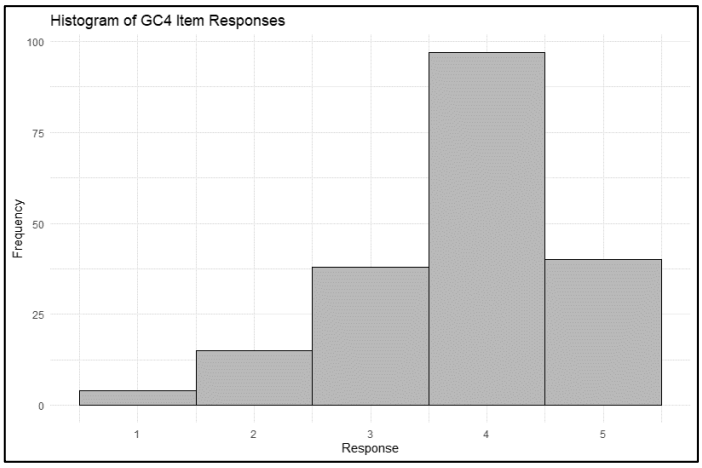
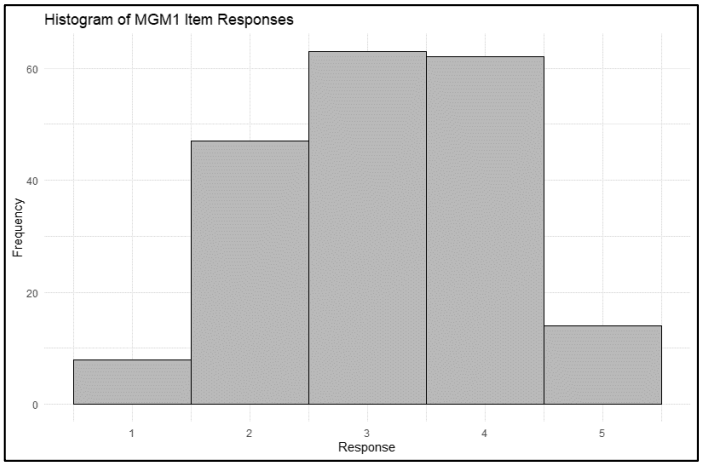


Source: own work

Fifth, mistrust in green marketing was measured using items MGM1, MGM2, MGM3 and MGM4. The mode for MGM1 and MGM2 is 3, while for MGM3 and MGM4 is 4, which suggests some variability in answers to these items. Additionally, the medians have the value of 3 for all, except MGM3, which has the median with value of 4. This means that most respondents chose neither agree nor disagree and agree when asked if they do not trust green marketing. Means range from 3.14 (MGM1) to 3.42 (MGM3), between 3 and 4 which is consistent with the mode and median. Standard deviation of all items is around 1, ranging from 0.91 (MGM3) to 1.02 (MGM2), suggesting some variability in the data. Answers for all items have the range from 1 (minimum) to 5 (maximum), showing that the respondents are different in whether they mistrust the green marketing or no. Skewness of distributions goes from -0.09 (MGM1) to -0.32 (MGM3). As the values are between 0 and -0.5, it indicates this is an approximately symmetric distribution, skewed just slightly to the left, meaning that just slightly more respondents chose that they do mistrust green marketing. Negative kurtosis values from -0.69 (MGM1) to 0.43 (MGM3) indicate that the distribution is flatter than normal distribution with the scores being more spread out and there-fore have higher variability. The histograms show distribution of the items' responses.



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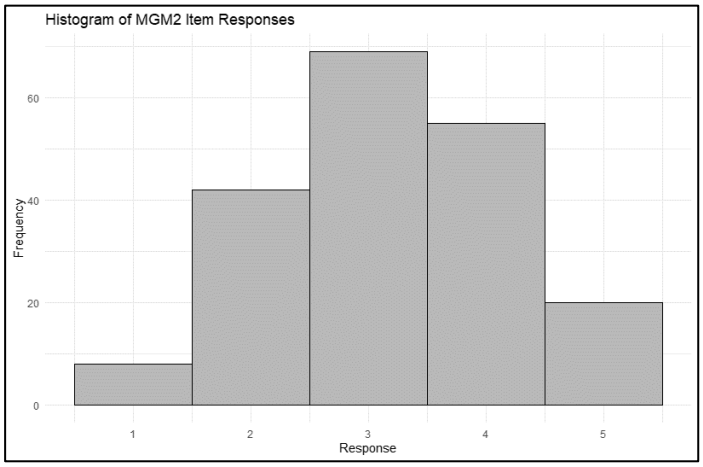

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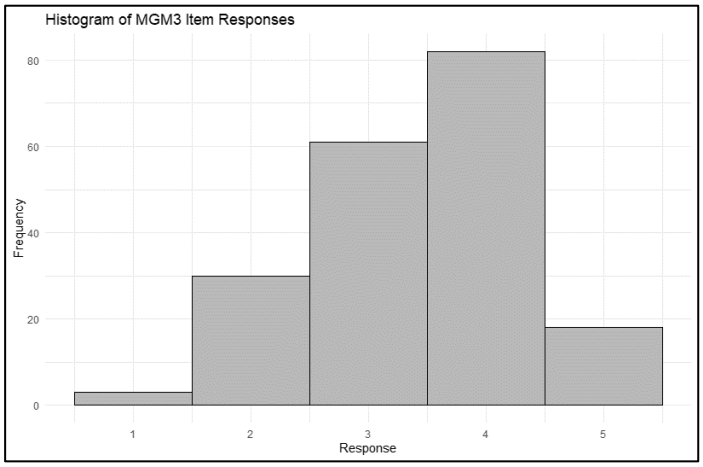

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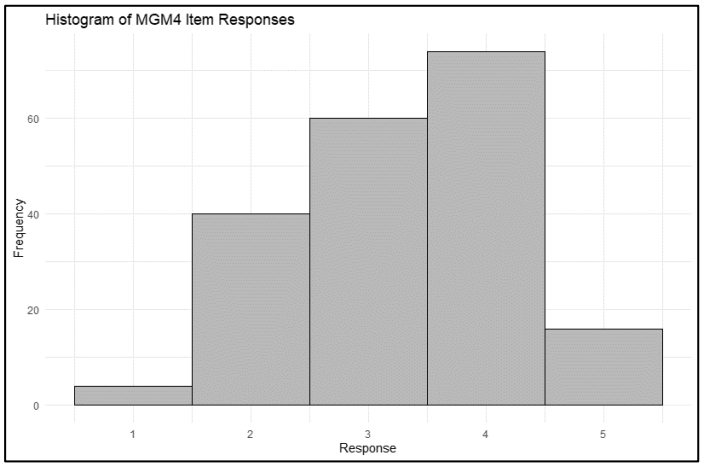


Source: own work

Appendix 4: Reliability and confirmatory factor analysis

Measure	**Cronbach's alpha**
PG	0.77
Reliability if an item is dropped	
PG1	0.71
PG2	0.72
PG3	0.74
PG4	0.71
Lack of green word-of-mouth	0.91
Reliability if an item is dropped	
LGWOM1	0.90
LGWOM2	0.89
LGWOM3	0.87
LGWOM4	0.88
Green purchasing intention	0.87
Reliability if an item is dropped	
GPI1	0.85
GPI2	0.87
GPI3	0.86
GPI4	0.86
GPI5	0.86
GPI6	0.86
GPI7	0.86
GPI8	0.87
GPI9	0.86
Green concern	0.80
Reliability if an item is dropped	
GC1	0.86
GC2	0.69
GC3	0.68
GC4	0.73
Mistrust in green marketing	0.54
Reliability if an item is dropped	
MGM1	0.66
MGM2	0.47
MGM3	0.34
MGM4	0.35

Source: own work

Statistic	Model 1	Model 2
Chi-square (χ^2)	544.78	397.20
Degrees of freedom (df)	265	220
P-value (Chi-square)	0.00	0.00
CFI	0.87	0.91
TLI	0.85	0.90
RMSEA	0.07	0.06
SRMR	0.08	0.06

Note: model 1 includes all items, model 2 excludes GC1 and MGM1
Source: own work

P-value for both models is 0.00, which means that both models do not fit the data perfectly, however model 2 fits the data better than model 1. It has lower chi-square (397,20) and lower degrees of freedom (220), compared to the chi-square (544,78) and degrees of freedom (265) of model 1. Moreover, looking at the Comparative fit index of the first model, with the value of 0.866 suggests not acceptable fit, as it is below 0.95. The same goes looking at Tucker Lewis index, which is 0.85, which means, the model does not fit the data well. Further, Root mean square error of approximations is 0.07, which is in between 0.05 and 0.08 and it indicates an acceptable fit, but it is closer to 0.08, than 0.05. The Standardized root mean square residual has the value of 0.08 and it as well suggests that the fit is just acceptable, being at 0.08. On the other hand, model 2 without the first item measuring mistrust in green marketing and the first item measuring green concern, has an improved fit of the model to the data. The CFI increased to 0.91, which is above 0.90, so it indicates an acceptable fit. Further-more, TLI increased as well to 0.90 which can also be acceptable. The RMSEA de-creased to 0.06, and now suggests better fit of the model. Similarly, SRMR value went down to 0.06, improving the model fit. Furthermore, I checked for factor loadings in both models which tell about the strength, significance of the relationship between the observed variables and the latent variables.

All factor loadings of observed variables PG1, PG2, PG3 and PG4 are statistically significant and above 0.5, indicating a significant and strong relationship between observed variables and latent variable perceived greenwashing. Further, all factor loadings of LGWOM1. LGWOM2, LGWOM3 and LGWOM4 are statistically significant, suggesting a very strong significant relationship between the items and the construct lack of green word-of-mouth. Moreover, factor loadings of items measuring green purchasing intention, are statistically significant and above 0.5, also confirming the significant and strong relationship be-tween the latent variable and the observed ones. Additionally, factor loadings for MGM1, MGM2, MGM3 and MGM4 of the first model are not statistically significant, which puts in question the meaningfulness of relationship between the items and the construct and indicates, the relationship could be due to chance. Looking at the value of factor loadings, MGM2, MGM3 and MGM4 are above the threshold 0.5, signifying a good relationship between them and the construct. MGM1

factor loading is very low, and when I dropped it in the second model, the factor loadings for other items became significant, proposing significant strong relationship between the items and the mistrust in green marketing. Furthermore, factor loadings of items measuring green concern are all significant, and all but GC1, have the values higher than 0.5 The GC was dropped in the second model. Therefore, the significant, strong relationship was showed between GC2, GC3 and GC4. To conclude, after dropping MGM1 and GC1, all the observed variables have significant high factor loadings, which indicates all the latent variables are well measured. I also checked for the covariances between latent variables in the model 1 and model 2.

Observed variables	**Model 1: Standardized factor loadings**	**Model 2: Standardized factor loadings**
PG1	0.70	0.70
PG2	0.76	0.76
PG3	0.59	0.59
PG4	0.66	0.66
LGWOM1	0.79	0.79
LGWOM2	0.82	0.82
LGWOM3	0.90	0.90
LGWOM4	0.88	0.88
GPI1	0.74	0.74
GPI2	0.61	0.61
GPI3	0.64	0.64
GPI4	0.59	0.59
GPI5	0.71	0.71
GPI6	0.73	0.73
GPI7	0.68	0.68
GPI8	0.59	0.59
GPI9	0.67	0.67
GC1	0.40	/
GC2	0.80	0.78
GC3	0.89	0.90
GC4	0.77	0.77
MGM1	0.11	/
MGM2	0.56 (not significant)	0.57
MGM3	0.68 (not significant)	0.67
MGM4	0.67 (not significant)	0.67

Note: model 1 includes all items, model 2 excludes GC1 and MGM1, all values are significant, unless specified otherwise

Source: own work

Latent Variables	Estimate (model 1)	P(>|z|)	Std. all
PG ~~ LGWOM	0.27	0.00	0.61
PG ~~ GPI	0.11	0.00	0.30
PG ~~ MGM	0.02	0.28	0.24
PG ~~ GC	0.02	0.17	0.12
LGWOM ~~ GPI	0.07	0.06	0.15
LGWOM ~~ MGM	-0.01	0.52	-0.07
LGWOM ~~ GC	-0.04	0.06	-0.16
GPI ~~ MGM	-0.00	0.87	-0.02
GPI ~~ GC	0.06	0.00	0.33
MGM ~~ GC	0.01	0.33	0.16

Note: model 1 includes all items
Source: own work

Latent variables	Estimate (model 2)	P(>|z|)	Std. all
PG ~~ LGWOM	0.27	0.00	0.61
PG ~~ GPI	0.11	0.00	0.30
PG ~~ MGM	0.08	0.03	0.23
PG ~~ GC	0.04	0.24	0.10
LGWOM ~~ GPI	0.07	0.06	0.15
LGWOM ~~ MGM	-0.04	0.34	-0.09
LGWOM ~~ GC	-0.09	0.03	-0.18
GPI ~~ MGM	-0.00	0.90	-0.01
GPI ~~ GC	0.12	0.00	0.31
MGM ~~ GC	0.07	0.08	0.17

Note: model 2 excludes GC1 and MGM1
Source: own work

Looking at the covariances between the latent variables, the covariance between PG and GC is not significant and has the value of 0.02 in the first model. In the second model it became stronger with the value of 0.04. Moreover, in the initial model, the estimates of covariances between PG and MGM were not significant with the value of 0.02. In the new model, this relationship became significant and stronger with the value of 0.080. Additionally, the LGWOM and GC relationship was not significant in the first model and changed to significant one in the new model. Furthermore, the covariance between GPI and GC increased from 0.06 to 0.12, so it became stronger and remained significant. The covariance between MGM and GC in the first model was not significant with the value of 0.01. In the second model it became stronger and closer to being significant with the p-value of 0.07. To conclude, the new model includes stronger and more significant

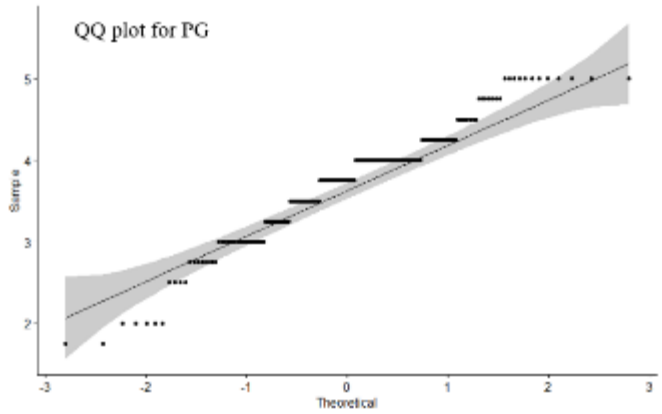
relationships between the latent variables and provides a better model fit to the data. Furthermore, analysing confirmatory factor analysis, I checked the estimated variances of the latent variables.

Variable	**Estimated variance model 1**	**Estimated variance model 2**
PG	0.36	0.36
LGWOM	0.57	0.57
GPI	0.34	0.34
GC	0.10	0.45
MGM	0.01 (not significant)	0.33

Note: model 1 includes all items, model 2 excludes GC1 and MGM1, all values are significant, unless specified otherwise
Source: own work

In the first model, the estimated variance for MGM was very low and not significant, which can signify problems in the model fit. Additionally, the variance of GC was significant, but low. By removing GC1 and MGM1, the variances of both constructs increased, and the MGM variance became significant. Therefore, this indicates the second model has better fit.

Appendix 5: Normality check with Q-Q plots



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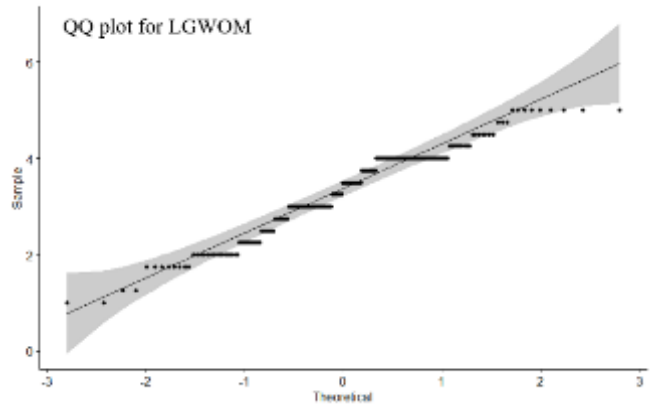

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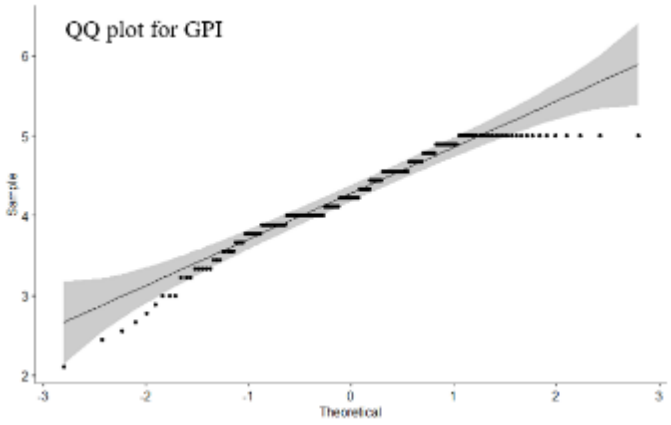

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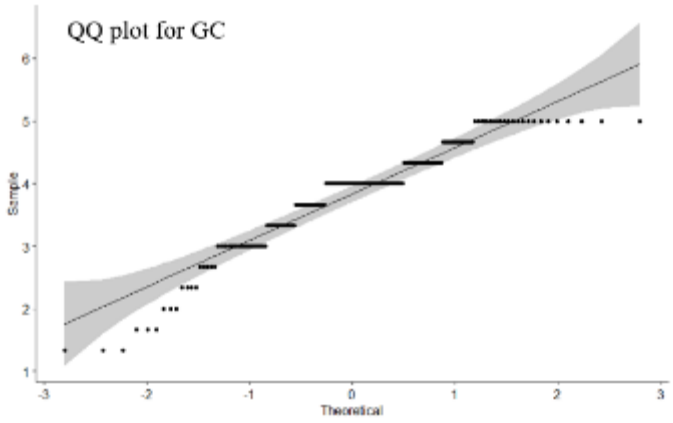

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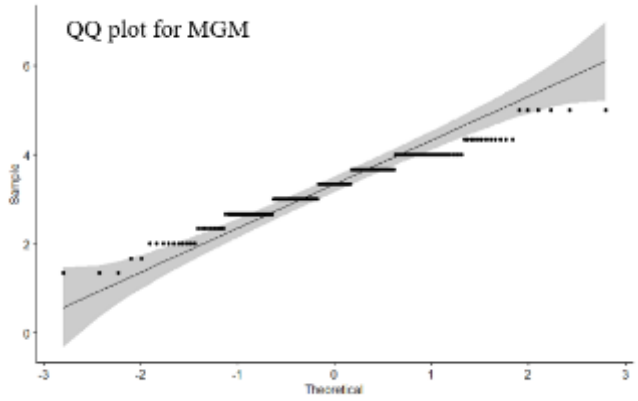

Source: own work

Appendix 6: Multicollinearity check (VIF) and assumption of proportional odds for H1

Construct	VIF
Perceived greenwashing	1.06
Gender	1.10
Age	1.33
Education	1.14
Income	1.18
Children	1.22

Source: own work

Construct	X2	df	Probability
Perceived greenwashing	18.38	14	0.19
Gender	3.75	14	1.00
Age	7.00	14	0.93
Education	5.95	14	0.97
income	13.86	14	0.46
Children	64.02	14	0.00

Source: own work

Appendix 7: Multicollinearity check (VIF) and assumption of proportional odds for H2

Variable	VIF
Perceived greenwashing	1.08
Gender	1.16
Age	1.52
Income	1.23
Education	1.20
Children	1.24

Source: own work

Variable	X2	df	p-value
Perceived greenwashing	20.15	22	0.57
Gender	15.09	22	0.86
Age	46.03	22	0
Income	99.58	22	0
Education	14.08	22	0.90
Children	-6.19	22	1.00

Source: own work

Appendix 8: Multicollinearity check (VIF) and assumption of proportional odds for H3

Variable	VIF (before centering of PG and GC)	VIF (after centering of PG and GC)
Perceived greenwashing	20.01	1.09
Green concern	23.32	1.12
Gender	1.11	1.11
Age	1.47	1.47
Education	1.25	1.25
Income	1.24	1.24
Children	1.27	1.27
Perceived greenwashing: green concern	46.05	1.09

Source: own work

Variable	X2	df	p-value
Perceived greenwashing	22.91	22	0.41
Green concern	55.08	22	0.00
Perceived greenwashing: green concern	244.13	22	0.00

Source: own work

Appendix 9: Multicollinearity check (VIF) for H4a, H4b, H4c

Construct	**VIF**
Perceived greenwashing	1.16
Mistrust in green marketing	1.11
Gender	1.22
Age	1.78
Education	1.46
Income	1.78
Children	1.41

Source: own work

Appendix 10: Assumption of proportional odds check for H4a

Construct	X2	df	Probability
Perceived greenwashing	8.60	9	0.47
Gender	4.62	9	0.87
Age	6.08	9	0.73
Education	-39.57	9	1.00
Income	3.34	9	0.95
Children	8.69	9	0.47

Source: own work

Appendix 11: Assumption of proportional odds check for H4b

Construct	X2	df	Probability
Mistrust in green marketing	18.50	22	0.68
Gender	14.77	22	0.87
Age	65.60	22	0.00
Education	1.94	22	1.00
Income	31.95	22	0.08
Children	84.35	22	0.00

Source: own work

Appendix 12: Assumption of proportional odds check for H4c, control model, direct effect model, indirect effect model

Variable	X2	df	Probability
Gender	15.67	22	0.83
Age	53.46	22	0.0
Education	11.36	22	0.97
Income	41.86	22	0.01
Children	-87.61	22	1.00

Source: own work

Variable	X2	df	Probability
Perceived greenwashing	22.76	22	0.42
Mistrust in green marketing	37.94	22	0.02

Source: own work

Variable	Coefficient	Std. error	z-value	p-value
Gender	-0.68	0.32	-2.15	0.03
Age	0.02	0.23	0.08	0.93
Education	-0.06	0.15	-0.40	0.69
Income	0.05	0.09	0.62	0.54
Children	-0.37	0.46	-0.81	0.42

Source: own work

Predictor	Coefficient	Std. error	z-value	p-value
Perceived greenwashing	0.43	0.20	2.09	0.04
Gender	-0.68	0.32	-2.15	0.03
Age	0.01	0.23	0.06	0.95
Education	-0.01	0.15	-0.06	0.95
Income	0.05	0.09	0.56	0.58
Children	-0.32	0.47	-0.69	0.49

Source: own work

Predictor	Coefficient	Std. error	z-value	p-value
Mistrust in green marketing	-0.20	0.18	-1.16	0.25
Gender	0.23	0.31	0.75	0.45
Age	-0.36	0.25	-1.44	0.15
Education	-0.25	0.15	-1.75	0.08
Income	0.19	0.09	2.21	0.03
Children	0.33	0.47	0.71	0.48

Source: own work