

**AN EMPIRICAL STUDY TO ASSESS THE IMPACT OF
GREENWASHING ON CUSTOMER PURCHASE DECISIONS: A CASE
STUDY OF THE GROCERY RETAIL SECTOR IN UNITED KINGDOM**

by

Nariman Abbaszada

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by

Nariman Abbaszada

APPROVED BY

A. Buljubasic

Dissertation Chair

RECEIVED/ APPROVED BY:

Renee Goldstein Osmic

Admissions Director

DEDICATION

THIS DISSERTATION IS DEDICATED BY ALL GROCERY RETAIL
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ABSTRACT

AN EMPIRICAL STUDY TO ASSESS THE IMPACT OF GREENWASHING ON CUSTOMER PURCHASE DECISIONS: A CASE STUDY OF THE GROCERY RETAIL SECTOR IN UNITED KINGDOM.

Greenwashing has emerged as a matter of concern in the UK grocer retail sector as retailers turn to sustainability discourse to influence the purchase of their products by eco-friendly customers. Nonetheless, exaggerated or misleading environmental reporting is deceptive to consumer knowledge and affects the buying behavior. Even though regulatory focus and consumer awareness is on the increase, greenwashing practices are here to stay because there is a high level of information asymmetry between the retailers and the consumers. This paper examines how greenwashing influences customer buying behaviour in the UK grocery market along four major dimensions of sustainability communication namely transparency, accountability, content of sustainability reports, and the adherence to quantifiable environmental criteria.

The study is based on the Theory of Planned Behavior, AIDA, Elaboration Likelihood Model, Signaling Theory and Information Asymmetry Theory, and has been formulated to explain the way in which consumers process sustainability claims and make purchase intentions. Despite emphasizing the need to maintain transparency, credible reporting, and third-party certification in instilling consumer confidence, the empirical research in the UK grocery retail situation, especially regarding the significance of measured standards, has been low.

The research adheres to a deductive and quantitative approach since it adopts a positivist philosophy. It used a cross-sectional survey design to collect primary data with the help of a structured questionnaire that was distributed to consumers of the UK grocery. The SPSS was used to analyse data with the help of descriptive statistics, correlation analysis, and multiple regression. The independent variables were taken to be transparency, accountability, sustainability report content and measured standards, whereas the dependent variable was customer purchase decision. Cronbach alpha and construct validity tests were used to guarantee reliability and validity.

The results indicate that there is an intention-credibility gap and consumers have expressed more sustainable purchase intentions than the confidence in sustainability claims of retailers. Correlation

analysis revealed that there were moderate positive relations between all independent variables and purchase decisions ($r = 0.499- 0.574$). The regression model accounted 68.5 percent of the variation in the decisions of customers to buy a product with transparency becoming the best predictor ($b = 0.397$, $p < .001$). The paper concludes that to decrease greenwashing, increase consumer trust, and empower people to make informed and responsible purchasing decisions in UK grocery retail sector, the sector needs more accurate and transparent reporting on sustainability, measurable standards, accountability, and credible reporting on sustainability.

KEYWORDS

Grocery Retail Sector, Transparency, Customer Purchase Decision, Accountability, Contents, Standards

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CHAPTER 1: INTRODUCTION

1.1 Background of the study

Increased focus on environmental sustainability has greatly redefined the consumer behaviour and marketing activities in the world retail markets. More specifically, sustainability rhetoric has emerged as one of the main characteristics of the United Kingdom grocery retail sector, with retailers reacting to the growing demand to acquire environmentally friendly products. The act of misguided, exaggerated, or unsupported environmental statements by companies to produce a false impression of sustainability is what is referred to as greenwashing (United Nations Environment Programme, 2024; Netto et al., 2020). They tend to make assertions based on ambiguous words, eco-friendly, natural, or green without verifiable facts or certification by a third party, thereby misleading the consumer perception (Reilly, 2020; Hassan, 2024). Agnes (2024) further expand on the meaning of greenwashing as a strategic company-level manipulation of environmental information, which aims at promoting the image and concealing the practices harmful to the environment.

The problem of greenwashing is especially serious in the UK grocery sector, because the consumer contact with fast-moving consumer goods is high, and more sustainability claims are used on standard products. According to Open Access Government (2023), greenwashing is a common practice in UK supermarkets, with big chain stores often encouraging the fact that they use environmentally-friendly packaging or other sustainability efforts with little or no transparency or verification. Selective disclosure makes this problem even worse as companies tend to focus on small green initiatives and hide larger environmental costs (Feghali et al., 2025). This has led to a situation where a consumer confidence in the sustainability message has been eroded (Financial Times, 2024).

Customer purchase decision is a cognitive and behavioural process involved in the recognition of needs, comparison and purchase of products by customers, based on the perceived value and information signalling (Han, 2021; Hanaysha, 2018). Environmental perceptions, ethical values, and trust in brand claims play a significant role in the purchase decisions in the context of sustainable marketing (Camilleri et al., 2023). Nevertheless, in case of misleading sustainability claims, customers can show confusion, scepticism, or a feeling of betrayal, negatively influencing the intention to purchase and brand loyalty (Sun and Shi, 2022; Shi and Omar, 2024). Fella and

Bausa (2024) emphasize that because of the lack of accuracy in recognizing greenwashing among many consumers, they are especially susceptible in the process of making a purchase decision.

The statistical data proves the increased significance of sustainability in consumer shopping and the commonplace disorientation. According to Rahaman (2024), 66 per cent of UK customers like to purchase the products that had a positive environmental impact, however, most of them do not know how to find out which of them are truly sustainable. Equally, Jóźwik-Pruska (2022) concludes that more than 6 out of 10 environmentally-conscious consumers are bewildered by environmental labels, to a large extent, because of the use of ambiguous terminologies and inconsistent norms. O'Sullivan (2023) also suggests that in large supermarket chains, about 60 percent of grocery shoppers in the UK do not believe the green marketing promises. The results draw a picture of a lack of correlation between consumer sustainability preferences and their capability to make informed buying choices.

Although some initiatives that regulate this issue like the UK Green Claims Code have been introduced, their implementation is still minimal. The Competition and Markets Authority has admitted that there have been misleading green claims in the grocery retail sector and weak enforcement of the laws has not helped prevent such unethical practices (Open Access Government, 2023; Feghali et al., 2025). In addition, Ines, Diniz and Moreira (2023) compared to state that a small part of the consumers are confident to evaluate the authenticity of the sustainability claims, which shows that there is a considerable gap in consumer education.

Although much literature has been done to explore the concept of greenwashing and in various industries, there is a dearth of empirical studies regarding the effect of using greenwashing on customer buying behaviors in the UK grocery retailing industry. A significant part of the existing research is international or theoretical in scope (Netto et al., 2020; Zervoudi et al., 2025), and little focus is on the consumer behaviour specific to the sector (UK) is in place. It constitutes an obvious gap in the research, as the volume of the grocery intake, as well as the number of claims about the environment in this industry are high.

This study is thus aimed at filling this gap by attempting to determine empirically the effectiveness of greenwashing on customer purchasing decisions in the UK grocery retail business. Through the analysis of consumer awareness, misleading claims vulnerability and the deficiency in regulation,

the studies will help advance more ethical marketing activities, consumer protection and to encourage real sustainability in the retail industry.

1.2 Research Problem

The main research issue that emerges in the current research is the growing level of greenwashing in the United Kingdom grocery retail industry and how it affects consumers in their buying behavior. Grocery retailers have stepped up environmental claims as a packaging, advertising, and branding claim in the face of sustainability being the significant determinant of consumer choice. Most of these assertions are however vague, unverifiable or misleading. Open Access Government (2023) claims that greenwashing is rampant in the UK supermarkets, and the large chains are often encouraging programs that are not clear to be eco-friendly. This will confuse the consumers who may not have the technical expertise to evaluate the value of such assertions.

The magnitude of this problem is manifested in statistical data. According to Rahaman (2024), 66% of the UK shoppers would be more willing to purchase products that have a positive effect on the environment, and most of them do not know how to find really sustainable products. In the same vein, Józwiak-Pruska (2022) establishes that more than 60 percent of sustainability conscious consumers are confused by vague sustainability labels. The weak regulatory enforcement adds to this ambiguity, and as such, misleading environmental marketing continues to exist (Feghali et al., 2025). Greenwashing, therefore, erases the line between genuine sustainability activities and misleading advertising, which affect informed consumer choice in the grocery market.

Justification of the Research problem.

The rationale behind this study lies in the fact that there is an increasing gap between the consumer need in the product in terms of sustainability and the capacity to make informed choices about the products. The grocery retail industry is relative as well since it is one of the most frequent touchpoint points of the consumer in which they make purchases often under time pressure. O'Sullivan (2023) states that about 60 percent of all grocery shoppers in the UK do not believe the assertions about green marketing, especially when they are offered by big supermarket chains. This loss of trust is not only a risk to consumer belief and trust but it is also a challenge to the success of real sustainability efforts.

Additional justification can be ensured by regulatory failures. Competition and Markets Authority has considered that the misleading environmental claims are still prevalent even with the Green Claims Code in place and little enforcement against it has diminished the deterrence effect (Open Access Government, 2023). Moreover, Ines, Diniz and Moreira (2023) disclose that just a quarter of the consumers is sure of recognizing authentic sustainability practices, which means that the gap in consumer education is large. All these conditions provide the environment where greenwashing can thrive with the least threat to retailers.

On the academic side, empirical research on the consumer purchase decision-making process has not been conducted in detail in the UK grocery retail industry, despite the considerable conceptual and theoretical attention on greenwashing as a phenomenon (Netto et al., 2020; Feghali et al., 2025). This absence of specific evidence in the sector is a reason to believe that empirical research is necessary since it is important to know how greenwashing influences consumer perception, trust, and buying behaviour.

Research Problem

research problem that the study will be addressing is the lack of knowledge on how the practices of greenwashing affect the purchasing decisions of customers in the UK grocery retail industry, especially under the conditions of the low level of awareness and ineffective enforcement of regulations. Although consumers are showing high interest in being sustainable, deceptive environmental claims are a source of distortion in purchasing behaviour, which builds scepticism, confusion and perceived betrayal (Sun and Shi, 2022). As Fella and Bausa (2024) reveal, most consumers are unable to recognize greenwashing, thus they become vulnerable to misleading marketing strategies.

The tendency to use ambiguous terms of sustainability like green, eco-safe, and planet-friendly without the definition and without verification worsens the situation (Hassan, 2024). This has also resulted in consumer buying behavior being more susceptible to perceived sustainability as opposed to proven environmental performance leading to poor decision making and reduced confidence in the concept of green branding.

Problem Statement

The UK grocery retail market engages in greenwashing to deceive the customers by sharing vague and unsubstantiated sustainability claims to the customers and thus affecting their buying decisions adversely. High consumer demand of sustainable products, low consumer awareness, and the lack of strict regulation contribute to intensifying this issue and contribute to the loss of faith in the true sustainability initiatives and ethical consumption behaviour distortion (Rahaman, 2024; Open Access Government, 2023; Ines et al., 2023).

1.3 Purpose of Research

The main purpose of the study is to experimentally evaluate the effects of greenwashing on the customer purchasing behaviour in the United Kingdom grocery retail industry. With environmental sustainability now a more important element in consumer behaviour, grocery retailers have moved to sustainability oriented marketing approaches in their attempts to win over the environmentally conscious consumers. Nevertheless, the increasing popularity and frequency of deceptive or unverified green claims has led to uncertainty and mistrust among consumers, and thus, discovered regulatory and educational gaps that enable greenwashing to continue (Open Access Government, 2023; United Nations, 2024). study also aims to investigate the impacts of the given practice on consumer awareness, perception, and decision-making, as well as, determine regulatory and educational gaps that enable greenwashing to prevail.

Among the reasons why this research has to be done, one must point out the increased demand of consumers towards sustainable products and a lack of consumer power to test the environmental claims. Statistically, two out of three shoppers in the UK are more willing to purchase items whose environmental effects are positive but 26% do not know where to find items that are truly sustainable products (Rahaman,, 2024). On the same note, Jóźwik-Pruska (2022) states that over 60 percent of consumers who care about the environment have become confused because of vague sustainability labels. This paradox is a bitter issue because despite the idea of sustainability being a very important factor when buying products, consumers have no knowledge and tools on how to evaluate the genuineness of the greener marketing promises. This research is thus aimed at investigating the ways in which this confusion influences the decision of customers to make purchases and become more susceptible to greenwashing practices.

reason why the study was deemed necessary is because of the loss of consumer trust due to greenwashing. Trust is the main element of ethical marketing and brand loyalty in the long-term. According to the research by Sun and Shi (2022), the perception of greenwashing causes a state of betrayal, and such attitude adversely influences purchase intention and lowers trust in green brands. O'Sullivan (2023) also indicates that around 60 percent of grocery buyers in the UK consider environmental assertions as invalid and especially when reported by big supermarket chains. This loss of trust does not only hurt brand credibility, but also makes the consumers unwilling to interact with truly sustainable products. Therefore, the proposed study seeks to learn both psychological and behavioural implications of greenwashing on consumer buying behaviour in grocery retail setting.

The study was inspired by regulatory loopholes as well as enforcement loopholes in the UK sustainability marketing framework. Although the adoption of the Green Claims Code aimed to reduce it, the cases of misleading environmental marketing are still observed in the grocery market, and the punishment is not strong enough to discourage unethical behavior (Open Access Government, 2023; Feghali, Najem and Metcalfe, 2025). Ines (2023) claim that a lax regulatory control allows companies to engage in greenwashing with little to no consequences, thus exposing consumers to misinformation risks. research aims to assess the role regulatory laxity will play in greenwashing and consumer confidence and purchase behaviour.

Academically, this research can also be justified by the fact that no empirical and sector-specific investigations are devoted to the UK grocery retail sector. Although the phenomenon of greenwashing has been studied extensively at the conceptual level and in different sectors (Netto et al., 2020; Zervoudi et al., 2025), the empirical studies on the influence of greenwashing on customer buying behavior have been less frequent in the case of the UK grocery industry. This omission is a severe limitation to the state of existing literature because of the nature of the sector as a daily point of consumer contact and its excessive dependence on sustainability communication. This research will hence aim at making the contribution of original empirical evidence that will help in augmenting the understanding of consumer responses to greenwashing in this particular scenario.

deliver value as practiced by major stakeholders, such as retailers, policymakers, and consumers. The study can also help grocery retailers to come up with more transparent and ethical marketing strategies that cater to consumer expectations by determining the impact of greenwashing on the purchase decision-making process (Monfort, Lopez-Vazquez and Sebastian-Morillas, 2025). To policy makers, the results have the capacity to inform more robust regulatory frameworks and enforcement systems in order to safeguard the consumers and achieve true sustainability (Feghali et al., 2025). To consumers, research aims at increasing awareness, empowering the informed purchases, and thus promoting ethical consumption and sustainability in the long-term.

The study will deal with a severe sustainability challenge by investigating how customers purchasing decisions in the UK grocery retailing industry relate to greenwashing. The research will fill the gaps in knowledge and enhance the ethical business conduct and make the retail business environment more transparent and sustainable through the use of empirical research.

Specific aims

The following narrow objective of the research is to study to what degree the customers of the United Kingdom grocery retail industry are conscious of the greenwashing practices. This is a critical objective since a consumer awareness is what plays directly into the potential to critically assess the environmental claims and make a better purchase decision. Research findings have shown that the majority of consumers have sustainability as one of their top priorities and yet still the green marketing tactics are not their attention and consequently not recognized. For example, a survey that was done by Rahaman (2024) has shown that almost 60% of British consumers prefer eco-friendly products even when they can't tell them apart, hence there is a vast awareness gap. Furthermore, Iesini, Diniz, and Moreira (2023) state that consumers with little knowledge about sustainability not only get easily misled by unsustainable claims but also call for research on the awareness levels in the grocery sector as a justification.

The second objective is to see what aspects can predispose consumers to be more or less vulnerable to greenwashing in the case of grocery retail. Such an objective is required as the individual disparities in environmental knowledge, confidence with brands, and perception on sustainability labels have a substantial influence on buying choices. Fella and Bausa (2024) indicate that consumers find it hard to recognize greenwashing due to the unclear language and complicated details on the environmental issues. The possibility of understanding these factors will assist in

clarifying the reasons why certain consumers can be easily misled whereas others are sceptical and hence understanding the patterns of consumer behaviour in the UK grocery market.

The third objective of the research is to examine how greenwashing influences customer purchasing behavior especially the aspect of trusting, purchasing intention, and brand commitment. This is a critical objective since false environmental claims may affect customer decisions and negatively impact trust towards sustainable products. As demonstrated by Sun and Shi (2022), the perceived greenwashing results in a lower purchase intention because of betrayal and scepticism. Since shopping of groceries is regular and frequent purchases, there is need to explore this effect in the UK grocery market so as to know how the market at large is affected by greenwashing.

The fourth objective will be to assess the effectiveness of existing sustainability marketing and regulatory frameworks in curbing the activities of greenwashing among the UK grocery retail industry. Open Access Government (2023) points out that greenwashing is unregulated even with regulation measures, thus a sign that it is ineffective. Feghali, Najem and Metcalfe (2025) suggest that the lack of regulatory control leads to the continued existence of misleading claims, so it is necessary to discover any gaps and restrictions of the regulator.

Lastly, the paper will also suggest measures to enhance consumer education and better ethical and transparent green marketing. This objective can be explained by the fact that informed consumers will be more prepared to resist the influence of misleading information and endorse the actual sustainability activities (Monfort, Lopez-Vazquez and Sebastian-Morillas, 2025). The research plays a part in terms of sustainable consumer behaviour and retail ethics by helping to address education and transparency.

1.4 Significance of the study

The importance of the study lies in the fact that it covers an important subject in the field of sustainable marketing by evaluating the effects of greenwashing on the consumer buying behavior in the United Kingdom grocery retailing market. With the growing effects of sustainability on consumer behaviour, false environmental claims erode consumer confidence and the true corporate environmental accountability (United Nations, 2024). The article by Open Access Government (2023) emphasizes that the problem of greenwashing is rampant in the UK supermarkets, which is why the study is especially relevant to an industry that acts as a touchpoint with the consumer on

a daily basis. The research is sector-specific in nature as it dwells upon grocery retail, an area that is thus far underrepresented in the literature.

The study is important to the consumer in its contribution to increase the knowledge of the influence of greenwashing on the purchasing behaviour and decision-making. It is statistically proven that 66 percent of the UK shoppers would choose the ecologically friendly products, but most of them cannot find the genuine sustainability claims (Rahaman., 2024). Such confusion makes consumers more prone to false advertising and makes them make poor buying decisions and trust green products less (Jóźwik-Pruska, 2022). This study contributes to making better decisions and leading to ethical consumption by empirically studying consumer awareness and their vulnerability to greenwashing.

This research also has implications to the practice in the industry, where it not only sheds light on the dangers of misleading marketing of sustainability. Greenwashing has been manifested to weaken brand confidence, purchase intention, and long-term customer relationships (Sun and Shi, 2022). According to O'Sullivan (2023), about 60 percent of the UK grocery shoppers question the legitimacy of green statements, which means that retailers face significant reputational dangers. The results of this study can help grocery retailers to optimize their sustainability communication policies, enhance their transparency, and align marketing activities with actual environmental performance (Monfort, Lopez-Vazquez and Sebastian-Morillas, 2025).

Regulatory and policy wise, this study can be important as it may lead to more powerful enforcement and policymaking. Mostly, false environmental claims still exist because of the laxity in regulatory supervision (Feghali et al., 2025). Ines, Diniz and Moreira (2023) stress that greenwashing goes unpunished in the absence of proper accountability systems in place. This research will help policymakers advance sustainability marketing regulations because it identifies regulatory loopholes and consumer vulnerabilities that can be used to create evidence-based policies that facilitate sustainable marketing.

In academic terms, the research has been used to advance the existing literature on greenwashing by offering empirical evidence in the context of the UK grocery retail, which is not well studied (Netto et al., 2020). Connecting consumer awareness and trust to purchase decisions, the research contributes to the further insight into the behavioural effects of greenwashing and helps create more ethical and sustainable retail activities.

1.5 Research Questions

1. What factors could make the customers more or less prone to greenwashing?

This is the research question that is formulated to find out the individual, cognitive, and contextual variables that determine the susceptibility of consumers to greenwashing. Though consumers can say that they are highly sustainability-oriented, not every one of them is capable of critically analyzing environmental claims. As Fella and Bausa (2024) reveal, the ability to recognize greenwashing is not always possible by consumers, as the terminology is unclear, and not all consumers are environmentally literate. Equally, Jóźwik-Pruska (2022) notes that vague labelling will confuse the eco-conscience consumers. The study will reveal why some consumers are misguided and others sceptical, by probing the particular factors that predispose people to be less or more vulnerable to greenwashing, including; the level of environmental knowledge, the level of trust in the brand, being a sceptic, and the demographic profile. This adds value to the research since it provides information about consumer heterogeneity, which is important in creating specific education and marketing interventions to improve consumer resilience to misleading information.

2. What is the level of awareness within the UK grocery retail sector customers regarding green washing practices?

The question will deal with the level of consumer awareness and knowledge of greenwashing in the grocery retail situation. According to Rahaman (2024), 66 percent of UK consumers like to buy environmentally-friendly products but have no idea how to identify them, which means that there is a mismatch between consumer values and how effectively they can detect the legitimacy of sustainability claims. Ines, Diniz and Moreira (2023) also emphasize that a small group of consumers are sure about identifying the real sustainability activity. Perception of the level of awareness of the market, this question will allow the study to evaluate the existing current knowledge level of UK grocery shoppers and identify points at which education is required the most. The baseline awareness is important in assessing the strategy of the existing communication as well as the formation of interventions, which enhance consumer decision-making.

3. What are the strategies that could be used to educate the customers regarding green washing to make informed purchasing decisions?

Since poor consumer knowledge is a factor that predisposes them to misleading claims, the question aims at examining educational and communication practices that can empower consumers. It has been found out that the higher the transparency, the better information the higher the consumer trust, as well as the lack of vulnerability to misleading marketing (Monfort, Lopez-Vazquez and Sebastian-Morillas, 2025). This issue will uncover helpful strategies, such as clear labeling, education, sustainability literacy tools, and third-party certification. The findings will supplement the lack of consumer education mentioned in the current sustainability literature (Ines et al., 2023) and, in turn, open the door to enhanced and more responsible purchasing behavior.

4. How does the marketing strategy impact upon customer perception regarding sustainability in the UK grocery retail sector?

This question will analyze how marketing communications influences the perceptions of sustainability by the consumers. Environmental claims can also affect the choice of purchasing, yet unjustified claims can create a sense of scepticism and mistrust (Sun and Shi, 2022). The research will clarify the nature of actions that create trust and those that stimulate cynicism by examining the influence of various marketing strategies applied by companies, including eco-labelling, promotional messages, and sustainability stories, on customer perception. What has been contributed here is the association of marketing strategies and consumer psychology with evidence provided on how ethical marketing strategy can help in improving credibility and positive perceptions of sustainability.

5. What are the gaps in the present regulatory framework which allows green washing to continue?

The question is worded in a way that probes through the regulatory shortcomings and the lack of enforcement that have made it possible for greenwashing to persist in the UK grocery sector. According to Open Access Government (2023) and Feghali, Najem and Metcalfe (2025), misleading environmental claims are common even with regulatory guidelines such as the CMA Green Claims Code, which indicates lack of policy design and enforcement. The detection of these regulatory weaknesses will allow the study to give evidence-based policy reform. The outcome of this question is policy-relevant: it allows putting forward suggestions that will increase accountability measures, prevent consumer deception, and see that the real sustainability measures will be rewarded.

CHAPTER II: LITERATURE REVIEW

The chapter discusses on five specific areas through the use of empirical studies such as greenwashing, customer purchase decision, retail sector, theories and models and conceptualization. The chapter ends with the indication of literature gap and chapter summary.

2.1 A brief outline of greenwashing

Greenwashing is often described as a phenomenon when organisations put more effort into creating a marketing image of a responsible relationship with the environment than a real move towards making positive changes to their products or processes, thus deceiving consumers about the actual sustainability of these products or businesses (Xu,, 2025). The phenomenon has continued to gain academic interest because of the implication in ethical marketing, consumer trust and climate advancement. Both Xu (2025) and Li (2025) refer to greenwashing as a planned kind of deception utilizing the energy of the growing environmental awareness of the consumers. Although Robinson highlights the ethical implications and the way in which such activities negate the real sustainability work, Li (2025) draws attention to the financial and reputational risks associated with this practice on the part of companies, such as fines imposed by the regulatory authorities, negative reactions of consumers and the loss of the brand image.

These concerns are backed up by empirical evidence. Research has shown that exposure to false green claims also lowers consumer trust and purchase intention and that certain researchers have found that brand loyalty may slip down to as much as 20-30 percent after greenwashing scandals (Li, 2025). Moreover, regardless of the veracity of alleged environmental concerns in the consumer markets, global regulatory reports estimate that more than 40% of all such claims are exaggerated or in verifiability, which underscores the magnitude of the problem (Xu, 2025). Spite of these revelations, the greatest limitation about this body of literature is that it largely relies on corporate behaviour, governance failures as well as regulatory failures. Consequently, the consumer-level analysis, especially, the detection, interpretation and reaction of greenwashing by individuals, is underdeveloped.

Xu (2025) believes that greenwashing undermines the stakeholder trust and redirects resources to actual environmental solutions, whereas Li (2025) singles out the growing financial losses that include the fines, shareholder pressure, and loss of a competitive advantage. One of the weaknesses of these studies is in the fact that they adequately prove the adverse implications of deceptive green

marketing, yet there is no solid empirical research, conducted to determine the long-term consumer awareness, psychological processing, and consumer behaviour of consumers. Lack of consumer-focused data is a major theoretical and practical loophole especially where purchasing habits are high like in grocery retail settings.

Lately, consumer education has been recognized as a major mitigation strategy in numerous studies. According to Senyapar (2024), both digital literacy campaigns and clear sustainability labeling increase the consumers' ability to critically assess environmental claims. Likewise, Fella (2024) applauds the implementation of transparency tools backed by laws and mandatory disclosures as a way to increase the responsibility of companies. The two studies have a common ground in that is established that informed consumers are more sceptical and less prone to misleading green marketing. Evidence in The form of surveys indicates that the more sustainable consumers would be (in terms of sustainability literacy) the more likely they are to scepticize unclear eco-claims than their less informed counterparts (Senyapar, 2024).

Nevertheless, these studies are important because of their solutions that are policy-based; they have limitations because they have not been empirically tested in terms of demography and cultural factors. Both Senyapar (2024) and Fella (2024) do not adequately discuss the differences in effectiveness of education based on age, income or sector-specific patterns of consumption. It is, therefore, unclear how these strategies can be applicable in the UK grocery retail industry.

To address the above gaps, the current study contributes to the literature by empirically investigating the impact of greenwashing on consumer perception, trust and purchase behaviour in the UK grocery market. The study will produce sector-specific insights by incorporating the consumer awareness, education and behavioural outcomes to facilitate better transparency, accountability and ethical sustainability communication.

2.1.1 Importance of greenwashing to business

As environmental sustainability is becoming a strategically important factor in the competitive advantage, brand positioning and consumer choice, greenwashing has become a strategically important topic to the business. Since the surveys across the world suggest that more than 70-80 percent of the consumers are more inclined towards environmentally responsible brands, sustainability assertion has become the core of corporate marketing (Ines et al., 2023). As the

result, greenwashing has grown to become not only a moral debacle but a commercial threat with huge financial, reputation, and strategic consequences.

A number of studies tend to believe that greenwashing may seem appealing to companies, in the first place because of short-term positive results in marketing. According to Li (2025), environmental faking can provide a brand with a temporary boost in brand image, a more motivated group of eco-conscious customers, and will create an opportunity to set higher prices without the expenses associated with the real investments in sustainability. This holds especially when the industry is highly competitive and either differentiation based on sustainability is able to affect market share. Nevertheless, in the long term, this benefit becomes more and more compensated by the risk because of the rising consumer attention and regulation.

The empirical evidence shows greenwashing has a major negative impact on the consumer trust which is one of the primary determinants of business performance. As noted by Xu (2025), after the untruthful actions are brought to light, the companies suffer significant losses in brand trust and consumer retention. Research indicates that companies that are involved in greenwashing scandals can lose 20-40% of their buying intentions and brand equity losses in the long term (Li, 2025). This shows that the greenwashing is a direct threat to relationship based assets that are vital in ensuring long term profitability.

Financially, greenwashing subjects the business to an increase in regulatory and legal risks. Regulators have enhanced enforcement of activities that constitute misleading environmental claims, and it is reported that more than 40 percent of green marketing claims are deceptive or unprovable (CMA, 2021). The consequences of greenwashing are more severe as the cost of litigation, the cost of corrective advertising which is compulsory, rise. Xu (2025) claims that the costs of greenwashing can surpass the savings that can be achieved through proper sustainability investment, and this presents a problem with the economic purpose of greenwashing.

Greenwashing is also disruptive to internal resource allocation, in addition to the immediate financial effects. Focusing on image management rather than on the concrete enhancement of the environment, companies waste resources on innovation, transformation of the supply chain, and ability to sustainability and survive in the long term (Li, 2025). This makes things difficult for organisational resilience and constraints to fit towards the changing stakeholder expectations and standards.

Nonetheless, one of the weaknesses of the current literature is its biggest preoccupation with corporate-level performance, largely neglecting consumer behaviour in its mechanisms. Although Xu (2025) and Li (2025) make a persuasive argument on reputational and financial risks, they lack empirical data on how consumer perception, trust, and purchase behaviour mediate them. Also, the sector-specific analysis, especially within fast-moving consumer goods and grocery retail, has not been explored well.

Altogether, the literature confirms that greenwashing is a vital business problem and goes beyond the ethical concept to influence trust, profitability, adhering to the regulations, and strategic sustainability. This highlights the need of businesses to move beyond the symbolic sustainability communications to transparent, verifiable and accountable environmental practices. The current research is based on this premise in exploring the effect of greenwashing on consumer buying behaviour, and this is an important contribution to the sustainability of business strategy by providing a consumer-focused approach.

2.1.2 Gap in regulatory framework which allows greenwashing to continue

The problem of regulatory failure is generally accepted as one of the main reasons why greenwashing can still exist in the industry. According to Zervoudi (2025) and Hassan (2024), sustainability regulation has grown in scope, but it has been limited by inconsistencies, loopholes and poor enforcement mechanisms. Zervoudi (2025) points to the lack of harmonised international standards of environmental claims, and the fragmentation of regulatory schemes enables companies to play on the differences in jurisdiction and pursue selective disclosure policies. In the same manner, Hassan (2024) concentrates on the shortcomings of corporate disclosure mandates where the firms are usually given the autonomy to self-report on sustainability performance without third-party verification as a binding requirement.

The extent of this regulatory gap has been proven through empirical evidence. According to the estimation of regulatory authorities, about 40-50 percent of environmental statements provided by companies are either vague, exaggerated, or unverifiable, which means that there are failures in the enforcement system (Hassan, 2024). Zervoudi (2025) also notes that a number of sustainability guidelines are based on voluntary compliance that has led to a low level of discouragement of deceptive practices. This laxity in regulations has allowed companies to issue bold or speedy

sustainability reports with minimal legal or financial repercussions in the event that the report is misrepresented.

One of the strengths of the literature is that it reveals vulnerabilities of the structure of the regulatory frameworks. Zervoudi (2025) positively illustrates the fact that the absence of a standard definition of such terms like ecological friendliness, green, and sustainable enables the company to play with the consciousness of consumers without necessarily violating laws. Similar exposes are made by Hassan (2024), who emphasizes that less than 30 percent of corporate sustainability disclosures are audited by an independent auditor, which affects transparency and accountability. Collectively, these studies demonstrate strong grounds that available frameworks put firms more on the flexibility than on consumer protection.

The biggest drawback of this literature however, is the absence of empirical research into the effects of regulation on consumer behaviour. Although Zervoudi (2025) and Hassan (2024) report existing regulatory deficiencies, both provide only minimal information about the direct impact of low enforcement on consumer confidence, buying choices and the behaviour of the market in the long term. Moreover, the approach to the literature is mostly macro-level/cross-national, without considering sector-specific processes. Specifically, retail of fast-moving consumer goods and grocery, in which decisions to buy occur frequently and are strongly affected by sustainability indicators, are under-researched.

The other gap is on harmonisation of regulations. Zervoudi (2025) admits the possible advantages of cross-border standardisation of sustainability but lacks an empirical measure of whether harmonised regulations can decrease the level of greenwashing or enhance consumer trust. Such lack of evidence restricts the practical implementation of the policy recommendations, pointing to context-dependent research.

To address the above loopholes, the current study focuses on the role of weak regulation and lack of uniformity in accountability in the UK grocery retail sector in relation to consumer trust and purchasing behaviour.

2.1.3 Purchase decision and greenwashing

Greenwashing is a threatening problem in the field of sustainability marketing because false environmental statements are becoming more influential in consumer confidence and buying

behaviour. The available literature proves that the messages on sustainability can positively influence the purchase intention; however, the false or overstated statements substantially decrease the consumer confidence and the brand loyalty. Fu (2022) emphasizes transparency as one of the main determinants of green purchase intention that should be available to minimize the uncertainty of consumers and increase perceived brand credibility. The quantitative analysis conducted in the study indicates that transparent product disclosure has a great effect on consumer trust and consequently on purchase intention towards green products.

In line with this view, Fang (2024) empirically proposes how the perception of greenwashing affects the decision to purchase in the fashion industry based on the SPSS results of 430 participants. The results indicate that greenwashing has a negative impact on the purchase intention ($b = -0.078$, $p = 0.023$) whereas perceived green authenticity has a positive impact on it ($b = 0.452$, $p < 0.001$). These findings show that customers are becoming more and more able to detect false sustainability statements and punish brands with them. The advantage of Fu (2022) and Fang (2024) is that the authors have solid statistical models and a considerable sample size, which contributes to the validity of their findings. To a large extent, though, they are restricted by their sectoral scope, which is fashion and online retail, and limits the scalability of results to grocery retail in which purchasing decisions are routine, low-involvement, and highly determined by information at the packaging level.

One more factor that has been mentioned to influence consumer responses to greenwashing is accountability. In their systematic review, Feghali, Najem, and Metcalfe (2025) continue to argue that greenwashing harms corporate accountability and consumer trust which leads to a decrease of 20 percentage points in brand loyalty among customers who have been presented with deceptive sustainability claims. Laufer (2013) also evidences that a minimum of 29 percent of corporate reports on sustainability are also audited by an independent auditor, which points to the fact that voluntary disclosures are mostly employed as a symbolic reputational instrument, but not as a duty of responsibility. Although these researches offer good conceptual abilities in understanding structural failures of accountability, the main weakness is that they do not give any empirical evidence at consumer level on accountability in relation to purchase behaviour.

The content of environmental messages has also been discussed in recent literature. Fang (2024) establishes that transparent and genuine sustainability communication improve consumer

confidence, but the impression of greenwashing reduces the intention to buy. Onurlubas (2025) based on the survey of 384 participants also reports that greenwashing has a negative impact on purchase intention ($b = 0.260$), and green confusion has a positive impact on consumer scepticism ($b = 0.528$). Nonetheless, the rather low explanatory strength of the model ($R^2 = 0.141$) indicates that other contextual variables, including industry-specific trust indicators and regulatory controls, could play a role in buying decisions.

Firm-level and experimental studies of greenwashing provide additional insights into the outcome of greenwashing. Muhammad (2025) shows that an experimental design ($F(1,132) = 87.72$, $p < 0.01$) shows that false advertising about sustainability lowers the intention to purchase and the perceived quality of a product to a large extent. In the meantime, Dorfleitner and Utz (2023) suggest a five-pillar model comprising of soft ESG claims, textual cues, marketing spend, facade performance, and hard ESG data to assess the level of greenwashing at the corporate level. Although there is solid causal evidence by Silva, the sample size is not big enough to generalise, and the framework by Dorfleitner and Utz does not include data on direct consumer response.

All in all, previous studies define transparency, authenticity and accountability as essential factors that determine green purchase behaviour. Nevertheless, the prevalence of non-grocery sector studies indicates the existence of a massive gap in the empirical studies. This limitation is discussed in this study as it will explore the impact of greenwashing, transparency, and accountability on consumer trust and purchase decisions in the UK grocery market and provide industry-specific data to inform more plausible and practical sustainability communication.

2.2 A brief outline of the customer purchase decision

A consumer purchase decision is a complex phase by which a person decides on buying a product or a service. Han (2021) notes that the process typically occurs through five phases, namely problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behavior. Recognition of the problem entails the consumer identifying need or desire, and the information search is done in which alternatives to meet the need are evaluated. The evaluation of alternatives stage enables consumers to evaluate products on various criteria and then decide on purchase and this decision will end with the final decision of purchase and acquisition of the desired item. Satisfaction or regret evaluation then follows post-purchase behavior to influence subsequent purchase behavior (Han, 2021).

Hanaysha (2018) notes that brand image, emotional response, and perceived value are very important in the process of consumer decision making. Positive brand perception has an advantageous effect on loyalty and purchase intention, which is the psychological and affective aspect of consumer behavior. The co-existence of cognitive assessment and affective participation reveals the profoundness of the purchase decision-making process and the impact of trust, satisfaction, and perceived brand integrity on the outcomes. Han (2021) also confirms this by relying on customer trust and satisfaction as the driving forces, which do not only affect the immediate purchase decisions, but also the long-term consumer-brand relationships.

But the major weakness of these background studies is that they fail to focus on misleading marketing activities, including greenwashing. Although Han and Hanaysha present some important information about the cognitive and emotive motivations of consumer behavior, there is no explicit explanation of how the false claims of sustainability interfere with rational decision-making and destroy trust. Consumers might be deceived into thinking a brand is credible and use their feelings as the initial measurement, which is subsequently followed by disappointment after finding out the differences between the stated and actual product sustainability in the circumstances promoting greenwashing. Such mistrust undermining can decrease the post-purchase satisfaction, brand loyalty, and raise the risk of recurrence purchase and proves that an important gap in the literature exists concerning the understanding of the long-term behavioral effects (Han, 2021; Hanaysha, 2018).

Besides, the literature available mainly deals with the overall consumer behavior without paying attention to sector-specific relationship, e.g., grocery or e-commerce sector, where environmental claims gain substantial power. There is a lack of research on what happens at the intersection of ethical branding and purchase decision-making, in the context of transparency, authenticity, and accountability in building trust and loyalty in the consumerism context of green. Thus, this paper aims to fill this gap by considering the impacts of the misleading green assertions on the long-term consumer confidence and purchasing pattern in UK e-commerce industry. This study seeks to contribute action research in that it would combine psychological, emotional, and ethical levels of insight into the role of ethical branding in informing and responsible consumer decision-making.

2.2.1 Factors affecting greenwashing and customer purchase decision

Transparency

There has been an increasing body of literature that suggests that transparency in corporate environmental communication is the key factor in consumer perception of greenwashing and their final purchasing choices. According to the article by Bhagat (2024) on transparent communication in sustainability, it is important to note that sincere, comprehensive reporting of the achievements and drawbacks of environmental programs will help companies increase their level of trust and decrease the distrust of sustainability statements. Bhagat discovers that transparent reporting, particularly with third-party certification and measurement of particular metrics, may greatly enhance consumer trust and, as such, reduce the adverse effects that are typically linked to greenwashing. The research adds to the existing body of literature on greenwashing since it introduces transparency as a quality to be desired, and as a functional communications tool through which an organization gains an edge over its competitors in making claims of sustainability.

The major strength of the work by Bhagat is that it pays attention to the disclosure practices on the organisational level and provides a practical understanding of how firms can enhance their credibility by means of communication design. Nonetheless, its main weakness lies in the field of methodology: the study is mostly qualitative and interpretive, without quantitative evidence to show the direct relationship between transparency and quantifiable consumer purchasing behaviour. In the absence of consumer level information, the effect of transparency on real buyer decisions in various market settings is not known. This disconnect is especially strong considering that the process of purchasing is often an underground, quick and heuristic one where consumers use brief signals as opposed to concise reports.

The article by Szabo and Webster (2020) in the *Journal of Business Ethics* offers such empirical basis by studying the perceived greenwashing and its overall impact on the environmental and product perception. Their multidimensional methodology (interviews and experiments with the interaction of consumers on a company site) shows that, in addition to distorting the environmental and product ratings, perceived greenwashing influences the emotional involvement and the aims to relate to the behavior. Although it is not stated that the given study isolates transparency as a discrete variable, its results suggest that the perception of greenwashing is enhanced by the absence of clarity and meaningful information, which in turn results in negative attitudes and low purchase intention.

One of the greatest strengths of the research conducted by Szabo and Webster is the application of the experimental and neurophysiological methods, which provide subtle information about how consumers respond to the environmental claims in real time. Qualitative and quantitative methodology enhance the internal and ecological validity, which yields a strong argument of the psychological processes involved in the interrelation between perceived deception and consumer response. But, one of its weaknesses is also that it is contextually limited: the research is based on interactions with websites and online interfaces, which are not exactly applicable to the traditional point-of-sale setting such as grocery shops where labels and packaging clues dominate the decision making process.

These studies put into perspective the importance of transparency as a moderating factor to the effect of greenwashing on consumer behaviour. The focus of Bhagat (2024) is on the organisational communication strategy, and the article by Szabo and Webster (2020) offers empirical data, which is that perceived ambiguity and insufficient information lead to negative purchase consequences. However, they both have significant gaps: the study by Bhagat (2024) does not provide direct consumer behavioural information and the context provided by Szabo and Webster (2020) is unlikely to be applicable to all retail environments. The gaps covered by the present study include an empirical study by analyzing the impact of transparency and message clarity on purchasing decisions in UK grocery retail market where green assertions are regularly met at the point of sale and where consumer credibility acts as a key driver to the sustainable development of the market.

Accountability

Responsibility has also been realised as a fundamental factor that defines the effect of greenwashing in consumer behaviour. Greenwashing, which refers to the activities by corporations that overstate or misrepresent their ecological status, may corrupt the actual buying process and destroy consumer confidence, when the accountability framework constitutes the failure to rebuke the corporations when they engage in deceitful advertising. Both Pizzetti et al. (2021) and Paudel (2024) highlight the role of accountability in the perception of the consumer towards the use of misleading green assertions, but focus on different aspects and methodology.

Although the primary research of the study conducted by Pizzetti, Gatti and Seele (2021) is the impact of greenwashing on the intentions of stakeholders to invest, it is an essential source of accountability information, which applies to the dynamics between consumers. Their study classifies the types of greenwashing deception, i.e.: falsification and manipulative disclosure and demonstrates that direct deceit significantly lowers the willingness of stakeholders to support a company, i. e.: accountability failures are undermining the willingness and readiness to deal with organisations that are seen as lack of credibility and verifiability in the disclosed information. These results imply a similar effect on consumer buying behaviors: consumers will likely withdraw support when environmental claims are not accountable with accountability checks of the claims made, transparency, and ethical reporting; their level of purchase intention and brand loyalty will decrease. Nevertheless, one of the fundamental disadvantages of the article written by Pizzetti et al. is that it concentrates on investment decisions, but not on the consumer buy behaviour, which restricts direct statistical results on the particular role of purchasing intentions and accountability in consumer markets. However, the research underscores the fact that accountability moderates the psychological contract between organisations and stakeholders, which also spreads to the consumer decision making and trust.

Conversely, Paudel (2024) focuses on the impact of greenwashing and sustainability awareness on consumer trust and purchase behavior in the fashion sector by using qualitative data on the perspectives of 16 consumers in two generations in Finland in the form of interviews. The results presented by Paudel show that customers do not believe sustainability statements without effective accountability processes; participants highlighted that companies should enhance corporate accountability as evidenced by open-sustainability campaigns, certifications, and ethical promises, which consequently determine their willingness to buy sustainable products. Responsibility in this case comes out as a significant element of the consumer perceptions, whereby when brands are unable to prove their sustainability, they are displayed as misleading, reducing the level of trust and purchase intentions. The study by Paudel is therefore a direct connection between accountability and purchase decisions albeit its qualitative research design and limited sample size open up generalisation and also disallow statistical quantification of effect sizes (correlation coefficients or regression parameters) to the extent that the study is qualitative in nature. Nevertheless, the advantage of the study is its richness in context and consumer centric approach

as it provides comprehensive information on the impact of accountability perceptions on purchase behaviour among generational cohorts.

These studies highlight accountability as a core point in addressing the adverse impacts of greenwashing on consumer behaviour. Pizzetti et al. (2021) flashbacks on how failure in accountability leads to lack of trust in a larger economic setting among the stakeholders whereas Paudel (2024) demonstrates the effects of accountability perceptions on the daily consumer behaviour. Both point at the lack of accountability, either in the form of an unprovable assertion or the inability to provide transparent reports as a cultivator of trust and decrease the desire to work with or buy a brand. The main gap in the literature is that no quantitative study has directly investigated the linkage between accountability and purchase intention, preferably using large samples and statistical modelling to determine the sizes of effects and causality. By bridging this gap through sector based empirical research, knowledge on the manner in which accountability can be operationalised to safeguard consumers and advance actual sustainability will be enhanced.

Report contents

Quality of content of sustainability reporting and advertising assertions is one of the main factors that contribute to the effect of greenwashing on customer purchase decisions. The content of the report will define the perception of the consumers on credibility, risk, and authenticity and this will impact their attitudes and intentions about environmentally marketed products.

By enforcing the Affect-Reason-Involvement (ARI) model, Schmuck, Matthes and Naderer (2018) examine the effect of greenwashing claims in environmental marketing on consumer attitude. They aim to differentiate between vague and false claims in advertisement contents and consider the impacts of these varying report styles on consumer perceptions and attitudes to advertisements and brands. In their experimental research on two samples (United States, $N=486$; Germany, $N=300$) false greenwashing claims were always viewed as deceptive and elicited negative attitudes towards the ads and brands, and vague claims did not significantly increase perceived greenwashing. The research demonstrates that environmental claim reporting (i.e., the clarity of the content and the environmental claim being true) has an influence on consumer cognition and affective reaction on green advertising that may indirectly impact purchase decision due to

changed brand reviews. Notably, an affective process can be triggered when nature-evocative imagery is presented with deceptive text claims which could alleviate negative consequences of deceit and, consequently, influence the outcome of a purchase decision.

The strong feature of the article by Schmuck et al. (2018) is its strict experimental design, where the authors applied the ARI model to decompose the effects of various types of greenwashing content on consumer perception to give a detailed insight into the content of the report that leads to attitudes. It further puts out the point that not every poor reporting content is as bad as false claims because they destroy trust, whereas vague claims might not elicit immediate greenwashing perceptions among the consumers. The main weakness, however, is that the research focuses on the attitudinal and brand evaluation results, and does not focus on real purchase behaviour. Although the attitudes to ads and brands are good predictors of purchase intention, the study does not directly quantify consumer purchase behaviour and purchase behaviour data in actual market situations and this limits the electric applicability of the study to purchase behaviour.

Conversely, Lu et al. (2022) investigate the effects of greenwashing perception, which depends on the contents of the reports and the clarity of its communication on the green purchase intention among young fast fashion users. Their research supports the use of perceived greenwashing as an important explanatory variable in purchase intentions by combining Perceived Risk Theory: ambiguous or deceptive sustainability communication raises perceived risk, which again decreases green purchase intention. Applying a huge quantitative sample (433) The study finds that the perception of greenwashing would have a direct negative influence on the green purchase intention, and that the effect is mediated by financial and environmental risk perceptions (n=433) and Partial Least Squares Structural Equation Modeling (PLS-SEM). This highlights the negative influence of ill-developed report content and false sustainability arguments on the perceived risk leading to avoidance of sustainable purchases.

The study of Lu et al. (2022) is robust because it applies the quantitative methodology that provides statistical data (e.g., PLS-SEM relationships) that connects content quality and greenwashing perception with the actual purchase intention. Its contextual weakness is however in the fact that it focuses on the fashion industry which may not be similar to the habitual buying of groceries settings. This poses the question of whether this could be generalised in other retail industries

where sustainability cues tend to be less noticeable and tend to be present within the product labels in place of larger advertising materials.

Taking these studies together, it can be clearly seen that factors of reports like clarity, accuracy, and comprehensiveness have a great influence on consumer perception and purchase intent. Transparency and trustworthiness in sustainability reporting lead to a reduction in perceived greenwashing and risk and hence an increase in the intention to buy, while the opposite holds for misleading or ambiguous content. Nevertheless, there is still a need for cross-sector empirical research to determine which specific features of report content have a direct influence on measured purchase behavior, in order to apply effective marketing and regulatory practices.

Measured standards

Corporate sustainability accountability is an important factor that would influence purchase decision-making by consumers in the case of greenwashing. Akturan (2018) is an important empirical study that is based on how the greenwashing influences the green brand equity and purchase intention, as the author highlights that the concept of corporate accountability as perceived by the rightful green claims influences the consumer behavior. In particular, Akturan examined the relationships between the variables in greenwashing, brand credibility, green brand associations, green brand equity and purchase intention by analysing 500 consumers data concerning the relationships using structural equation modelling (SEM). Findings revealed that greenwashing has a negative effect on the associations of green brands and brand credibility which further increase the green brand equity and purchase intention among the consumers respectively. Stated otherwise, consumers are less likely to trust the brand when the company is not responsible in sending sustainability messages, which negatively affects the creation of a fair brand value and thus reduces the chances of making purchases. The abstract of the study did not indicate precise statistic data in the form of correlation coefficients, but the results of the study supported the significance and the pathways of the explanation using the analysis of SEM.

This paper establishes accountability as a mediating variable in the way a consumer would perceive the green promises of a brand and whether they make purchase decisions or not. Its strength is that there were a large sample size and that it utilizes SEM that enabled it to empirically model complex

relationships and mediating effects instead of independent bivariate correlations. In addition, Akturan draws a comprehensive account of the accountability purchase relationship by adding the elements of brand equity (e.g., credibility and associations). Nonetheless, one of its weaknesses is that its contextual diversity is very limited, as the article examined two brands in a certain regional or product situation, which can hardly be used to generalize across nations or industries like grocery retail. Also, it demonstrates only indirect impacts of greenwashing on the purchase intention but does not stand accountability as an independent variable with clear statistical correlations.

Cheng-Ze Hung and Tai-Wei Chang (2023) contribute to the discussion by researching the relationship between the corporate greenwash behavior and the green purchase behavior by mediating the constructs in particular the green trust and green attitudes on a sample of 390 consumers in Taiwan. In their analysis, the independent variable is referred to as the greenwash behavior whereas the dependent variable is the green purchase behavior and the mediators of this relationship are the green trust and the environmental attitude. Their findings indicate that a green trust moderates the effects of greenwash on environmental attitude and environmental attitude influences green purchase behavior. This implies that trust is influenced by perceived accountability (or non accountability) which in turn influences attitude and finally purchase behavior. In addition, the study suggests that information asymmetry acts as a moderator for these correlations, thus weakening the negative connection between greenwashing and trust and at the same time strengthening the connection between consumer attitudes and behavior which indicates that accountability is not simply a matter of consumer information context.

Hung and Chang are strong in their study because they concentrate on mediating the psychological constructs and that information asymmetry is subtle as the moderating aspect of consumer decision making, which is realistic in consumer decision making situations. It has also a strong sample and it utilizes hierarchical logic of modeling complex interrelations. But one of them is the contextual specificity (Taiwan) and absence of particular correlation coefficients between variables in the public abstract which restrict a more generalized quantitative extrapolation. Besides, it is not directly concerned with accountability measures, but rather accountability is incorporated in the perception of greenwash conduct and trust.

The two papers reemphasize that accountability either in the form of correct and believable green assertions or mitigating greenwash practices is a key factor in influencing consumers to buy products, which work through such mechanisms as brand trust and credibility. Nevertheless, there is still a gap in terms of uniformity in accountability practices and data on purchases, particularly in the grocery retail environment.

2.2.2 Marketing and customer purchasing decision

Marketing messages are at the center of influencing the decision of customers to buy, especially by evoking emotions, brand loyalty, and perceived value. According to Sinaga (2023), the digital interaction and visual persuasion are considered to be very efficient instruments in controlling the consumer behavior as the authors underline that the emotional and aesthetic aspects of advertising can directly influence purchasing choices. Likewise, Septiani (2025) points out the roles of credibility of the message and authenticity of the sustainability statements in influencing consumer reactions. The two studies are in agreement that brand communication results in brand loyalty and a stronger trust, which identifies the psychological processes by which marketing defines perception and the purchase behavior.

Nonetheless, these researches have shortcomings. Sinaga (2023) and Septiani (2025) also fail to empirically test the long-term effect of a misled or exaggerated green claim on various groups of consumers. Although their results are likely to indicate the short-term effect of engagement and loyalty, the long-term implication of greenwashing on trust erosion and purchase intention is poorly understood. This loophole is especially applicable to industries such as the UK grocery business where exaggerated sustainability marketing might deceive customers and decrease long term trustworthiness. In response to this gap, the study at hand focuses on the influence of exaggerated green marketing on future trust and final decision-making by offering evidence-based solutions to what can be regarded as credible and efficient sustainability communication.

Accountability and transparency are essential aspects in the reduction of the adverse impact of greenwashing. According to Silva (2025), transparent reporting and verified environmental performance increases consumer confidence during the process of making a purchase decision. Alyahia (2024) and Netto (2020) support the idea of measurable and ethically based environmental standards as the means of avoiding false sustainability assurances, whereas Laufer (2013) objects

to the non-existence of universal metrics, which, in turn, brings anomalies in corporate sustainability practices. Lubloy (2024) and Silva (2025) also suggest that transparent and clear communication fosters consumer confidence, yet the actual effects it has on the actual purchase behavior are not empirically supported.

Susceptibility to greenwashing is mediated also by psychological and cognitive factors. Sun (2022) points out that consumers of low levels of environmental literacy are more susceptible to deceptive marketing, and Andr (2024) adds that emotional reactions may prevail over critical thinking and make consumers more vulnerable. Both articles indicate the need to address demographic and cultural characteristics to be able to comprehend consumer susceptibility to greenwashing, including age, education, and values. Dawson (2024) stresses that specific educational and regulatory measures are necessary in order to safeguard consumers and enhance informed choice.

Overall, the studies reviewed above suggest that marketing performance in the formation of purchase decisions is dependent on the integration of emotional appeal, building trust, credible messages, transparency, and accountability. Although the literature identifies the principles upon which it is based, there are still gaps in empirically validating any of the long-term effects especially in the grocery industry where green claims have been eminent. The current study can fill this gap by investigating the relationship between transparent sustainability communications, psychological vulnerability, and the purchased behavior in the UK grocery sector.

2.3 A brief outline of the grocery retail sector

Over the last couple of years, the grocery retail market has been experiencing massive change because of the digital innovation and the increasing sustainability demands. Rivera (2021) points out that digital transformation is transforming operational efficiency in grocery retail and states that logistical digitalization, which includes automated inventory, online ordering platforms, and tracking, is more efficient in improving productivity with the potential to enhance sustainability performance. Retailers can also use digital tools to communicate sustainability activities more effectively to consumers, which in turn will impact perceptions and buying behavior and streamline operations.

Winkler (2023) emphasized on the flipside, the necessity of supply chains that are eco-friendly and thus, the generation of consumer loyalty as a central point. The grocery sellers can take significantly improve their brand's honesty and win the green customers by taking up

environmental responsibility throughout the supply chain that consists of sourcing, manufacturing, and distribution. Winkler states that sustainable sourcing, energy-efficient logistics, and waste reduction initiatives have a direct impact on consumer trust which is becoming more and more connected to loyalty and repeat purchase behavior. This approach emphasizes the moral aspect of grocery retailing business, and it is significant that consumers are not simply guided by product quality or price, but they are also guided by environmental behavior of companies where they are buying products.

Although both Rivera (2021) and Winkler (2023) present useful information, one of the weaknesses is the absence of a combination of digitalization and sustainability policies. Rivera puts attention on operational efficiency and technological adoption, and Winkler pays attention to environmental responsibility and supply chain ethics. Both research papers are not holistic in the analysis of how digital tools may support sustainable practices and consumer engagement that are mutually beneficial. This loophole is especially pertinent in the UK grocery industry where consumers are becoming more and more efficient and ethically responsible. The connection between technology and sustainability is something that must be understood in order to create marketing strategies that will convey the sense of credibility and build trust.

The latest research has shown that the usage of digital communication along with sustainability transparency can help shape consumer perception and purchase intention much more effectively. It is through the digital platforms that retailers can prove sustainability indicators, offer product traceability, and highlight the eco-friendly activities, which not only minimize the risk of greenwashing but also increase the consumer trust (Rivera, 2021; Winkler, 2023). In addition, it is proposed to incorporate the use of real-time feedback systems enabling consumers to engage with sustainability information in order to increase the level of engagement and loyalty.

The grocery retail industry is changing under the two simultaneous influences of digital transformation and sustainability. The works by Rivera (2021) and Winkler (2023) offer valuable backgrounds as they show the individual effects of digitalization and ethical supply chains on the trust and loyalty of consumers. There is however critical gap in the knowledge of how such factors interlock to form consumer perception and behavior. The integration is a subject to be addressed that will give viable insights into the retailers wishing to streamline the eco-conscious branding

with digital interactions to achieve better trust, loyalty, and sustainable consumption patterns in the grocery sector.

2.3.1 Level of awareness within the grocery retail sector customers in regard to greenwashing practices

Consumer sensitivity of greenwashing in grocery retail industry has become an important determinant of sustainable purchasing behaviour. According to Schafeld (2017), the level of awareness in the grocery retail customers is disjointed and uneven, with a significant portion of consumers showing little skills in assessing the green claims critically. According to the study, consumers are being exposed to marketing messages that highlight the importance of environmental responsibility, but they have a low level of comprehension of what is authentic and false claims. This disjointed knowledge leads to the susceptibility of the consumer to greenwashing processes, whereby firms overstate or distort sustainability initiatives to sway the consumer to purchase their goods.

On the same note, Tikkha (2024) examines the awareness of the eco-conscious shoppers, as it has been highlighted that marketing cues influence perceptions of sustainability. Although both studies conclude that the corporate communication strategies have an effect on consumer perception, they differ in their evaluation of whether deceptive practices can be detected. Schafeld emphasizes that a large part of consumers do not possess the criticality needed to analyze environmental claims, but Tikkha draws the line between those consumers who are skeptical by their nature and those who might be able to identify greenwashing with the correct guidance. This difference highlights the diversity of consumer groups and indicates that not all people are similarly aware of the initiative without noting their differences in demographics, culture, or education.

The advantages of these studies are that they have identified psychological and informational gaps that determine consumer knowledge. Both Schafeld (2017) and Tikkha (2024) establish the experience of fragmented awareness and the influence of marketing cues, which is why both researchers can help to understand how misinformation and superficial sustainability messages may influence decision-making. The insights would be of use to marketers, policymakers, and educators who want to develop interventions that can increase the consumer literacy on sustainability.

Nevertheless, there are major shortcomings. Schafeld (2017) and Tikkha (2024) do not focus on practical assessment to raise awareness among the consumers. In particular, little emphasis is given to intervening, including education campaigns, digital tools, or labeling standards, to make people critical about green claims. Also, the two studies fail to give a detailed statistical comparison of the awareness levels and the actual purchasing behaviour, making it impossible to extrapolate or measure the extent to which consumer vulnerability to greenwashing has an effect.

In a bid to fill these gaps, the next research study should consider the actionable strategies with the aim of empowering the consumers. Indicatively, programs like standardized eco-labeling, sustainability reporting disclosure, and specific educational programs would help improve the capacity of buyers to distinguish between authentic and deceitful assertions. Besides, a more detailed study of awareness variation and susceptibility would be possible through investigating the demographic and psychographic factors. Increasing awareness will not only help to protect the consumer but will also encourage retailers to pursue true sustainability methods, which will generate a positive feedback loop in ethical consumption.

The effect of greenwashing on buying behavior in the grocery retailing industry is greatly mediated by fragmented consumer awareness. Schafeld (2017) and Tikkha (2024) offer the background information about the informational and psychological gap, but fail to present empirical and practical solutions. The interventions that need improvement in future research are those that would lead to consumer critical assessment and transparency, which will eventually bring trust, informed decision-making, and sustainable consumption in a real sense.

2.3.2 Marketing strategies impact on customer perception about sustainability in grocery retail sector

The marketing strategies are very important in determining the perception of sustainability to the consumer in the grocery retail industry. As Reddy (2023) points out, strategic sustainability marketing encourages emotional involvement and consumer trust due to its ability to deliver clear messages. Retailers can increase the perceived credibility of their sustainability allegations by being honest and clear in their communication, which will positively affect purchase intentions. Camilleri (2023) adds to this point of view and emphasizes that sustainability initiatives need to be done in tandem with true value propositions, so that marketing communication would correspond to the actual practices within organizations, and not just to promotional discourse. Both

researches highlight the effectiveness of digital resources in sharing sustainability, and reaching the consumers, but, nonetheless, they differ in their verdicts about how it influences consumer loyalty in the long-run. Emotional commitment via regular and open communication, as proposed by Reddy (2023), is associated with creating loyalty, but Camilleri (2023) emphasizes the fact that perceived authenticity may decrease over the years unless alignment with corporate practices is verified, which cannot be done indefinitely.

These studies have strong points in that they fully examine the issues of transparency and emotional involvement as forces of consumer perception. The articles by Reddy (2023) and Camilleri (2023) present an informative perspective on the tools that sustainability marketing can use to build the trust of the consumers in the products, demonstrating the role of clear and credible communication that can reduce skepticism. The findings are consistent with other studies that have found greenwashing awareness among consumers with regard to the grocery industry is partly subjective to marketing communication signals and partial in terms of critical assessment abilities (Schafeld, 2017; Tikkha, 2024). The studies provide a viable way through which the retailers can reduce the adverse impacts of greenwashing by linking marketing initiatives with consumer trust and perception.

Nevertheless, the study has its major limitations as well. Both Reddy (2023) and Camilleri (2023) were much less concerned with the cultural and regional differences in the consumer reactions to sustainability messaging, which constrained the ability to generalize their results to the various demographic settings. Additionally, although the studies highlight the significance of digital engagement, they fail to empirically measure its impact on the actual purchasing behavior, a gap exists between the perception and the behavior. As Schafeld (2017) and Tikkha (2024) also suggest, awareness is not the same as informed purchasing decisions, so the marketing strategies should be supported by consumer education to be maximally effective.

A specific gap in research is revealed in this literature: the necessity to comprehend the influence of demographic and regional factors on the relationship between the sustainability marketing and the perception of the consumers in the grocery retail industry. This gap is necessary to formulate specific, genuine campaigns that can be appealing to a wide range of consumers. With the combination of clear communication and personalized digital practices and culture-aware content, retailers will be able to build credibility, minimize vulnerability to greenwashing, and promote

responsible consumer behavior. These evidence-based practices can provide practical information to marketers and policymakers who want to promote ethical consumption and enhance consumer loyalty in the long term.

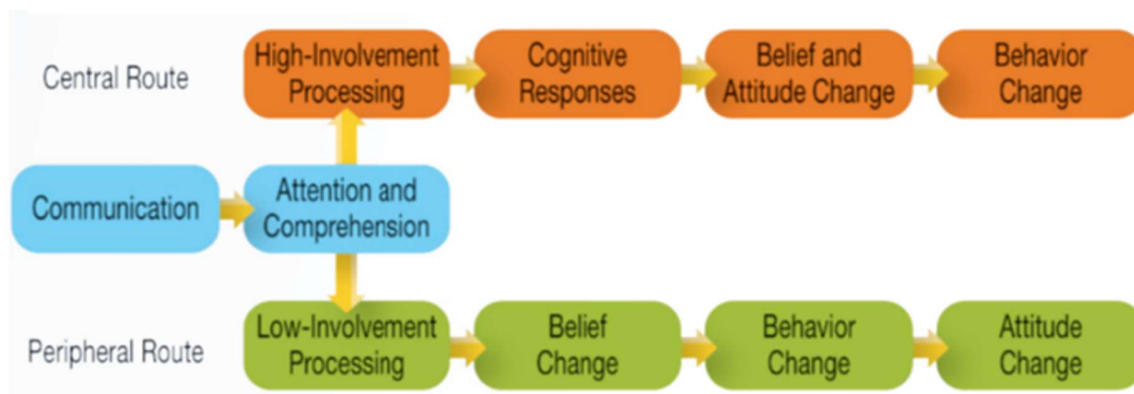
2.4 Theories and models

ELM and TPB are for core behavior, AIDA and Signaling theory for marketing communication and Stakeholder theory and Consumer trust theory for structural and trust based of consumers.

2.4.1 Elaborating Likelihood Model (ELM)

The Elaboration Likelihood Model (ELM) is a theoretical framework, which came into existence during the 1980s as a dual-process model to explain the way individuals clarify persuasive communications and the consequent changes in their attitudes (Petty & Cacioppo, 1986; Nickerson, 2023). This model was conceived in response to the necessity of investigating the variability of the success of persuasive communication using the cognitive psychology and social influence studies. ELM suggests that the degree to which a message is critically and meaningfully elaborated dictates the degree of strength, permanence and persistence of the attitudes that result. The model was developed and over time, other scholars such as Petty (2016) developed the model to include motivational and cognitive issues that affect the processing of the message, hence it became relevant to consumer behavior, marketing and media influence.

Figure 2.1 Elaborating Likelihood Model



Source: (Nickerson, 2023)

ELM involves two central and peripheral cognitive processing routes, i.e. the central and peripheral route (Fitri, 2022). The direct path is the critical thinking about message contents where

people take the time to evaluate the quality, logic and relevance of the information given. The change of attitude through central route is usually long-lasting, difficult to counter reason and predictive of behavioral occurrence (Petty, 2016). On the contrary, the peripheral route depends on the superficial cues, like celebrity recommendation, packaging, brand recognition, or social evidence. The changes that occur through the peripheral route are usually of a temporary nature, are not heavily counterargued, and are more influenced by the situation (Nickerson, 2023).

There are a number of strengths of the model in consumer decision making especially in the context of green marketing and sustainability (Petty, 2016). It describes how motivation and involvement differences influence consumers being critical processors of green claims, which is important in the context of considering the possibly misleading messages in greenwashing. Marketers and policymakers can use the identification of consumer involvement through the central or peripheral route to suit communication strategies to improve the level of understanding, confidence and sound decision making. The usage of ELM also enables the forecasting of the timing where persons persuasive messages will have long-term effects as opposed to times where they will have short-term impact, which can be important in teaching people about the negative effects of deceptive environmental marketing (Fitri, 2022).

Nevertheless, ELM has shortcomings as well. Its dichotomous assumption of central and peripheral processing can be overly simplistic in the sense of the consumer behavior in the real world, where hybrid processing is widespread (Petty, 2016). Consumers can think about both content and external cues of the message at a time, and it is difficult to establish the prevailing path. Also, the empirical measurement of motivation and ability to process messages can be complicated, especially when dealing with heterogeneous groups in terms of demographics (Fitri, 2022).

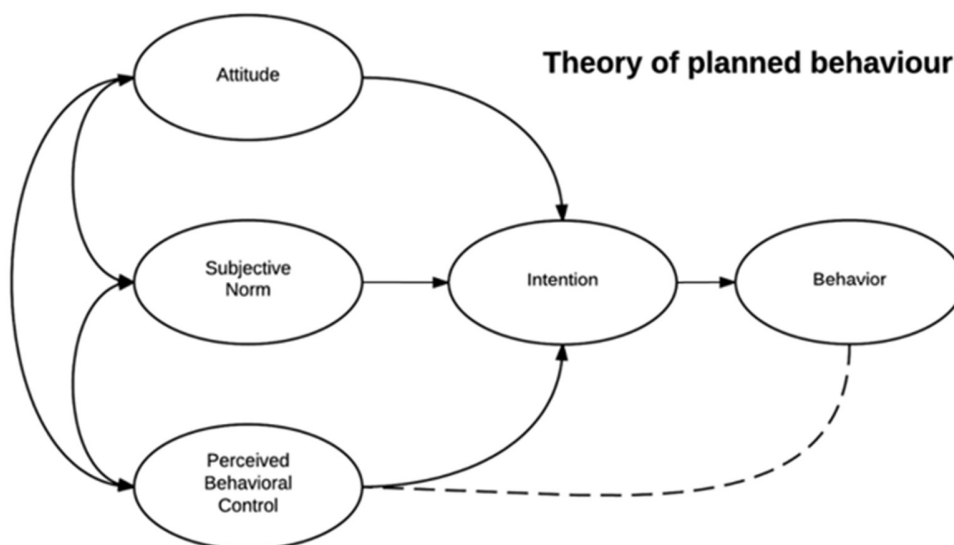
ELM is used in the framework of the UK grocery industry to comprehend the way, in which various consumer groups perceive sustainability claims and how to commit greenwashing (Nickerson, 2023). The central-route processing can be found between highly engaged, eco-aware consumers that scrutinize the product packaging and corporate environmental reports, whereas the peripheral-based processing can prevail among the less interested consumers that are influenced by packaging or celebrities. Through the analysis of these pathways, this study bridges the major

gap in the literature on green marketing and offers practical implications on how to create an effective communication strategy to minimize its vulnerability to deceptive statements.

2.4.2 Theory of Planned Behavior (TPB)

One of the most frequently used social-psychological models, The Theory of Planned Behavior (TPB) by Ajzen (1991) is a concept that is used to explain how human behavior is guided by behavioral intentions, which are guided by attitudes, subjective norms, and perceived behavioral control. The theory was developed as the extension of the Theory of Reasoned Action which was mainly concerned with attitudes and social norms but failed to explain the behaviors in the conditions when people feel to be constrained or facilitated (Ryan, 2023). TPB included perceived behavioral control to reflect the power of a person in believing that they can do a behavior as it is known that intentions do not necessarily lead to actions (Chandra, 2018). The development of such a theory enabled scientists to make better predictions of intricate behaviors, such as consumer preferences that are of environmental interest.

Figure 2.2 Theory of Planned Behavior



Source: (Ryan, 2023)

The TPB suggests the behavioral intentions are affected by three principal dimensions (Chandra, 2018).. To begin with, attitude towards the behavior is the positive or negative judgement of the

individual to undertake a particular behavior i.e. buying environmentally friendly products (Ryan, 2023). Second, subjective norms are perceived social pressure exerted by peers, family or society to use the behavior. Third, perceived behavioral control refers to easy or difficult of performing the behavior, which is the combination of internal and external limitations (Ryan, 2023). All these dimensions in totality affect the behavioral intention which is believed to be the closest predictor of actual behavior.

Ryan (2023) reiterates the predictive ability of TPB in consumer decision-making, which is that it is able to successfully connect both cognitive evaluations and social pressures to purchase intentions. Within the framework of green consumerism, TPB is utilized to offer a systematic approach to the comprehension of how the attitudes towards sustainability, perceptions of social expectations, and perceived capability to choose the credible items affect the decisions of consumers in their purchases. Sansom (2021), however, criticizes TPB because it does not consider emotional and unconscious motives that usually drive consumer behavior especially in situations of deceptive marketing like greenwashing. This drawback indicates that, though TPB explains the formation of rational intentions, it might fail to explain impulsive or emotionally motivated decisions that are resulted due to falling prey to false claims of sustainability.

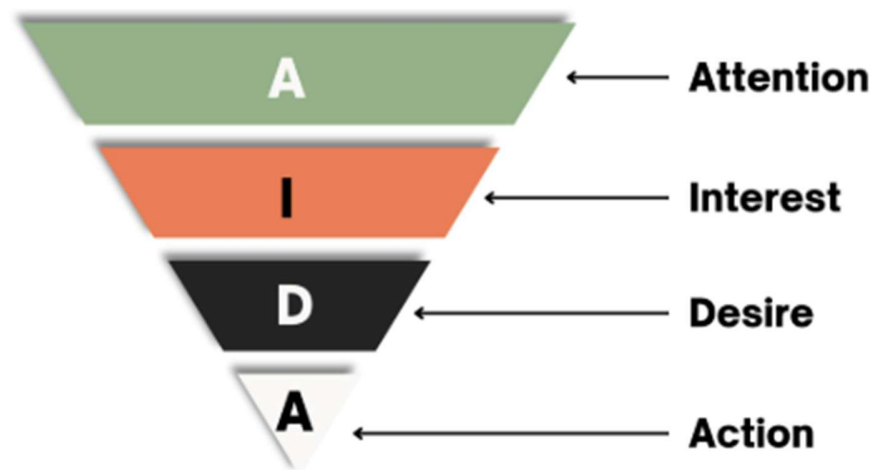
TPB is strong in the fact that it is flexible and empirically robust, therefore, the attitudes, norms and control beliefs can be measured quantitatively to predict intentions (Chandra, 2018). Its predictive potential renders it especially appropriate to study the consumer vulnerability to greenwashing, whereas the researchers can determine the underlying factors that have the strongest impact on green purchase intentions. But this is restricted by its applied assumptions in rational decision making which limits its explanatory power in situations where perceptions are distorted by deception or emotional appeal.

On the UK grocery industry, TPB is used to explain why consumers can be deceived by the misleading green claims regardless of their knowledge on the environment. This study reveals the knowledge about building more transparent marketing and consumer education campaigns by evaluating the interaction of sustainability attitudes, social norms, and perceived control under the conditions of greenwashing. This application shows the importance of TPB as it helps to bridge the gap between theory and practical intervention in order to boost informed consumer decisions that are sustainable.

2.4.3 AIDA Model

The AIDA model is an old marketing model, as it started being used in the early 20th century, when the marketing researchers attempted to trace the consumer decision-making process (Tristante, 2021). The model was structured in a stepwise manner in order to offer a systematic approach, which illustrated how the marketers could take the consumers through the first phase of awareness about a product to the final stage of purchasing the product. Each step has a specific aim: Attention is the initial step that notifies a consumer with the help of visual, auditory, or emotional stimuli; Interest is the next step that keeps the consumer engaged with the appeal to stimulating and valuable information (Tristante, 2021). Desire is the next step that makes a customer prefer or have a feeling to the product; and Action is the final step that transforms the engagement into the real purchasing activity. Linear and understandable, the model is one of the practical in designing advertising campaigns and determining their efficiency at each point of the consumer journey (Tristante, 2021)

Figure 2.3 AIDA Model



Source: (Tristante, 2021)

According to Tristante (2021), the model is useful in organizing communication strategies, as it allows an advertiser to do so in a systematic way, tackling every step of engagement and tracking the process of moving the awareness to action. The step by step method works especially when it comes to green marketing because transfer of sustainable practices and environmental friendliness

needs effective and straightforward communication (Tristante, 2021) Through AIDA, marketers are able to make sure that the consumer does not just see sustainability claims but perceives them, appreciates them and finally takes action accordingly (Tristante, 2021)

The AIDA model has however identified limitations. Lee (2022) also criticizes its linearity, claiming that the behaviour of modern consumer is increasingly non-linear and interactive, especially in digital and social media where consumers can bypass steps, re-read information or have a two-way communication with the brand. Also, the model does not pay much attention to emotional reactions, e.g., distrust towards green statements or the effect of greenwashing, which may cause misunderstanding of the attention and desire phases, and loss of consumer confidence. The framework also presupposes rational choice that might not adequately describe the affects and social forces that drive the eco-friendly purchasing behaviors (Tristante, 2021) These limitations notwithstanding, the AIDA model can still be used in the study of how misleading sustainability claims impact the consumer behavior.

When applied to the UK grocery sector, the model will enable the researcher to chart the impacts of greenwashing in each of the engagement stages, i.e., whether consumers initially see the eco-labels (Attention), get interested in the sustainable products (Interest), develop a preference toward the claimed green products (Desire), and, lastly, make a choice to buy (Action). This application gives an orderly prism to evaluate the effectiveness of green marketing communications and the behavioral disturbances triggered by the false claims. Moreover, it is advisable to combine the knowledge on AIDA with modern critiques in order to adapt the model to include emotional, cognitive, and ethical aspects of the consumer behavior model of sustainability-based research.

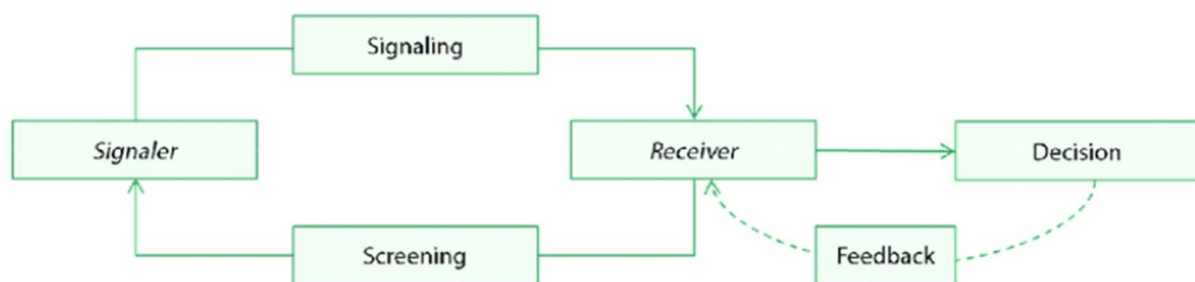
2.4.4 Signaling Theory

The Signaling Theory, which was first developed in literature on economics and management by Spence (1973), examines how communication of information is achieved between parties in a situation where asymmetry of information exists (Connelly, 2025). It was created to describe the possible effects of judgment by the informed when the person or organization is able to express the hidden assets in a credible manner to the less-informed in a way that increases uncertainty and eases decision-making. This foundation is further developed by Connelly (2025) who explains that this theory is widely applicable in the field of management, marketing and sustainability research especially in cases where stakeholders have a hard time determining corporate claims. Bafera

(2022) continues to emphasize the importance of signaling in organizational behavior based on how companies strategically deliver cues regarding quality, ethical actions, and performance to shape how stakeholders think and make decisions.

Basically, the core of Signaling Theory revolves around the fact that senders (like companies) emit crucial signals while recipients (like buyers) interpret these signals and decide rationally based on their perception. Eco-labels, transparency reports, sustainability certifications, or disclosures regarding corporate social responsibility are all examples of signals used in marketing and sustainable marketing in particular (Kuhn, 2014). The theory separates the signal quality, the inherent credibility and reliability of the information, and signal cost which is the resources needed to create and sustain the signal (Connelly, 2025). Consumers tend to believe high-quality and expensive signals and might doubt and misunderstand low-cost signals or those that are ambiguous.

Figure 2.4 Signaling Theory



Source: (Connelly, 2025)

Dimensions of Signaling Theory are credibility, observability and clarity of the signal. Credibility is used to indicate the perceived authenticity of information being conveyed, observability is concerned with the ease with which the signal may be evaluated by the receiver and clarity deals with the ease with which the message may be interpreted (Bafera, 2022). These are the crucial aspects in green marketing because companies can be accused of greenwashing in the event that signals are not in accordance with the real environmental practices (Kuhn, 2014).

Theoretically, Signaling Theory has adopted the consumer behavior model under conditions of doubt and unevenness in information (Kuhn, 2014). It allows one to examine the different

scenarios of consumers being attracted to companies because of the trust built through the use of clear, authenticated, and high-class signals, hence, willingness to buy increased, and also, non-vulnerability to misleading claims of sustainability proved wrong (Connelly, 2025).

In addition, it can be easily combined with models which examine psychological and behavioral reactions to marketing messages and provides a multidimensional approach to decision-making. Nevertheless, the theory is limited as well. The misinterpretation of signals can occur because of the lack of knowledge of the consumer, cultural elements, or cognitive biases, and expensive signal costs can discourage firms to adopt plausible sustainability projects (Kuhn, 2014). Moreover, the empirical operationalization of the quality of signals and perception is, in many cases, based on subjective indices, which restricts the validity of cross-contexts (Bafera, 2022).

Signaling Theory is used in the framework of the UK grocery industry to examine the role of measured standards, sustainability disclosures, and corporate accountability as signals in shaping consumer perception and trust and purchase behaviors. This study has provided a much-needed gap in the literature due to its examination of how greenwashing compromises the credibility of these cues in understanding how transparent and accountable communication can be instrumental in influencing environmentally responsible consumption.

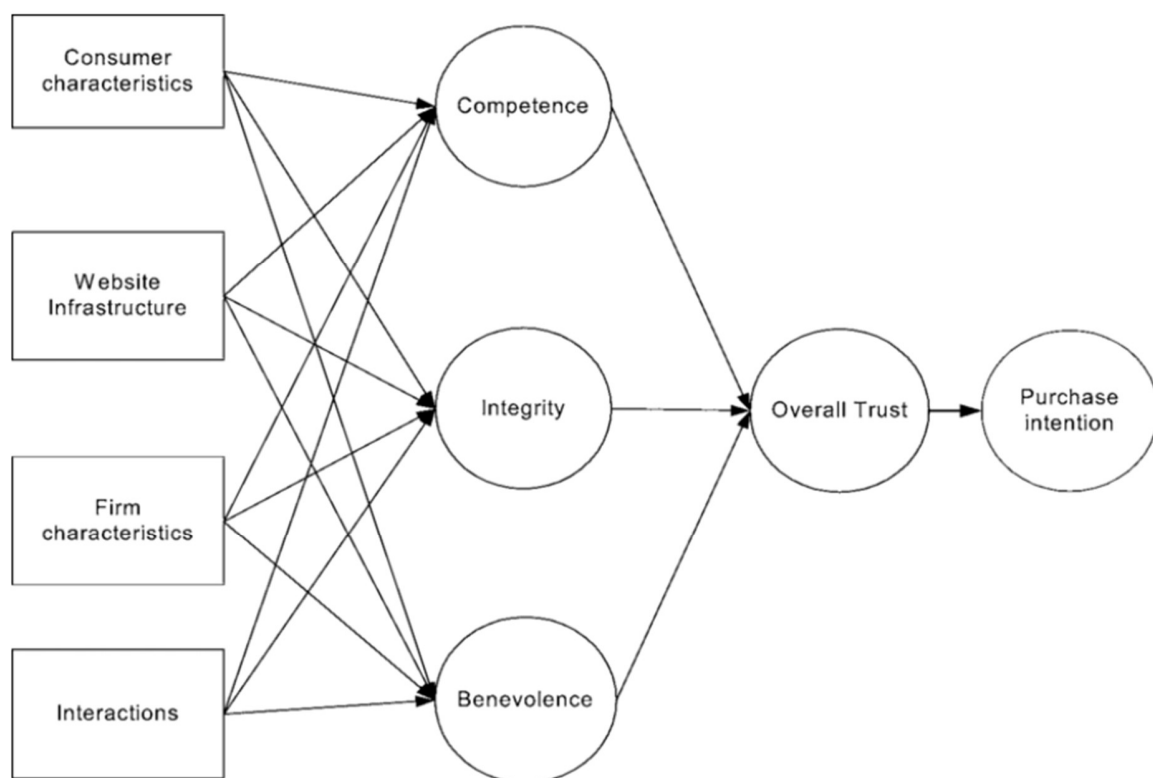
2.4.5 Consumer Trust Theory

Consumer Trust Theory is a theory that examines the functions of trust as a focal element in the determination of consumer attitudes, perceptions and purchase behavior (Isaeva, 2020). The concept of trust is generally understood to refer to readiness by the consumers to put faith in a brand or a company, especially in a situation where the consumer is in doubt or requires incomplete information regarding products or services. The theory was developed as a result of the interdisciplinary research in the field of marketing, psychology, and organizational behavior, which emphasizes the importance of relational and cognitive processes in decision-making (Isaeva, 2020). The early literature on trust concentrated on trust in online and service settings and the importance of trust in the perceived risk reduction and commitment. Bozic (2017) applied the theory to the corporate and retail environment and related consumer trust to brand credibility, corporate transparency, and long-term loyalty results.

Consumer Trust Theory has been based on the fact that trust alleviates the perceived risks related to purchase decisions. It is based on the principle that trust is established by recurrent interventions,

reputable information, and regularity between a brand promise and an actual execution (Isaeva, 2020). The aspect of trust comes into play especially in the field of sustainability and green marketing because consumers are usually subjected to the environmental claims which are not easily verifiable. Even when the communicated sustainability programs are not matched with real-life practices of the company- which is a frequent occurrence in greenwashing- trust can be seriously impacted and buying decisions discouraged (Isaeva, 2020).

Figure 2.5 Consumer Trust Theory



Source: (Isaeva, 2020)

The Consumer Trust Theory has the following dimensions; competence, benevolence and integrity (Isaeva, 2020). Competence is the perception of the consumer of how the firm is able to fulfill its promises; benevolence is a belief that the firm is operating in the best interest of the consumer or the society; and integrity is the ethical standards and open communication (Bozic, 2017). The whole of these dimensions affects consumer judgement of the brand credibility and the chances of buying the product, especially in sectors where there is information asymmetry and possibility of deception.

The strengths of the theory are that it is explanatory and applicable in all situations. It offers a clear structure of conceptualizing the effects of trust that mediate consumer reaction to marketing messages, sustainability messages, and corporate action (Bozic, 2017). Notably, it also focuses on relational and cognitive processes, which allows investigators to examine the effect of trust-building strategies on consumer loyalty and purchase intentions (i.e., transparency, accountability, and authentic messages) (Isaeva, 2020).

But there are limitations to Consumer Trust Theory as well. Trust is not objective and dynamic in nature; this aspect makes it difficult to objective and measure the trust within various groups of people and cultures (Isaeva, 2020). The effect of emotional and unconscious causes of trust might also be underrepresented, and the theory fails to explain the effects of misleading or deceptive actions on consumer behavior in the long term (Bozic, 2017).

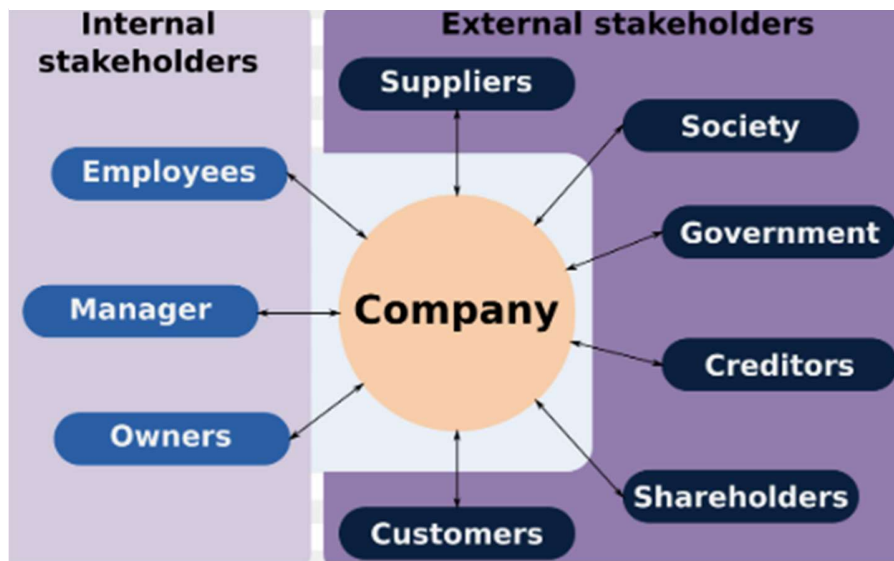
As applied to the UK grocery industry, this study uses the Consumer Trust Theory in understanding the effect of transparency, accountability and consistent sustainability messaging in determining consumer trust and buying behavior. The study bridges the important gap in knowledge about the role of trust in mediating consumer behavior in environmentally sensitive markets by investigating the depletion of trust due to greenwashing and the processes by which plausible signals can be used to regain trust.

2.4.6 Stakeholder Theory

Stakeholder Theory is a theory that examines the ways in which companies generate value and the way in which they make decisions by looking at the interests of all the stakeholders who are impacted by the operation of the business such as customers, employees, suppliers, investors, regulators, and the broader society (Mahajan, 2023). Initially, the theory was developed by Freeman (1984) to question the shareholder-based model which states that long-term

organizational success is based on how one handles relations with various stakeholders. The theory has been developed over the decades to incorporate the perspectives of a strategic, ethical, and sustainability perspective, emphasizing the need to factor in the ability to balance economic goals with the need to act socially and environmentally responsible (Freeman, 2023).

Figure 2.6 Stakeholder Theory



Source: (Freeman, 2023).

Fundamentally, the Stakeholder Theory suggests that companies need to find the most important stakeholders, get to know their expectations, and integrate their interests into the corporation strategies (Freeman, 2023). This model focuses on the relational and reciprocal processes in which the stakeholders impact on the organizational legitimacy, reputation and performance. Applying to green marketing and sustainability, the theory is used to emphasize the fact that the claims of a company on the environment are not only assessed by regulators but also by consumers, advocacy groups and communities as well. When such claims are inconsistent or misleading, like in the case of greenwashing, stakeholder trust and participation are at risk (Mahajan, 2023).

The Stakeholder Theory has the following dimensions: identification, prioritization and engagement. Identification constitutes mapping on who the stakeholders are and their impact on the decision-making of an organization (Freeman, 2023). Prioritization proffers the salience of stakeholders to power, legitimacy and urgency. Engagement involves procedures of dealing with stakeholders, addressing issues, and encouraging partnership (Freeman, 2023). These dimensions

offer a systematic way of organizations to deal with complex relationships and at the same time ensure that sustainability claims are plausible, ethical and aligned with expectations of the stakeholders.

Some of the strengths of the Stakeholder Theory are its comprehensive and ethical approach to decision-making by corporations, its inter-industry applicability, and its connection of strategic management to social contribution (Freeman, 2023). It provides effective ideas on how to implement sustainability into business models and ways of averting reputational and operational risks related with deceptive environmental claims. Companies can achieve the goals of greater legitimacy, transparency, and trust in their green marketing projects by (explicitly) considering the expectations of various stakeholders (Freeman, 2023).

Nevertheless, the theory is limited as well. Its wide range may make decision-making complicated as there may be a conflict of interests among the stakeholders resulting in trade-offs that cannot be measured easily (Freeman, 2023). Lack of standardized metrics for measuring stakeholder engagement and influence might also limit the possibility of empirical validation. In addition, the model is built around rational choice but is possibly too soft regarding the overpowering emotions and cognitive biases affecting the consumer perception of sustainability claims (Freeman, 2023).

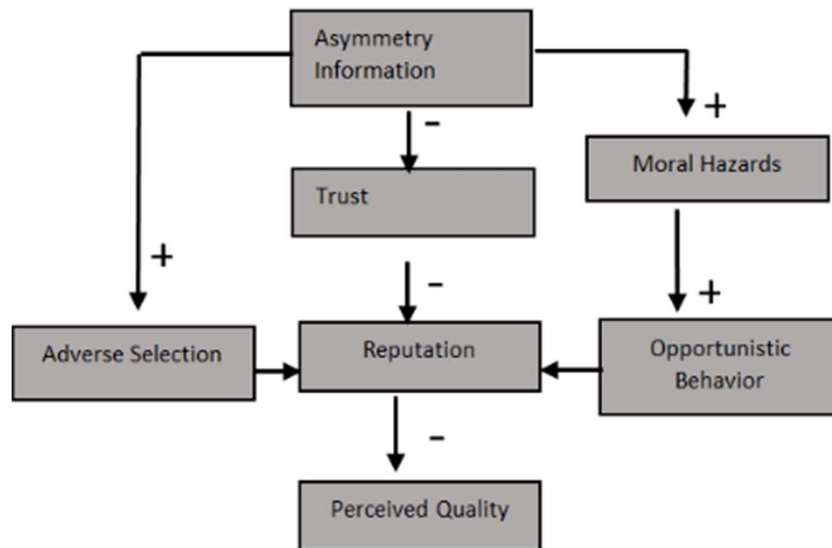
Considering the UK grocery sector, the study uses the Stakeholder Theory to analyse the effects of greenwashing on consumer trust and buying choices and on the overall perception of the stakeholders. The study can be used as theoretical perspective in understanding how various stakeholder groups can be persuaded by transparent, accountable, and credible sustainability practices, which can in turn result in improved long-term consumer loyalty and ethical marketing results.

2.4.7 Information Asymmetry Theory

The Information Asymmetry Theory focuses on the issues of situations when one party of a transaction has more or better information than their counterpart and it creates imbalances that affect decision-making, perception of risk and market outcomes (Bergh, 2018). The theory was first closely modeled in economics and finance by Akerlof (1970) in his concept of market for lemons which showed that imperfect information might result in adverse selection and market inefficiencies. The theory has subsequently been applied to corporate governance, accounting, and

marketing, pointing at the effect of transparency and disclosure on trust, credibility, and consumer or investor behavior (Cheynel, 2019).

Figure 2.7 Information Asymmetry Theory



Source: (Cheynel, 2019).

In its generally accepted form, Information Asymmetry Theory according to which the differences in the knowledge of the stakeholders between firms and consumers may lead to judgment mistakes, mistrust and inefficient decision making (Bergh, 2018). Greenwashing is also possible in the context of green marketing, whereby the companies spread sustainability claims that cannot be entirely verified or observed. Consumers might not have access to the relevant environmental performance information and this might cause doubt or diminished intention to buy, mistrust, or using peripheral signals like brand image or celebrity endorsement (Bergh, 2018).

The dimensions of the theory consist of quality of information, accessibility of information and verification of information (Bergh, 2018). The quality of information is defined as the precision of data, its credibility and full disclosure. Accessibility is the ease with which the stakeholders can access and understand the information, both in the form of labels, reports, or online. Verification entails third-party audits, certifications or regulatory controls that could be used to validate the

assertions (Bergh, 2018). These dimensions interrelate to define the level of asymmetry involved and the probability of the informed and confident decision made by the stakeholders.

The strengths of the Information Asymmetry Theory are that it explains the effect of transparency, disclosure, and trust gaps on decision-making (Bergh, 2018). It offers a guideline as to the implications of false association, such as loss of brand loyalty, damaged reputation, and inefficiency in the market. Applying the theory to green marketing, it is crucial to ensure that the information on sustainability is accurate, available and verifiable to reduce consumer uncertainty and increase purchase behavior (Cheynel, 2019).

Nevertheless, the theory is limited. It makes assumptions of rational way of thinking about the information, and undervalues emotional, social, and cognitive biases that are also the determinants of consumer behavior (Cheynel, 2019). Moreover, it is difficult to measure the level of asymmetry and the direct effect it has on purchasing when the consumers are guided by their subjective perceptions and not objective validation (Bergh, 2018). Lastly, the theory mostly deals with the issue of information imbalance but also provides little advice on how the fixes to the market situation or regulatory intervention should be designed (Cheynel, 2019).

With respect to the UK grocery industry, this study uses Information Asymmetry Theory to investigate the effect of greenwashing and misleading claims on sustainability on consumer faith and consumer behavior. The research offers a theoretical perspective on how the information gaps influence the consumer perception and arm recommendations regarding sustainability communication and greenwashing vulnerability, by prioritizing the transparency, accessibility, and verification of the corporate environmental information.

2.5 Conceptualization

The conceptualization is discussed using the global and local empirical studies to identify the independent variables and dependent variables to develop the conceptual framework.

2.5.1 The relationship between transparency and customer purchase decision

Sustainability communication has become more transparent, and this transparency has become one of the critical factors of consumer trust and consumer purchase behaviour. Bhagat (2024) points out that transparent and verifiable and detailed publicity of environmental practices will allow consumers to differentiate between the true sustainability practice and greenwashing. The

independent variable in this research is the transparency of sustainability communication to be assessed by means of corporate reporting, third party verification, and both successes and failures disclosure. Consumer trust and purchase intention are the dependent variables, and they show the impact of transparency on the chances of purchasing the brand. Bhagat states that a high level of transparency creates a credibility of the brand and generates more consumer confidence, but unspecified or exaggerated statements generate greater scepticism. Although this theoretical analysis determines the conceptual relationship, there is no empirical measurement of the effect sizes or direct consumer behaviour measures and this prevents the generalisation of the findings to the various consumer segments (Bhagat, 2024).

According to Szabo and Webster (2020), there is supportive empirical evidence about the paramount importance of transparency as a factor in purchase decision-making. Even though transparency is not directly measured, perceived clarity and sincerity in sustainability statements are the key points of their model. They employ surveys and experimental interactions to determine the effect of perceived greenwashing on consumer behaviour. The statistical evidence shows that perceived greenwashing has a negative relationship with the purchase intention ($b = -0.078$, $p = 0.023$) and a significant negative impact on the environmental perception ($b = -0.260$, $p < 0.001$) (Szabo and Webster, 2020). Such findings support the claim made by Bhagat that transparency/lack of transparency has a direct effect on consumer confidence and decision making, which proves that relatively small deviation in the transparent practices can seriously decrease purchase intention.

The advantages of the study by Bhagat (2024) are the clarity of the concept and the emphasis on the transparency as a consumer trust and ethical marketing tool. Its lack lies in the lack of empirical consumer centered information that can be used by practitioners. The article by Szabo and Webster (2020) is solid in its experimental and quantitative design due to the fact that it presents measurable perceived and purchase intention relationships. Nonetheless, it also has a contextual limitation; it will mostly focus on the online interactions and non-grocery industries which may limit its relatability to the in-store or grocery stores retail setting.

Together, these studies show that transparency is a critical determinant in the purchases of customers. Transparency leads to trust and encouragement of purchasing with an environmentally friendly approach and the lack of transparency or a sense of greenwashing results in a lower

purchase intention and leads to the decline of confidence. This evidence highlights the need to conduct sector-specific and quantitative studies assessing the direct relationship between transparency and consumer behaviour in grocery retail and other situation of high-frequency purchases, and give parties actionable recommendations that will benefit marketers, policymakers, and consumer protection bodies.

2.5.2 The relationship between accountability and customer purchase decision

Responsibility is a key element that impacts the purchase decision of a customer especially in greenwashing and sustainability communication. It indicates how much the firms are accountable of their actions in the environment which is to maintain honesty, verifiability and ethical disclosure of the claims of sustainability. Having good accountability will boost stakeholder confidence, and lack of accountability, including false claims or only reporting certain things, may destroy consumer confidence and lower the purchase intentions.

In their study, Pizzetti, Gatti & Seele (2021) examine the effects that greenwashing typologies have on stakeholder behaviour, based on the dependent variable (investment intention) and the independent variables (type of greenwashing deception) of falsification, manipulative communication, selective disclosure, and attention diversion. Through experimental conditions, the research evidence suggests that worse accountability violations (e.g. falsification and manipulation) have a massive impact on lowering the willingness of the stakeholders to retain the firm thus constituting a strong negative association between the accountability shortcomings and stakeholder involvement. Although their statistical analysis is sound, they also compare the deception types, though the major limitation is that they studied investment and not direct consumer purchase behaviour which limits their findings to the retail or grocery industry. The paper, however, points out that lack of accountability undermines trust, which is applicable to the consumer purchasing situations.

Conversely, Paudel (2024) directly analyses consumer purchase decision as the dependent variable, brand accountability, and sustainability awareness as the independent variables directly in a fashion industry. In a qualitative study, which is based on the interviews with sixteen Finnish customers, Paudel discovers that the perception of accountability is one of the key determinants of purchase intention: customers are less inclined to purchase products of the brands which make unconfirmed or deceptive sustainability promises. Responsibility was found to be core to building

of trust, influence on the perceptions of ethicality, and credibility in environmental assertions, and later purchasing behaviour. The willingness to purchase was always reported to be higher by the consumers in the case of transparent, credible and ethically accountable brands. The positive aspect of the work is its direct attention to the consumer perception and its qualitative depth which can depict the subtle attitudes to the responsibility. Its limitation, however, is that it has a small sample size with a qualitative method that does not give the possibility of statistical correlation measures or a generalization.

Collectively, the studies mentioned above suggest that accountability is a critical factor that determines consumer behaviour. Pizzetti et al. empirically demonstrate the impact of accountability breaches on the diminishing of stakeholder support, whereas Paudel demonstrates the impact on the consumer level on the levels of trust and purchase intention. The two research papers emphasize the value of transparent, testable and ethical sustainability reporting in the enhancement of consumer trust. Yet there seems to be a gap in the quantitative, sector-specific analysis that has accountability directly connected to purchase behaviour in the grocery or retail segments. Future studies ought to use bigger sample sizes, statistical modeling, and correlation results to quantify the impact of accountability on consumer buying decisions, which will offer practical information to the marketers and policymakers in effectively fighting greenwashing.

2.5.3 The relationship between report contents and customer purchase decision

Information contained in the sustainability report and environmental assertions is central in influencing consumer perception and buying behavior. Schmuck, Matthes and Naderer (2018) and Lu et al. (2022) present empirical research on determine the effect of the nature and clarity of report contents on consumer attitude and purchasing decisions.

Schmuck et al. (2018) investigate how the content of advertising claims affects consumer evaluation on the Affect-Reason-Involvement (ARI) model. The independent one is the claim content type, either the non-deceptive, vague or false claims, and the dependent variables are the consumer perception of greenwashing, ad attitude, and brand evaluation. According to the experiment conducted with samples (United States (N = 486) and Germany (N = 300) the result indicates that false claims substantially promote the perceived greenwashing and lower the brand evaluation whereas vague claims affect the results inconsistently. The paper points out that deceptive information may distort the meaning of the consumer and indirectly affect a purchase

behavior of attitudes and emotional decisions. The greatest strength of it is its experimental design and theoretical rigor that enables one to compare types of content precisely. Nonetheless, it is not a direct measure of purchase intention or behavior and therefore can only be applied to practical consumer decisions in the real world.

However, Lu et al. (2022) offer quantitative data to report contents and their impacts on purchase behavior. The study considers perceived greenwashing, as affected by content of reports, as the independent variable and the purchase intention based on greenness as the dependent variable. With 433 valid questionnaires being analysed with the help of PLS-SEM, they discover that perceived greenwashing is a negative predictor of purchase intention ($b = [-?]0.196, p < 0.001$), increases perceived financial ($b = 0.567, p < 0.001$) and perceived green risk ($b = 0.683, p < 0.001$), which in turn suppress purchase intention ($b = [-?]0.339, b = [-?]0$). The model is making a good explanation as it is capable of explaining 48.7 percent of the variance in purchase intention. The advantages of this work are its extensive sample, empirical narrowness in the scope of the study, and a solid statistical study design. One of its weaknesses is that it is centered on fast fashion and this might be a restrictive factor to extrapolate to other sectors such as grocery retail.

Together, these studies demonstrate that transparency, clarity and credibility of report content are important factors that can affect consumer trust and purchasing decisions. Although Schmuck et al. focus on perceptual and attitudinal effects, Lu et al. prove the direct statistical correlation between misleading content and less purchase intention. The results highlight that visible and precise report contents lower perceived risk and maximize green purchases, and unclear or incorrect content of the report breeds doubts and decreases consumer confidence.

2.5.4 The relationship between measured standards and customer purchase decision

The level of corporate measured performance in sustainability performance is the extent to which the actual performance in terms of environmental performance is comparable to the communicated green performance, and consumer purchasing behavior relies heavily on such a corporate measure of performance, especially in a situation whereby greenwashing destroys the trust. Both Akturan (2018) and Cheng-Ze Hung and Tai-Wei Chang (2023) give both empirical and conceptual information on how discrepancies between marketing claim and the actual practice influence the purchase behaviour, but both of them do it in different ways.

Using the analysis of 500 responses of the consumers with structural equation modelling (SEM), Akturan (2018) examines the impact of greenwashing on the green brand equity and purchase intention. The independent variable is that of greenwashing which is defined as the difference between the communicated practices in sustainability and actual environmental practices, which is measured. Consumer purchase intention is an independent variable and the green brand equity, brand credibility and green brand associations are the mediators. Findings show that greenwashing has negative implications on brand credibility, association, such that green brand equity and purchase intention are diminished. Simply put, when the consumers think that there is low correspondence between the claims and the real practices, their purchase intentions are low. The SEM analysis shows that there are constant negative relationships between greenwashing and credibility and positive relationships between brand equity and purchase intent.

The first strength of the study by Akturan is that it has a strong sample and SEM application, in which the indirect influence of perceived standards is recorded on consumer evaluations and intentions. It brings out the negative effect of purchase intent caused by inconsistency in standards which erode trust. One of the drawbacks, though, is that measured standards are determined through perception, not through objective quantification and therefore limits an understanding of real sustainability performance.

Cheng-Ze Hung and Tai-Wei Chang (2023) investigate the corporate greenwash behaviour and its effect on the green purchase behaviour among 390 Taiwanese respondents. The independent variable is corporate greenwash behaviour actions that show a misfit among the purported and actual sustainability-practices whilst the dependent variable is green purchase behaviour. This is because, their model uses the value-attitude-behaviour hierarchy, where green trust mediates the correlation between the greenwash behaviour and the environmental attitudes, which in turn, mediates the purchase behaviour. The results have shown that an increased misalignment undermines green trust which decreases purchase behaviour and that information asymmetry in green products moderates this effect with larger information gaps reducing the adverse effect of greenwashing on trust.

The benefit of the study is its subtle modelling of the perceived standards to the psychological construct and behavioural outcomes and the existence of significant paths that consumers follow to determine credibility. Its flaw is that it does not quantitatively measure the standards being

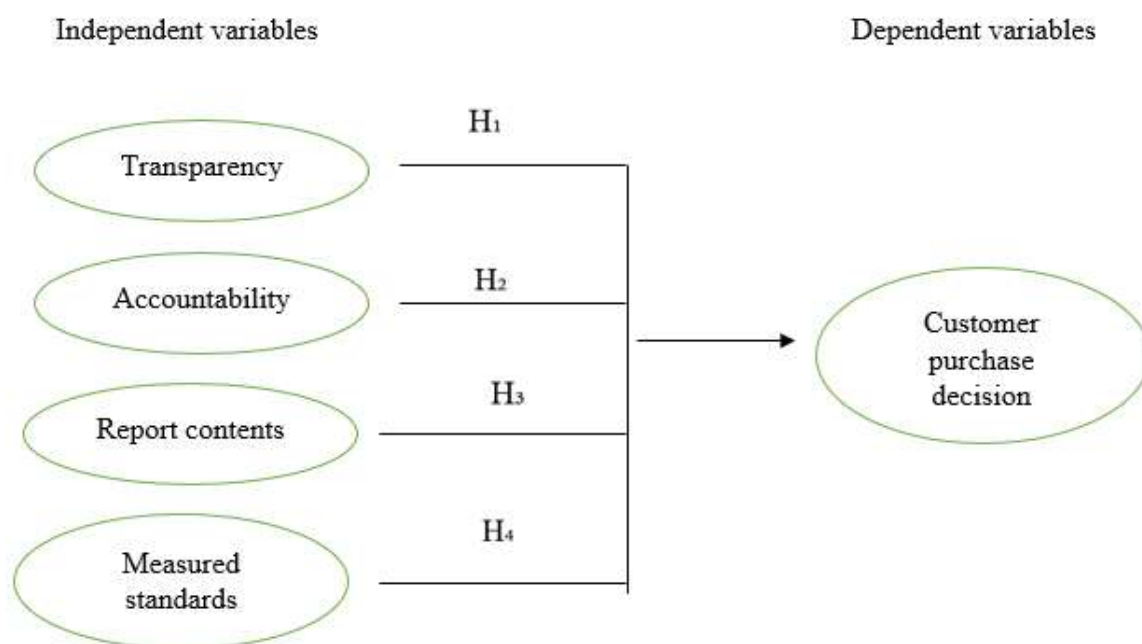
measured, but puts emphasis on perception, which lacks statistical coefficients to relates the direct greenwash-purchase relationship.

The two studies also show that perceived standards measured are strong, credible, and observable and are important in stimulating consumer trust and purchase intention. When there is perceived mismatch between the claims and the performance, which occurs, it destroys credibility, lowers purchase behaviour, and strengthens the importance of transparent and responsible sustainability practices in marketing.

2.6 Conceptual Framework

Above empirical data has been used to develop the conceptual framework.

Figure 2.8 Conceptual Framework



Source: author's work-based on empirical studies

2.6.1 Hypotheses

H₁: There is a relationship between transparency and customer purchase decision.

H₂: There is a relationship between accountability and customer purchase decision.

H₃: There is a relationship between report contents and customer purchase decision.

H4: There is a relationship between measured standards and customer purchase decision.

2.7 Operations of Theoretical Constructs

It is the operationalisation of theoretical constructs that is necessary to make sure that the abstract theories are then translated into testable and measurable variables. The major constructs utilized in this research are the Theory of Planned Behavior (TPB), the Elaboration Likelihood Model (ELM), Signoring Theory, Consumer Trust Theory, and Information Asymmetry Theory to understand the relationship between greenwashing and consumer perception and purchase intention in the UK grocery retail industry.

Attitude, subjective norms, and perceived behavioral control are operationalised based on TPB and Likert scale measures evaluating the consumer perceptions on sustainability claims, perceived social pressure to buy green products, and perceived confidence in making socially responsible decisions (Ajzen, 1991; Ryan, 2023). Although TPB has predictions strength, opponents believe that these constructs pay excessive attention to the rational thinking component and downplay the emotional manipulation that occurs in green marketing (Sansom, 2021). ELM constructs are incorporated to get rid of this limitation.

In ELM, the central route processing is measured by the degree of consumers' diligence in checking the evidence-based sustainability information (e.g., certifications, disclosures) and the peripheral route processing is implemented by the use of less informative factors, e.g., eco-labels, brand reputation, and visual symbolism (Petty and Cacioppo, 1986; Nickerson, 2023). The method distinguishes between two routes that would show differences in the depth of consumer involvement but is still fraught with difficulty due to the fact that hybrid processing is typical in practice.

Signaling Theory explains the operationalisation of signal credibility, signal clarity, and signal cost which assumes the reduction or magnification of information asymmetry by sustainability claims (Connelly et al., 2011; Bafera and Kleinert, 2022). The Consumer Trust Theory further transforms competence trust, integrity trust, and benevolence trust to evaluate the undermining of confidence in retailers as a result of repeated exposure to greenwashing (Isaeva et al., 2020; Bozic, 2017).

Taken together these constructs allow to analyse greenwashing in a multidimensional manner, but their combination requires special attention to the scales validation since there is a risk of construct overlap that may compromise the accuracy of the analytical process.

2.8 Literature gap

Although a considerable amount of research has been conducted on the topic of green marketing, sustainability communication and consumer purchase behavior, it is evident that there are still severe gaps that substantiate the present research. One of the commonalities of the literature is the emphasis on corporate practices and marketing strategies and not on the consumer view. As an example, Akturan (2018) and Cheng-Ze Hung and Tai-Wei Chang (2023) emphasized the negative impact of the discrepancy between the claims of sustainability and the actual performance (measured standards) on the purchase intention. Nevertheless, these studies are more of gauging consumer perceptions about greenwashing as opposed to empirically attributing objective corporate sustainability indicators to consumer buying patterns. This introduces a knowledge gap with regards to the role of verified performance or transparency in reducing consumer skepticism and increasing trust in the real-life grocery retail situation.

On the same note, studies on transparency and accountability reveal that the influence of the two constructs in determining consumer trust is significant (Bhagat, 2024; Pizzetti, 2021; Paudel, 2024). It has been observed that transparency and positive intentions to purchase are always related, and the absence or poor accountability leads to a loss of trust. However, most of the literature pertains to specific sector e.g. fashion or technology and does not thoroughly investigate grocery retail, which is an extremely competitive marketplace with high purchase frequency and high consumer heterogeneity. It restricts the applicability of the results to real-life grocery shopping whereby the repetitive interactions and brand loyalty are very instrumental in influencing the sustainable buying choices.

The other gap is on the psychological and behavioral aspects of consumer response. Although the Theory of Planned Behavior (Ryan, 2023) and the Elaboration Likelihood Model (Petty and Cacioppo, 1986; Nickerson, 2023) are the suggested theories that can be applied to understand the decision-making process and message processing, the empirical research that would investigate the working mechanisms in the conditions of deceptive or overstated green marketing is scarce. Particularly, little research has been done in the grocery retail industry to determine how emotional

appeal, cognitive evaluation, and perceived ethical credibility inter-relate in influencing purchase intention.

Besides, information asymmetry is a very crucial but less-researched factor. Bergh (2018) and Cheynel (2019) point to low access to verifiable sustainability information by consumers as a factor that makes consumers vulnerable to greenwashing. However, there are very limited studies that study this effect systematically in the context of the UK grocery, modifying it with demographic factors, digital literacy, or cultural distance, and so the question regarding the potential of consumer awareness, education, and accessibility to sustainability information to diminish the susceptibility to deceptive claims remains open.

Lastly, there is little longitudinal and empirical data that correlates exposure to greenwashing with long-term loss of trust and buying behavior. The majority of the researches are based on a cross-sectional survey or an experiment, which can be ineffective to observe the patterns of purchases as habits or the cumulative impact of exposures to false claims. This therefore creates an urgent urgency to investigate in a sector-specific, empirically based study the interaction of transparency, accountability, and measured standards to predetermine consumer trust and purchasing decisions in the UK grocery retail business.

Through these gaps, the current study is expected to offer practical solutions to policy makers, marketers, and educators that would encourage the informed and responsible consumption of products among consumers and reducing negative influence of greenwashing.

2.9 Summary

The review of literature highlights the fact that greenwashing is an influential concern in the grocery retail business, which undermines consumer trust, brand reputation and customer purchasing habits. Research has indicated that sustainability claims which are not true trigger irrational decision making and hence highlight the need for corporate transparency, accountability, and more specifically defined standards (Akturan, 2018; Cheng-Ze Hung and Tai-Wei Chang, 2023; Bhagat, 2024; Pizzetti, 2021).

The main independent variables that were determined include transparency of sustainability claims, corporate accountability, clarity of reports content and measured standards of environmental

performance with the consistent dependent variable being consumer purchase decision/behavior and in most cases mediated by trust, brand credibility and green brand associations.

Theories of consumer behavior are a conceptual frame to verify such dynamics. The Theory of Planned Behavior (TPB) reveals that greenwashing can impact purchase intention via the attitudes, subjective norms, and perceived behavioral control (Ryan, 2023; Sansom, 2021) and the cognitive mechanisms by which greenwashing can affect decisions. The Elaboration Likelihood Model (ELM) is a consumer behavior model that classifies the processing of persuasive sustainability messages into two categories: central (considered processing) and peripheral (using heuristics) processes (Petty and Cacioppo, 1986; Nickerson, 2023), where transparency and report content clarity are connected to behavior changes. AIDA is a marketing communications model that shows how the marketing effort takes consumers through Attention, Interest, Desire, and Action, and how greenwashing may break the process (Tristante, 2021; Lee, 2022).

The Signaling Theory and the Information Asymmetry theory can give additional details about the role of believability of statements made by sustainability and the lack of information publicly disclosed in consumer trust and purchasing decisions (Connelly, 2025; Bergh, 2018; Cheynel, 2019). Furthermore, the Consumer Trust Theory (Isaeva, 2020; Bozic, 2017) and the Stakeholder Theory (Mahajan, 2023; Freeman, 2023) put trust in the middle between such independent variables as transparency and accountability and purchase intention as the dependent variable, stating that the ethical and relational factor should be considered in corporate communication.

There are also notable gaps in the literature; the vast majority of studies are directed at non-grocery industries or cross-sectional studies, and longitudinal influences of greenwashing on buying habitual behavior are still not studied in detail. Demographic, cultural, and educational variables that can contribute to the vulnerability to greenwashing are also not well studied.

To conclude, the review shows that the transparency, accountability, what is reported in the reports and measured standards (independent variables) play a critical role in affecting consumer trust and purchase decisions (dependent variables) in grocery industry. These gaps are answered in the current research which empirically explores these relationships in the UK grocery retail sector, and provides an insightful contribution to the marketer, regulator and policymaker on enhancing credibility and consumer protection.

CHAPTER III: METHODOLOGY

3.1 Overview of Research Problem

The way that the concept of sustainability has gained more priority in the UK grocery retail industry has heightened the application of environmental claims as a marketing tool. Although such statements are meant to educate and empower consumers, they have also helped to enable the emergence of greenwashing whereby companies intentionally or unintentionally expound the advantages of their products to the environment (Delmas & Burbano, 2011). This act worsens information asymmetry because retailers possess sustainability discourses and consumers do not have expertise and access to validate their assertions (Bergh et al., 2018). In turn, consumer decision-making is frequently defined by symbolic signals as opposed to the substantive environmental performance.

Whereas the extant literature recognizes that greenwashing will erode consumer trust and misrepresent market efficiency (Nyilasy et al., 2014), most of the studies take a firm-based or regulatory approach, which provides little information on how consumers cognitively and behaviorally react to misleading sustainability messages on actual purchase situations. Also, dominant models of consumer behavior tend to be based on a belief in rational decision-making, which underestimates the role of emotional appeal, social norms, and persuasion shortcuts that are most often integrated in green marketing (Sansom, 2021).

This is especially troublesome in the UK grocery environment, where the sector is dominated by the position of private-label, has a complicated supply chain, and has the issue of proliferation of eco-labels (Testa et al., 2018). Unless greenwashing is examined in a subtle manner and its impact on consumer attitudes, intentions and trust are understood, any policy intervention and corporate sustainability strategy will prove ineffective. This research problem is thus significant to the development of ethical marketing practice, enhanced transparency, and consumer protection in the markets that operate with the goal of sustainability.

3.2 Research Objectives

1. To indicate what factors could make the customers more or less prone to greenwashing.
2. To identify the level of awareness within the UK grocery retail sector customers regarding green washing practices.

3. To provide the strategies that could be used to educate the customers regarding green washing to make informed purchasing decisions.
4. To identify how does the marketing strategy impact upon customer perception regarding sustainability in the UK grocery retail sector.
5. To indicate the gaps in the present regulatory framework which allows green washing to continue.

3.3 Research Onion

Saunders, Lewis, and Thornhill (2024) have created a research framework known as The Research Onion that helps researchers organize their approach to research in a rational and orderly manner. It introduces the concept of research design as a steps of decisions with one on the top being the research philosophy and the other on the core is the research approach, methodological choice, research strategy, time horizon, and lastly the data collection and analysis methods. The layers pose an effect on each other, and consistency is maintained between the research problem, objectives, and methods. The reason why The Research Onion is so popular is that it assists researchers to defend their methodological decisions and increase the rigor, transparency, and credibility of science studies.

Research philosophy

Research philosophy is a belief system that informs the way research is carried out, making assumptions about reality (ontology) and the way knowledge is produced (epistemology) (Saunders, Lewis and Thornhill, 2019; Turyahikayo, 2021).

The pragmatism philosophy has been chosen in this study since the research is mixed and the focus applied is practical (Understanding greenwashing in the UK grocery sector). Surveys can be incorporated into consumer awareness, trust and purchasing behaviour through pragmatism, which enables the combination of quantitative survey data with qualitative data collected via case studies. The most important pragmatic strength is its flexibility and problem-focus, as it allows the researcher to apply various approaches to different problematic, real-life situations (Saunders et al., 2019). The weakness of it, however, is in the fact that it may be complicated to incorporate various types of data and may lack deeper theoretical coverage. Nevertheless, the pragmatism is applicable to this research because it underpins practical findings and recommendations that are pertinent to the policy on the issue of greenwashing.

Research approach

A research strategy is the systematic plan according to which a study is conducted, specifically the way theory is connected with the process of data collection and analysis (Saunders et al., 2019). The study will be based on a deductive research methodology because it will rely on previous theories, including the Theory of Planned Behaviour and the Elaboration Likelihood Model, to examine the effect of greenwashing on consumer purchasing behaviour in the UK grocery industry. The deduction is suitable since the study is supposed to establish theoretical links between the consumer awareness level, trust and purchase behaviour using quantitative survey data. The major strengths of this method are a more systematic and organised procedure, objective assessment, and applicability of the results to a broader set of people (Saunders et al., 2019). The major drawback is, however, restricted flexibility since it can be missing new or unforeseen insights not previously covered within the theoretical framework.

Research design

Research design is the broad method of how a study will be undertaken to provide a respondent to the research questions in a purposeful and organized manner (Saunders, 2024).

The research design chosen in this study is descriptive research design to determine the impact of greenwashing on consumer awareness, trust, and the purchasing behavior in the UK grocery market. Descriptive design fits in because the research will be used to quantify and describe current consumer perceptions and behaviours and not determine causality. The key strengths of this design will be that it is easy to measure the specific variables, it is easy to compare, and it is suitable in a large-scale survey research (Saunders et al., 2024). Nevertheless, its main weakness is that it can not fully describe causal relations, and it may limit the further analysis of the causal drivers of behaviour.

Research strategy

A research strategy is the general plan that directs the way studies are to be carried out to provide answers to the research questions systematically (Saunders, Lewis and Thornhill, 2024).

This research takes the form of a survey research which is complemented by a case study. The chosen survey approach will be used to gather quantitative data among a very big sample of the

UK grocery staffs to measure awareness, trust and purchasing decision concerning greenwashing. The case study approach will be applied to provide contextual information on the solutions of greenwashing in the chosen UK grocery stores. The key strengths of such mixed approach are all-encompassing data coverage, practicality, and increased validity by triangulation (Yin, 2018). But, there are such limitations as the possibility of bias in surveys and small generalisability of case studies.

Research choice

The research choice can be defined as the kind of data collection and analysis approach followed in a study and defines the way information will be collected, combined, and analyzed to answer the research questions (George, 2021).

In this research, the mixed-method approach is chosen in the form of a structured survey with a case study. The quantitative survey will enable the measurement of the consumer awareness, trust and purchase behavior on greenwashing in the UK grocery industry. The qualitative case study gives in-depth information on the real-life greenwashing practice and organizational strategies. The benefits of the method are that it allows triangulation of data, better contextual knowledge, and the reliability of results (Creswell and Creswell, 2018). The drawbacks, however, are the complexity of data integration and increased resource, however. Nonetheless, the mixed-method method is consistent with the pragmatism philosophy and is able to guarantee an in-depth knowledge of consumer behavior as well as industry practices.

Time horizon

In research, time horizon can be described as the length of time during which data are gathered and examined in order to respond to the research questions (Thomas, 2020).

In this research, a cross section time horizon is chosen. This methodology represents the existing level of awareness, perceptions, and effects of greenwashing to consumer purchasing behaviours in the UK grocery industry. It is suitable since the study aims at measuring the current consumer behavior and industry practices as opposed to monitoring the changes with time.

The benefits of the cross-sectional design are the speed at which data can be collected, reduced costs, and analysis of data (Bryman, 2016). Nevertheless, its weaknesses include the fact that it is

not possible to establish causal relationships or trace behavioral changes in the future. In spite of these shortcomings, the cross-sectional methodology conforms to the pragmatic philosophy of the study and helps to collect practical knowledge based on the results of the study of a heterogeneous sample.

3.4 Sampling technique

Sampling technique is the process that involves the process of choosing a sample of individuals representing the target population to be part of a study so that the data obtained can provide a representation and can be handled (Fleetwood, 2018). The primary ones include probability sampling, in which each member of the population has known probability of being chosen and non-probability sampling which means that selection is done according to a given criterion or convenience.

In this research, snowball sampling, which is a non-probability method, will be chosen. In this way, the participants of the UK grocery retail market with experience in purchasing decisions and knowledge of greenwashing are reached. Snowball sampling will work with the sample of potentially hard to locate or contact participants because the first respondents will mention other qualified respondents (Fleetwood, 2018).

This method has such strengths as efficiency, specific recruitment, and as the sample is relevant to the research goals. There are restrictions, however, such as the possible sampling bias and low generalizability. To address these challenges, the research will have a reasonable and diverse sample size to represent different attitudes, which will give sound information on consumer perceptions, awareness, and how greenwashing affects the buying behavior.

3.5 Population and participant selection

Population is the entire group of individuals, occasions or items that share similar attributes in respect to a specific research study (Thomas, 2023).

Participant selection refers to the ability to select and recruit individuals of the population to take part in the study. These methods may include probability (where the participants have a pre-defined probability of being selected, like simple random sampling or stratified sampling), or non-probability (participants are selected based on some criteria or their availability) (Fleetwood, 2018).

In this research, the target population would consist of the customers of the UK grocery retail sector, since they are the direct beneficiaries and feel the impact and reaction to greenwashing and sustainability pronouncements. The available population will include the participants who can be accessed via online surveys and personal contacts. Snowball sampling is used to find the participants who have been interested in the area of purchasing experience and sustainability marketing awareness (Fleetwood, 2018).

The benefits of this methodology are efficiency, specific recruitment, and relevance, which implies that respondents will be suitable to give information on greenwashing and buying decisions. The limitations are possible sampling bias and a lack of generalizability to the larger population. In order to cut these shortcomings, the research has utilized large enough sample size of 384, according to the Krejcie and Morgan (1970) tabular numbers, which gives 95% confidence and 5% margin of error, which is sufficient to be diverse and representative in capturing the consumer perceptions and behavior (Kenpro, 2012).

This approach enables the research to collect sound, appropriate data in the form of consumer awareness, perceptions, and purchase behavior and overcome practical limitations in participants recruitment.

3.6 Instrumentation

Research instrumentation can be described as the methods or tools applied in research to gather data (Bhandari, 2021). In this research, structured questionnaire was chosen as the only tool. Questionnaire conforms to the positivist aspects of the pragmatism philosophy, the deductive approach as it allows gathering the measurable data to estimate the relationships between the independent variables (transparency, accountability, report content, measured standards) and the dependent variable (customer purchase decision). A 5-point Likert scale is utilized so that participants are able to provide their level of agreement, it is easier to analyze it statistically by using SPSS and to identify trends and correlations.

All the parts of the questionnaire are related to the objectives of the study:

- The screening questions and demographics will make certain that the participants are part of the target population and will give background to the interpretation of the data.

- The question sections 7-10 (IVs) determine how consumers view transparency, accountability, report contents, and compliance with measured environmental standards.
- Section 11 (DV) measures the condition of such perceptions to customer purchase choices and greenwashing vulnerability.

These benefits are a standardized response, easy distribution, and efficient data collection of a large sample. The limitations include the possible bias in the responses and limited depth, when compared to qualitative instruments (Taherdoost, 2021). However, it offers a good method to measure awareness, perception and behavioral intention, which meets the research goal of the study.

3.7 Data Collection Procedures

Data collection is a methodical procedure of acquiring the information that is pertinent to the research purpose (Saunders et al., 2020). This research employs the structured online questionnaire to get the data through a structured questionnaire to the members of the grocery retail sector in the UK. The questionnaire is sent through emails, social networking, and personal networks which allow the survey to be easily accessed by the respondents and allow collection of high volume of data in a convenient manner. The survey will include the questionnaire that will assist in acquiring demographic data and attitudes towards transparency, accountability, report content, measured standards and their impact on customer purchase decisions.

The choice of online survey is suitable in this study as it fits the cross-sectional time horizon where data was to be obtained at only one point in time to determine the existing consumer awareness and attitudes towards greenwashing. It is also efficient, economical and enables data to be entered automatically minimizing on human error. Also, it is compatible with the pragmatism philosophy in that it gives quantifiable evidence on analysis yet is flexible to real world limitations. The possible limitations are that it may be biased in responses and lack depth, but the integration of a survey with secondary data like the sustainability reports will guarantee that most of the consumer perceptions and practices in the industry are covered.

This process guarantees concreteness, uniformity, and practicality of the data in the solution of the research objectives.

3.7.1 Data Management

Data management can be defined as a logical organisation, storage and processing of the gathered data in a way that maintains its integrity, safety and application during the research process (Borgman, 2015). In the present research, the data was collected using the online questionnaire, and the data is automatically summarized in Google Forms and exported into the SPSS software to be analyzed. This enables effective organization, coding and data preparation to be used in statistical tests like correlation, regression and ANOVA to provide accurate and consistent results.

Data management practices in the study are excellent in regard to protecting data confidentiality and ethical consideration. Every respondent is given a reference number, and no personal information is kept, as it is required by the GDPR guidelines. Data files are encrypted using passwords and only accessible to the research team, which minimizes chances of unauthorized access to the files or breach of data.

The management of data is essential to make the research results reliable and valid. Effective arrangement will ensure the data is not lost easily, it is systematically analyzed and responses are traceable. This provides transparency where the researcher is able to expand and confirm the research. This is a positive move towards the validity of the research findings regarding the effect of greenwashing on consumer buying behaviours.

3.8 Data Analysis

The data analysis is the process of the systematic study of the collected data that reveals its patterns, relations, and insights answering the objectives of the research (Saunders et al., 2024). In this research, the researcher will use quantitative and qualitative methods of analysis in order to acquire a holistic view of the effects of greenwashing on the consumer buying behaviour in the UK grocery market.

The data of the structured questionnaire in the quantitative form is analyzed with the help of the SPSS software with the help of the statistical methods- correlation, regression, and ANOVA. Correlation analysis determines the relationships between independent variables (transparency, accountability, report content, measured standards) and the dependent variable (customer purchase decision) by the strength and direction of relationships (Manyakov, 2024). The predictive value of

these factors on purchase behavior is estimated through regression analysis, whereas ANOVA is used to compare the answers of various demographic groups (Manyakov, 2024). Such techniques are giving statistically significant and generalizable information on consumer behavior.

Thematic analysis of the qualitative data of the secondary sources (sustainability reports and regulatory documents) is used to examine the trends, gaps, and industry practices. This is a complement of the quantitative results giving them a contextual meaning and practical applicability.

The mixed method approach will guarantee strong and sound results, help in triangulation, and enable the study to make practical suggestions on how sustainability communication and consumer trust can be enhanced.

3.8.1 Reliability and Validity of the Study

The reliability and validity are essential in the assurance of the credibility and precision of research results. Reliability means how the measurement instruments are consistent and how the results can be reproduced under similar conditions (Taherdoost, 2016). The internal reliability of the study is evaluated by Cronbachs Alpha, which is a measure of the degree of relationship between the items in the questionnaire to each construct which are transparency, accountability, report content, measured standards, and customer purchase decision. Cronbachs Alpha is very high (above 0.7) to mean that the survey items are effective in measuring the intended concepts, which have dependable results (Foxman, 2012).

Validity is used to confirm that the study measures what it is supposed to measure (Foxman, 2012). There are several forms of validity that are used in the study. The validity of the content is achieved through formulating the questionnaire along with the known literature and conceptual frameworks, which correlate the items in the survey with the independent and dependent variables. The construct validity is addressed through Likert-scale-based items that are based on validated measures, this measures the theoretical aspects of greenwashing and the consumer behavior (Foxman, 2012). Expert review ensures face validity whereby the questions are revealed to be understandable and pertinent to the target population.

The reliability and validity measures are combined, which guarantees the study will lead to credible and practical results. Standardized tools and the correspondence of questions with theories

make the study insignificantly less prone to measurement errors and meaningfully illustrate results in a statistically strong and practical way. This boosts the belief in the observed correlations between the greenwashing variables and purchasing attitude of the customers in the UK grocery retail industry.

3.9 Research Design Limitation

Although descriptive research design used in the present study is suitable in the investigation of impacts of greenwashing in influencing customer buying decisions in the UK grocery retail industry, it has a number of limitations. To start with, using one research tool, the structured questionnaire, restricts the level of qualitative interactions and can miss the subtle consumer perceptions.

Second, the research is cross-sectional as it captures data at a single time that does not allow comprehending the dynamics of consumer behavior over time, as well as the long-term effects of greenwashing.

Third, the self-reported survey data can also bring regarding the presence of response bias because participants will either exaggerate or underestimate their purchasing habits or awareness because of social desirability.

Fourth, the study has been confined to the UK grocery stores industry, which limits the ability to generalize the results to other markets or global markets where greenwashing and consumer perceptions might vary.

Fifth, snowball sampling is not the best technique to use since it can create biases in sampling because the subjects to be sampled are chosen some using their personal contacts and therefore this might not be representative of the wider population.

Lastly, the study is not causal, only indicates associations between the perceptions of greenwashing and purchase decisions so the causal processes remain untested. Nevertheless, these limitations do not negate the fact that the design contains some important insights and a practical background on how to deal with greenwashing in consumer behavior.

3.10 Conclusion

This chapter has elaborated the research design that will be used to test the effectiveness of greenwashing on consumers in purchasing decisions in the grocers industry in the UK. This paper is using the research onion model, which provides orderliness and organization. A research philosophy pragmatism was chosen to merge the advantages of positivist and interpretivist paradigms, which would facilitate a mixed-method study to solve the problems of the real world and offer effective resolutions to the problem. The testing of already known theories like The Theory of Planned Behavior and the Elaboration Likelihood Model were tested using a deductive research approach. The research design used by the study is descriptive research design to quantify such variables as consumer awareness, skepticism, and trust.

The quantitative surveys and qualitative case studies were incorporated into a mixed-method approach enabling the collection of all the data on the UK grocery consumers. The participants were selected by snowball sampling and a sample of 384, which was sufficient to be representative. Correlation, regression and ANOVA were completed with the help of the SPSS, and reliability and validity were evaluated with the help of Cronbach alpha and structured questionnaire tests. A high level of ethical standards was observed including informed consent, data security and anonymity. In general, the methodology represents a strict and realistic set of guidelines to answer the research questions and generate meaningful and practical results.

CHAPTER IV: RESULTS

4.1 Chapter Introduction

The chapter presents illustration of the data that was acquired through the survey questionnaire by using analytical methods that presented both a series of graphs and tables with suitable interpretations. The structure of the chapter initially considers the reliability and validity that was

performed for the pilot study and then moves to discussed demographic data as well as a descriptive narrative, correlation and linear regression analysis.

Throughout the chapter the analytical process has been to present statistical data analytics along with interpretation of the findings against academic literature from the literature review to provide credible underpinnings to the outcomes that have been drawn as a result of the analysis.

4.2 Reliability and validity via pilot study

The pilot study was carried out before the actual process of data collection to test the reliability and validity of the research instrument and to make sure that the questions in the survey were suitable to calculate the primary constructs of the research. Due to the complexity of exploring the topic of greenwashing and its influence in affecting the decisions of customers to purchase specific products in the UK grocery retail industry, it was critical to ensure that the questionnaire items were internally consistent, conceptually sound, and statistically viable in the future to conduct large scale analysis. The use of pilot testing is common in empirical research studies to uncover the possible measurement problems, sharpen survey questions, and strengthen the quality of the primary study (Hair et al., 2020).

The pilot study also acted to confirm that the respondents were able to clearly comprehend the questions in the questionnaires and provide consistent answers across the constructs in terms of transparency, accountability, report contents, measured standards, and customer purchase decision.

A pilot sample of 30 respondents was used, which can be attributed to the methodological indications that pilot samples between 20 and 30 respondents are adequate when testing the reliability and factorability of instruments before its full implementation (Saunders, Lewis, and Thornhill, 2019). All study participants were also included in the same inclusion criteria as the main study; that is, they had to be residents of the United Kingdom, and had experience in grocery shopping, and had to be exposed to sustainability claims of grocery retailers. The pilot survey was based on the same structured questionnaire used in conducting the main study, with a five-point Likert scale with strongly disagree (1) and strongly agree (5) as the two ends of the scale. Each construct contained five items in the questionnaire: Transparency, Accountability, Report Contents, Measured Standards and Customer Purchase Decision.

4.2.1 Reliability Analysis

Cronbach alpha was used to determine the reliability of the measuring tool as this parameter measures the internal consistency of items in each construct. The generally accepted definition of Cronbach's alpha value of 0.70 and higher is acceptable to conduct exploratory and confirmatory research in social sciences (Hair et al., 2020).

Table 4.1 Reliability Statistics

Item Reliability Statistics		
	Number of Items	Cronbach's α
IV -Transparency	5	0.818
IV-Accountability	5	0.713
IV-Report contents	5	0.919
IV-Measured standards	5	0.932
DV-Customer purchase decision	5	0.831

Source: Data results through SPSS

The results of the pilot study reveal high internal consistency of all the constructs. Transparency has a Cronbach's alpha of 0.818 and this indicates the items on transparency are highly reliable and consistent. The Cronbach's alpha of accountability was 0.713 which was within the required minimum and indicates that accountability was reliable in this construct. The level of internal consistency recorded by Report Contents was especially high with a Cronbach's alpha of 0.919 which shows that the items used to measure perceptions of sustainability reporting were very coherent.

Measured Standards also had the highest Cronbach's alpha of 0.932, which was very high indicating high internal consistency and a respondent interpretive consistency of the items relating to certifications, standards, and verifiable sustainability measures. Lastly, the dependent variable which is Customer Purchase Decision registered a Cronbach's alpha of 0.831 which affirms that it is very reliable and can be used in the future inferential analysis.

In general, these findings indicate that all the constructs have values above the suggested reliability level, which proves that the instrument is stable, consistent and can be used in the primary investigation.

4.2.2 Validity Analysis

In an attempt to measure construct validity and appropriateness of data in the factor analysis, they undertook Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy in addition to Bartlett's Test of Sphericity. KMO values greater than 0.50 mean that the sample used is satisfactory to extract factors and Bartlett's Test is used to determine whether the correlation between items is adequate to extract the factor (Field, 2018).

Table 4.2 Bartlett's Test of Sphericity

Bartlett's Test of Sphericity			
	χ^2	df	p
	121	10	<.001

KMO Measure of Sampling Adequacy	
	MSA
Overall	0.881
IV -Transparency	0.894
IV-Accountability	0.865
IV-Report contents	0.859
IV-Measured standards	0.915
DV-Customer purchase decision	0.882

Source: Data results through SPSS

In the pilot study, the overall value of the KMO was 0.881 and this is considered to be meritorious and this is an excellent sampling adequacy. The values of KMO on the construct level were between 0.859 and 0.915, which again confirmed that all the variables were appropriate to be included in the factor analysis. These findings indicate that there are good inter-item correlations, and that the constructs have a conceptual definition.

The Test of Sphericity by Bartlett was significant ($\chi^2 = 121$, $df = 10$, $p < .001$) showing that the correlation was not an identity and enough elements were associated to each other to warrant factor analysis. The assessments of the KMO and the results of the tests conducted by Bartlett prove high construct validity and head to the fact that the measurement tool is factorable.

The Implications of the Pilot Study.

The pilot study results are empirical in nature in that there is high reliability and validity of the research instrument. Internal consistency on all constructs was acceptable to excellent and the tests of validity indicated that the data structure is suitable in further statistical tests, which involve correlation, regression, and hypothesis testing in the primary study.

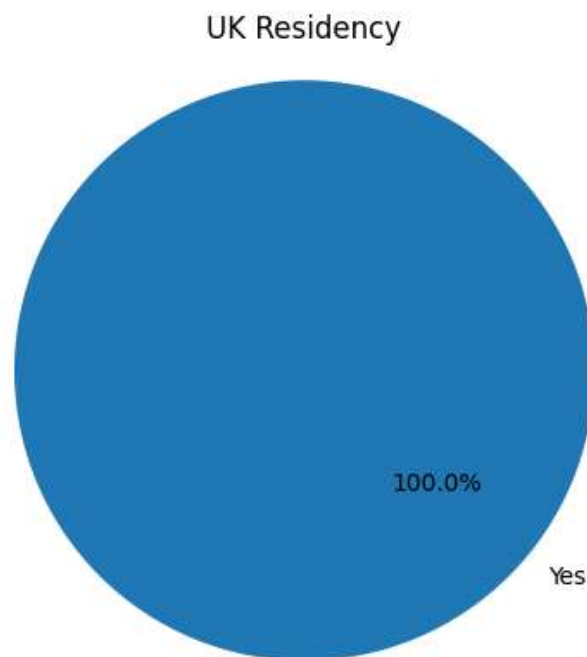
Notably, no measures needed to be removed or changed by the pilot results, which means the questionnaire was designed correctly and on the theoretical basis of the research. The pilot study hence affirms that the instrument can effectively achieve the measurement of perceptions regarding greenwashing practices by consumers and their impact on customer purchases decisions within the UK grocery retailing industry.

Finally, the pilot study was able to validate the measurement instrument that was used in the study. The reliability and validity findings are above the methodological standards of measurement assurance, which gives the confidence of the soundness of the survey instrument. Based on these results, the questionnaire was considered appropriate to be used in the entire study. The pilot study therefore enhances the methodological rigour of the study and the validity of future empirical research findings on the subject of greenwashing and customer purchase behaviour.

4.3 The demographic information

Following is a illustration of demographic data that was collected at the point of implementing the survey questionnaire to gain a deeper understanding of the general profiles of the participants as well as understanding into their behavioural elements of shopping in supermarkets and the implications of sustainability initiatives and greenwashing.

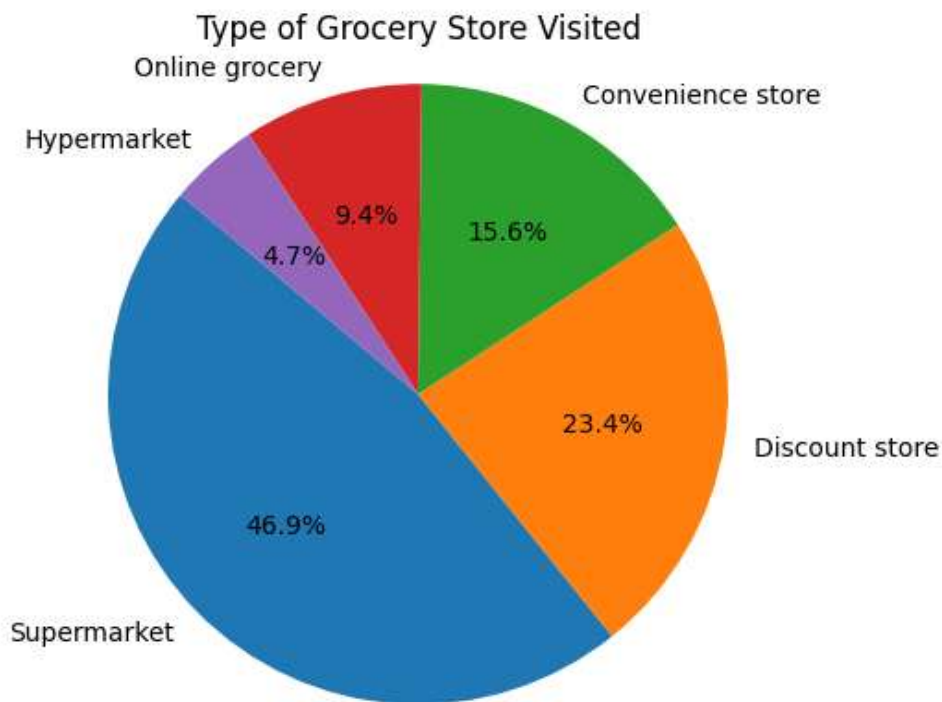
Figure 9 4.1: Residency of the respondents of the UK.



Source: Data results through SPSS

Pie chart shows that 100 percent of the respondents are in the United Kingdom, which points to the fact that the screening criterion was strictly followed. This is conceptually important, because the study is specifically focused on greenwashing in the UK grocery retail industry, where such regulatory provisions as the UK Green Claims Code are involved. The completely UK-based sample will guarantee a high level of internal validity and improved applicability of the results to the national consumer behaviour, sustainability perception, as well as the policy implications. This homogeneity will eradicate cross-jurisdictional bias and make all respondents vulnerable to the same sustainability claims, retail practices and regulatory settings, hence assisting in accurate interpretation of greenwashing influences on purchases made by customers.

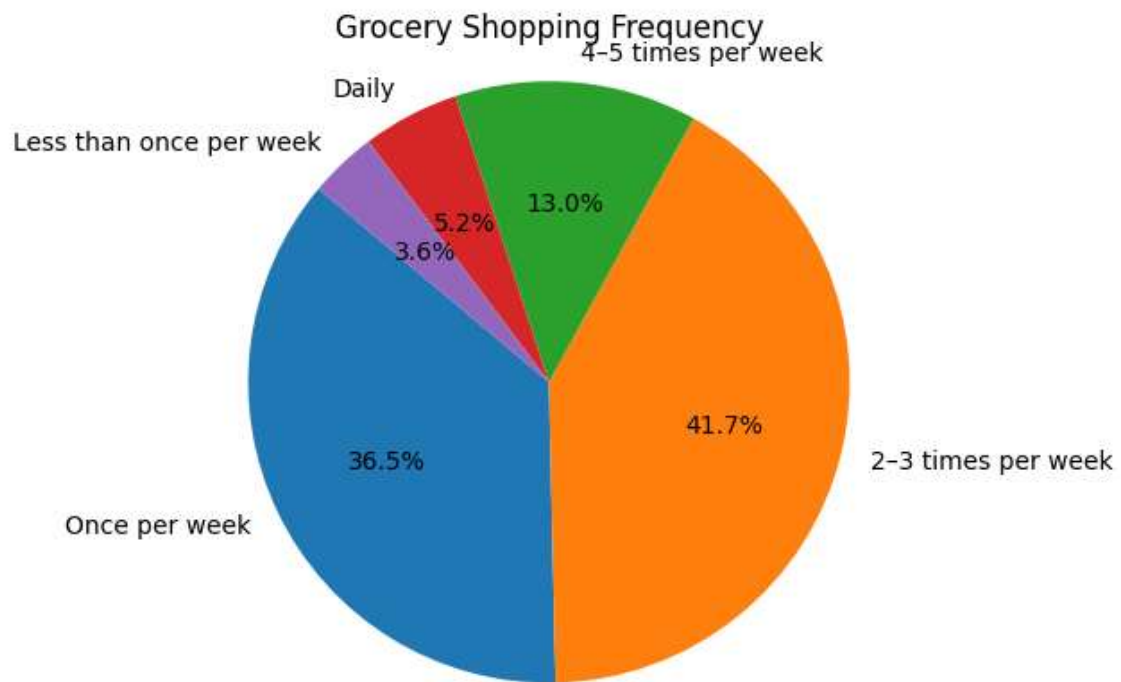
Figure 10 4.2: Grocery Store Type that is visited most often



Source: Data results through SPSS

The findings reveal that the traditional supermarkets control the consumer shopping behaviour, then the discount stores and the convenience stores. This is a very applicable distribution to the research as the main users of sustainability marketing and own-labeled environmental claims are the large supermarkets. The existence of discount and online retailers indicates how the UK grocery retail is taking a new shape in terms of structure in which sustainability messages are becoming standardised across the formats. This heterogeneity contributes to the overall generalisability of the study and helps to support the rationale of studying greenwashing in the context of different retail models where consumers are exposed to a different degree of transparency, accountability, and environmental disclosure at the points of purchase.

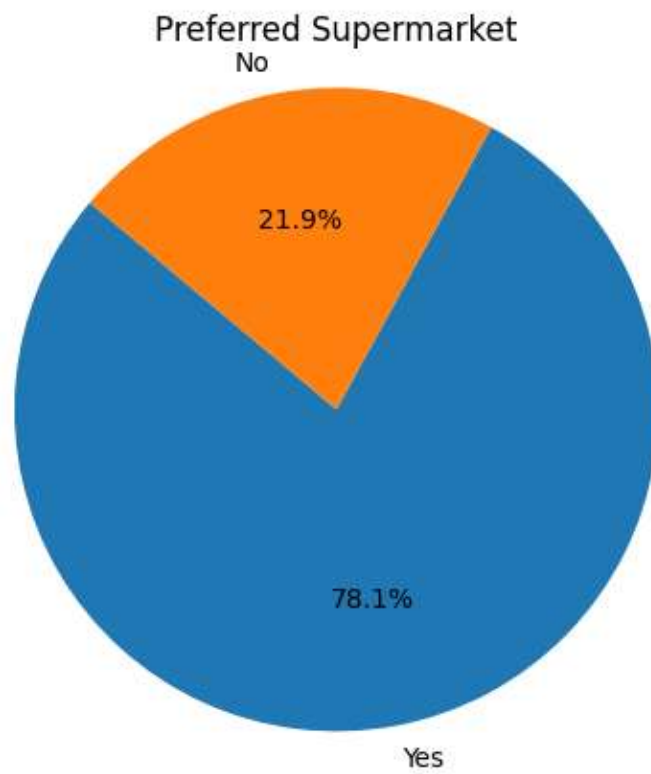
Figure 11 4.3: Frequency of Groceries Shopping



Source: Data results through SPSS

Most of the respondents make their purchases once or more than once every week, which means that they interact with the grocery retailers on a high frequency. This is essential to the research paradigm in that higher exposure to sustainability claims leads to the increased possibility of the greenwashing impact and the possibility of consumer scepticism. The cumulative impact of the misleading environmental messages is compounded by the high shopping frequency, which is consistent with the claims of the Elaboration Likelihood Model that the repetition of cues influences attitudes and behavioural intentions. The results support the emphasis on grocery retail since frequent buying increases the behavioural implications of transparency, accountability, and sustainability communication practices.

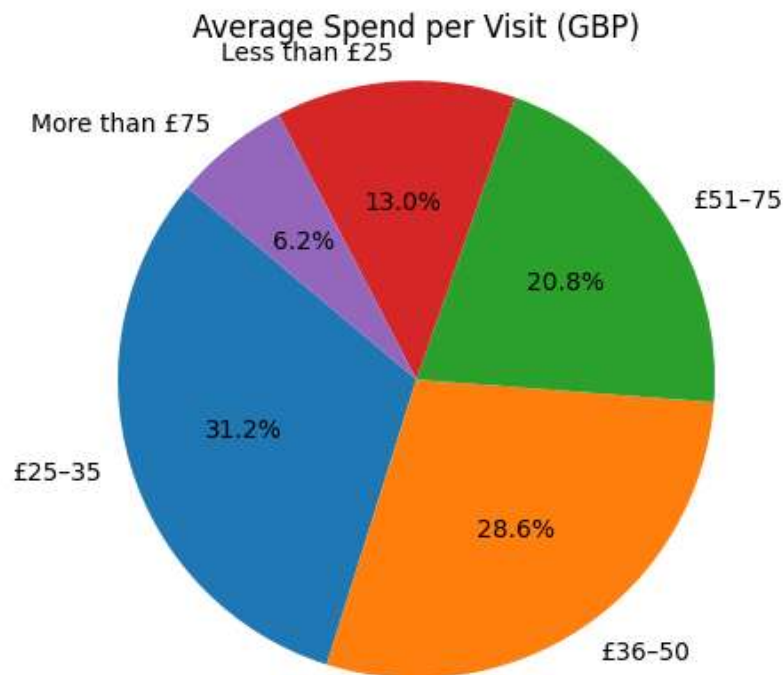
Figure 12 4.4: The preferred supermarket status



Source: Data results through SPSS

A large percentage of the respondents has indicated that they have a favourite supermarket thus demonstrating the significance of brand loyalty and trust in grocery stores. It is especially applicable to the area of greenwashing research because false sustainability statements can trigger the loss of long-term credibility and interrupt a routine buying pattern. The high level of retailer preference is in favour of the Consumer Trust Theory that is discussed in the literature where the trust is placed as an intermediary between corporate behaviour and purchase decision. The given demographic trend supports the importance of investigating the impact of greenwashing on the immediate purchase intention and the long-term consumer-retailer relationships.

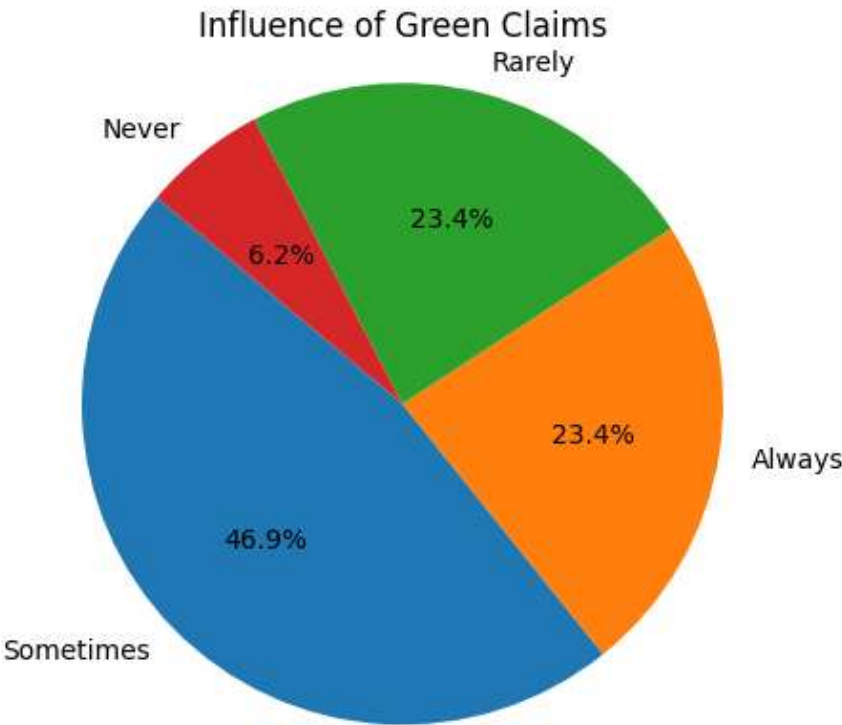
Figure 13 4.5: Means of Spend on Groceries Visit



Source: Data results through SPSS

The majority of the respondents belong to a PS25-PS50 range of spending, which implies a spender with moderate financial participation in a shopping activity. This consumer spending profile indicates that the consumers would tend to be value-conscious by considering price, quality, and ethical issues. In this case, sustainability claims can also become powerful heuristic instead of highly assessed information making the sustainability claims more susceptible to greenwashing. This is in tandem with the theory of the Information Asymmetry that states the scarcity of time and cognition causes the increasing dependency on signals. The allocation of spending thus reinforces the research focus on transparency and standards of measurement as tools of enhancing the informed decision-making.

Figure 14 4.6: Effect of Green or environmentally friendly Claims on Purchase



Source: Data results through SPSS

Most of the respondent's state that the green claims have the effect of sometimes or always having impact on their buying decisions although a smaller percentage state that the impact is rare or not at all. This result is paramount to the research paradigm, and it proves that sustainability message is significant in consumer behaviour. Nonetheless, the prevalence of sometimes implies that there are conditional factors, which uphold earlier research findings that customers are interested in being sustainably but are sceptical because of greenwashing. This population fact validates the applicability of investigating the role of transparency, accountability, and report.

4.4 Results

4.4.1 Descriptive narrative

The following table consists of the descriptive statistics that were generated for the survey results that were collected. The descriptive narrative discussed in this section provides a detail evaluation of the meaningfulness of these values as well as their overall implications with relation to the

research study especially focusing on the key variables that have being the centre point of the framework that was designed.

Table 4.3 Descriptives

Descriptives					
	IV - Transparency	IV- Accountability	IV- Report contents	IV- Measured standards	DV- Customer purchase decision
N	384	384	384	384	384
Missing	0	0	0	0	0
Mean	3.45	3.04	2.8	2.6	3.8
Standard deviation	0.884	0.916	0.916	0.917	0.851
Minimum	1	1	1	1	1
Maximum	5	5	5	5	5

Source: Data results through SPSS

The sample size of 384 UK grocery retail consumers on which the descriptive statistics are based is legitimate, and no values are missing, which means that data completeness and appropriateness are high and can be analysed further using the inferential statistics approach. Measurement of all the variables was done using a five-point Likert scale. The average scores indicate that there is variation among the independent variables with Transparency ($M = 3.45$, $SD = 0.884$) and Accountability ($M = 3.04$, $SD = 0.916$) getting above the scale midpoint and Report Contents ($M = 2.80$, $SD = 0.916$) and Measured Standards ($M = 2.60$, $SD = 0.917$) getting below it. Customer Purchase Decision was the dependent variable that registered the greatest mean ($M = 3.80$, $SD = 0.851$), which means that the overwhelming desire to put sustainability into consideration when making grocery purchasing decisions is generally high.

Statistically speaking, the standard deviations of all constructs are rather moderate (between 0.851 and 0.917), which can be interpreted as the indication of the reasonable dispersion of responses,

and the fact that the respondents were not over-focused on the extreme values. This heterogeneity is indicative of heterogeneous consumer perceptions, and this is anticipated in a high frequency low involvement purchasing situation like grocery retail.

In addition to statistical description, the findings have a lot of sense in the framework of the overall research paradigm of greenwashing and consumer decision-making. The mean of customer purchase decision (3.8) is extremely high, which supports the existing data that indicate that UK customers have strong intentions to buy environmentally conscious products, which is consistent with the results of Rahaman (2024) and O'Sullivan (2023), which found that the majority of customers prefer to buy sustainable products. This is in line with the Theory of Planned Behavior that suggests that the favourable attitudes towards sustainability have a significant factor in influencing behavioural intentions, despite imperfect actual control or imperfect information.

Nevertheless comparing such high purchase intention with the low purchase intentions on Report Contents (2.8) and Measured Standards (2.6), one can observe a distinct intention information gap. The presence of such a contrast greatly supports the Information Asymmetry Theory and Signaling Theory, which various authors use in their literature reviews to believe that consumers, in most cases, have no access to verifiable sustainability information and only have access to inefficient signals, like unspecified claims or eco-labels. This lack of trust in published content is similar to Jóźwik-Pruska (2022) and Ines et al. (2023), who discovered that people face difficulty in decoding sustainability reports and certifications, especially in grocery stores where time constraints and label clutter tend to be prevalent.

The moderately positive score of Transparency (3.45) indicates that the consumer perception about the retailers being transparent in conveying their environmental practices may be held to be true but this would collapse upon more objective measures like measured standards and credibility of the reports. Such a variation is consistent with the position of Szabo and Webster (2020) that transparency, but no substantive verification can still create a perceived greenwashing. Bhagat (2024), in his turn, argues that true transparency promotes trust, but the currently obtained results indicate that it might not be entirely enough in grocery terms when accompanied by weak standards.

Likewise, Accountability (3.04) is placed directly above neutrality, which means that there is an ambivalence concerning the accountability of retailers on environmental claims. This is in line

with Pizzetti et al. (2021) and Paudel (2024) who emphasize that the lack of adequate accountability mechanisms has an adverse impact on consumer confidence and ethical authority, especially in situations where corrective measures are ambiguous.

In general, the descriptive statistics provide an insight into a paradox of this study as consumers are ready to reward sustainability in the purchase decisions but are still sceptical about the mechanisms to communicate and verify sustainability proclaims. The conceptual framework is reinforced by this paradox, which explains why the hypothesis testing that follows to discuss the effects of transparency, accountability, report contents, and measured standards to form the purchasing behaviour in a scenario of perceived greenwashing is justified.

4.4.2 Correlation Analysis and Interpretation.

The Pearson correlation test was used to test the strength, direction and significance of the relations between the four independent variables- Transparency, Accountability, Report Contents and Measured Standards and the dependent variable, Customer Purchase Decision. All the correlates were statistically significant at $p < .001$ which implies that there are strong relationships among the sample of UK grocery retail consumers.

Table 4.4 Correlation Analysis

Correlation Matrix					
		IV - Transparency	IV- Accountability	IV- Report contents	IV- Measured standards
DV-	Pearson's r	0.574	0.508	0.499	0.498
Customer	N	384	384	384	384
purchase	p-value	<.001	<.001	<.001	<.001
decision					

Source: Data results through SPSS

Statistically, customer purchase decision is positively and moderately correlated with all independent variables, based on the accepted thresholds (weak: 0.01-0.40; moderate: 0.41-0.70; strong: 0.71-0.99). Transparency has the most significant relationship ($r = 0.574$), then

Accountability ($r = 0.508$), Report Contents ($r = 0.499$), and Measured Standards ($r = 0.498$) have an equal and moderately strong relationship with purchasing decisions. The lack of weak correlations implies that all the constructs that form part of the conceptual framework are substantively relevant predictors of consumer behaviour in UK grocery retail setting.

While all the correlations are below the "strong" threshold, they are still statistically significant. It means that, although factors connected with sustainability play a big role in the purchasing decision, they do not work independently and are probably mediated or moderated by other cognitive, emotional, and situational factors, and such an expectation is corroborated by the Elaboration Likelihood Model (ELM) and Theory of Planned Behavior (TPB).

Transparency and Customer Purchase Decision ($r = 0.574$)

The highest correlation has been found between Transparency and Customer Purchase Decision, which has a moderate to high positive association. Statistically, this would indicate that the more perceptions of transparent environmental communication are, the more chances of buying the products of grocery retailers. This result empirically confirms **H1** and is well in line with literature reviewed.

Theoretically, this relationship denotes the central route processing of the Elaboration Likelihood Model (Petty and Cacioppo, 1986) where a consumer with view sustainability information as transparent and available to her/him, the consumer is more inclined to think over and internalise the message, and her/his purchase intention remains constant. The same point is made by Bhagat (2024), who claims that transparency improves credibility and trust which are antecedents of behavioural intention.

In comparison, the result supports other studies by Szabo and Webster (2020), who found that the perceived transparency decreases perceptions of greenwashing and enhances the purchase intention. Nevertheless, this relationship is applied to the grocery retail setting, where, as opposed to their study, online setting, decision-making is common and time-limited in the present research. This reinforces the value of the study by showing that transparency has been found to be relevant to behaviour even in low-involvement purchasing contexts.

Accountability and Customer Purchase Decision ($r = 0.508$)

H2 is also supported by the moderate positive relationship between accountability and customer purchase decision. This is statistically significant to mean that in the case consumers are convinced that retailers have responsibility in the effects of the environment, and they are responding to any failure of sustainability, their intentions to make purchases increase.

Regarding the Consumer Trust Theory, the issue of accountability directly reinforces the impressions of integrity and benevolence (Isaeva, 2020). This is congruent with Paudel (2024), who discovered that consumers remove support of brands considered to avoid responsibility in the issue of sustainability inadequacies. Likewise, accountability failures also decreased the support of the stakeholders, but in an investment and not a consumer setting (Pizzetti et al., 2021).

On the other hand, correlation strength is lower as compared to transparency, which indicates that accountability mechanisms might not be easily perceived by consumers as compared to transparency signals. This confirms the claim put forward by Feghali, Najem, and Metcalfe (2025) that accountability is usually a background activity and needs to be reinforced by regulations to attain salience in consumer decision-making.

Search Report Materials and Customer Buy ($r = 0.499$)

H3 is also true as the correlation between Report Contents and Customer Purchase Decision is moderate and positive. It statistically means that clearer and more credible sustainability reports have stronger purchase intentions, but the correlation is slightly lower than transparency and accountability.

This result is especially important in comparison to the descriptive statistics which revealed rather low mean scores on report contents. Collectively, the above findings indicate that credible reports do count, and most consumers are not completely convinced that the quality of the current reports is up to standard. This confirms the results of Lu et al. (2022), who have discovered that the perception of greenwashing in sustainability reporting enhances risk perception and decreases purchase intention.

According to a signalling theory approach, sustainability reports play the role of signals of corporate intent; however, their success requires clarity and credibility. Schmuck et al. (2018) established that ambiguous or deceptive claims create negative attitudes towards the brand, which indirectly affects the buying behaviour. This argument is furthered by the current results which

empirically associate report credibility and consumer decision-making in grocery retail, a field that had not previously been adequately represented in research.

Measured Standards and Customer Purchase Decision ($r = 0.498$)

The measured standards are also positively correlated with the customer purchase decision at a moderate level, which confirms **H4**. This correlation is statistically equal to contents of reports and the importance that third-party certifications, verifiable standards, and audited practices have in influencing purchasing behaviour is emphasized.

The outcome can be closely associated with the Information Asymmetry Theory which states that verifiable standards minimize uncertainty and curb opportunistic behaviour like greenwashing (Bergh, 2018). Akturan (2018) also discovered that discrepancies between purported and actual sustainability performance harm brand reputation and decreases the intention to buy.

However, the correlation is not very high which is remarkable. This indicates that despite consumers attaching importance to certifications and standards, they might not have the time or expertise to decode fully, which means that eco-labels do not empower consumers, as Yaqub (2024) concluded. In comparison to transparency, measured standards are harder to perceive and demand a higher level of cognitive effort, which is why they do not impact such mundane grocery purchasing decisions.

Synthesis of correlation findings

Taken together, the outcomes of the correlation tests support the conceptual framework by revealing that all the four independent variables are significant to the customer purchase decision, but none of them make a decisive impression on the decision-making process. This agrees with a multi-theoretical explanation, with trust formed by transparency and accountability (Consumer Trust Theory), report contents and measured standards serving as signals (Signalling Theory), with information gaps mediating the behavioural results (Information Asymmetry Theory).

Notably, the medium intensity of all relationships is indicative that greenwashing is a systemic problem, which affects but does not entirely define consumer behaviour. This result is in contrast to more deterministic conceptions of green consumption, and rather suggests the more subtle, probabilistic conception of behaviour championed by TPB and ELM.

4.4.3 Linear Regression Analysis and Interpretation.

The multiple linear regression analysis was used to explore the concomitant and independent impacts of Transparency, Accountability, Report Contents, and Measured Standards on Customer Purchase Decision in UK grocery retail market.

Table 4.5 Regression Analysis

Model Fit Measures					
Model	R	R ²			
1	0.827	0.685			
<i>Note.</i> Models estimated using sample size of N=384					
ANOVA Test					
	Sum of Squares	df	Mean Square	F	p
IV -Transparency	40.1	1	40.106	173.7	<.001
IV-Accountability	23.3	1	23.25	100.7	<.001
IV-Report contents	22	1	21.954	95.1	<.001
IV-Measured standards	25.1	1	25.078	108.6	<.001
Residuals	87.5	379	0.231		
<i>Note.</i> Type 3 sum of squares					
Model Coefficients - DV-Customer purchase decision					
Predictor	Estimate	SE	Standardized beta (β)	t	p
Intercept	0.0997	0.1318		0.757	0.45
IV -Transparency	0.3821	0.029	0.397	13.18	<.001
IV-Accountability	0.2821	0.0281	0.304	10.035	<.001
IV-Report contents	0.2738	0.0281	0.295	9.751	<.001
IV-Measured standards	0.2901	0.0278	0.313	10.422	<.001

Source: Data results through SPSS

The total model shows a good fit as the coefficient of multiple correlation of $R = 0.827$ and $R^2 = 0.685$ shows that the four independent variables explain 68.5 percentage of customer purchase

decision. Such an explanatory power is significant to consumer behaviour research, especially in a low involvement and complex situation like grocery retailing.

The ANOVA test illustrates that the regression model is statistically significant (F values of 95.1 to 173.7, $p < .001$) and proves that the model predicting customer purchase decision is significantly better than the model which predicts only the predictors. The standardized beta coefficients of all independent variables are statistically significant at the level of $p = .001$, which proves that each of them has its unique contribution to the dependent variable, taking into consideration the influence of the rest of the predictors.

Relative influence wise, Transparency comes out to be the best predictor ($b = 0.397$) as compared to Measured Standards ($b = 0.313$), Accountability ($b = 0.304$), and Report Contents ($b = 0.295$). The intercept value is not significant ($p = 0.45$) meaning that the included predictors are significant in explaining purchase decision as opposed to the effect of the baseline effects. Taken together, all these findings justify H1-H4, which testifies that all four constructs play a significant role in customer purchase decision.

The large R^2 (0.685) is especially significant in the general paradigm of greenwashing and consumer decision-making. The tendency of high explanatory power of consumer behaviour models is frequently a failure because of when the psychological, emotional and situational variables are unobservable. The fact that the sustainability-related constructs would explain almost 70 percent of the variance in purchase decision explains the significance of greenwashing-related perceptions in the UK grocery retailing industry. This observation complements prior research like Akturan (2018) and Lu et al. (2022), which identified a smaller explanatory power of sustainability signals when applied to fashion-oriented settings and online retail, which can indicate that sustainability cues can be even stronger in the grocery retail setting because they are frequently observed.

The prominence of Transparency ($b = 0.397$), the most important element in the conceptual framework, proves the earlier theoretical claims. The insight of transparency with regards to the Elaboration Likelihood Model (ELM) is that central-route processing is possible through enabling the consumer to critically analyse sustainability claims instead of superficial cues. This is in line with the argument by Bhagat (2024), who contended that transparency and open disclosure increase the perception of credibility and trust and, as such, increases behavioural intentions.

Relative to the works that focus on the emotional or symbolic sustainability cues, the current results reveal that clarity and openness have the most direct behavioural impact, especially during the high-choice, time-stressful shopping experience.

This finding can also be corroborated by the Consumer Trust Theory which states that transparency improves integrity and competence perceptions. According to O'Sullivan (2023), the mistrust in ambiguous sustainability statements has a greater negative effect on the intention to buy at large UK supermarkets. The current research also makes a step further and measures the relative role of transparency and proves it to be greater than all other sustainability-related predictors taken together. This is unlike some previous studies where the transparency was considered as one among a large number of similar drivers, but rather on primacy when it comes to counteracting the scepticism created by greenwashing.

The high predictive value of Measured Standards ($b = 0.313$) gives vital information on consumer reaction to verifiable sustainability signal. This is in line with Signalling Theory and Information Asymmetry Theory that claim that third party certifications and quantifiable standards reduce uncertainty and alleviates opportunistic behaviour by firms. Akturan (2018) also found that brand equity and purchase intention are undermined by discrepancies between reported and actual sustainability performance. But unlike in previous researches where measured standards are usually viewed as the secondary or indirect effects on purchase decision in grocery retail, the present regression findings indicate that measured standards have a direct and significant impact on the purchase decision in a grocery retail.

Meanwhile, the value of beta of measured standards is less than that of transparency, which indicates a significant subtlety. Despite the importance of certifications and standards, it does not necessarily mean that consumers are aware of everything and have the cognitive resources to compare them when they go shopping in their groceries. This result is in line with what Jóźwik-Pruska (2022) discovered; that the use of eco-labels often disempowers consumers instead of empowering them; thus, restricting their behavioural effects. Therefore, the current results prove and further develop current literature by demonstrating that measured standards are powerful, yet their impact is partly limited by the availability and the literacy of consumers.

The accountability ($b = 0.304$) also stands out as important predictor which makes the reasoning that consumers appreciate the readiness of retailers to accept accountability in instances where

they fail to meet the standards. This is in line with Paudel (2024) who established the fact that perceived accountability reinforces ethical credibility and boosts purchase intention. Accountability unlike transparency is usually associated with corrective measures and less apparent mechanisms of governance to the consumers. According to the regression findings, the accountability continues to produce a significant behavioural impact, which supports the argument by Feghali, Najem, and Metcalfe (2025) that inadequate accountability systems promote greenwashing and destroy consumer trust.

Interestingly, accountability beta is somewhat less than that of measured standards implying that consumers are more responsive to observable evidence rather than organisational intent alone. Such a discovery is contrary to certain normative sustainability models which lay stress on company responsibility rather than performance checks. The current research thus adds empirical findings that support a more practical approach to consumerism of trust being earned through actual results as opposed to what has been promised.

Although the report contents ($b = 0.295$) are statistically significant, they have the least relative impact amongst the predictors. This result is of special importance when it is viewed in the context of the descriptive statistics, which demonstrated low means of report credibility and clarity. In line with Lu et al. (2022) and Schmuck et al. (2018), it indicates that although high-quality sustainability reports are capable of positively impacting the purchase decision making, many consumers are not convinced by such reports as they believe that it is marketing oriented.

Sustainability reports have high motivation and information-processing demands, which may not be the case in the normal grocery shopping in an ELM perspective. That is why report contents, even though they are important, have a relatively lower impact than transparency and measured standards. The result is opposite to the findings of other situations in high-involvement industries like finance or luxury goods where sustainability reporting is a more significant focus in the decision-making process.

Synthesis and Implications to the Research Framework.

Overall, the results of the regression give the strong empirical support to the suggested conceptual framework and theoretical integration. These findings illustrate that there is a chain of sustainability cues that influence customer purchase decision, where transparency is the central

element, backed up by quantifiable standards and accountability and enhanced by report contents. This hierarchical arrangement is in line with multi-theoretical explanations by integrating TPB (attitude-intention connection), ELM (depth of information processing), Signaling Theory (cues credibility), and Information Asymmetry Theory (reducing uncertainty).

Notably, the regression model is robust, which proves that greenwashing is not a secondary, but a core predictive of consumer behaviour in the UK grocery retail business. This is the explanation of a significant percentage of behavioural variance, which means that the study is moving the current literature further than the conceptual discussions and provides considerable empirical data with specific implications to the retail shop and other policymakers.

4.5 Triangulation of the Results

Triangulation of data is an important methodological approach that is employed to make empirical studies more credible, robust, and insightful in terms of the interpretative level by checking convergence of several analytical methods. The triangulation in this study is realized by means of combining the demographic profiling, descriptive statistics, correlation analysis, and multiple linear regression. Collectively, these analytical layers will offer an overall and internally reliable explanation of how the constructs related to greenwashing affect the decision of customers to purchase in the UK grocery retail industry.

The demographic results provide a good contextual base of the analysis. This is because the sample consists of all UK residents where the regulatory and cultural factors are consistent in exposure to sustainability claims. The shopping frequency and retailer preference are both high, which means that the consumers are interacting with grocery retailers repeatedly and enhances the behavioural salience of the sustainability messages. Moreover, the fact that the claims about green or eco-friendly sometimes or always has an impact on purchase decision proves that sustainability communication is not marginal but it is an inherent part of how consumers make their decisions. This demographic background confirms the applicability of the investigation of the aspects of transparency, accountability, report content, and measured standards as the vital types of explanatory variables.

The initial quantitative evidence of an intention-credibility gap is the descriptive statistics. Although the customer purchase decision exhibited a relatively high mean of central tendency, the independent variables, especially the report contents and the measured standards exhibited low

values of the central values of tendency. This disparity implies that even though consumers declare their readiness to consider sustainability in the purchasing behaviour, they are still not convinced of the process of conveying the concept of sustainability. This descriptive trend is in line with the existing literature of greenwashing, which postulates that the intent of consumers is sometimes stronger than the trust in corporate sustainability statements because of information asymmetry and uncertainty.

This interpretation is reinforced by the correlation analysis which shows positive relationships that are statistically significant and moderate between each independent variable and customer purchase decision. Transparency presented the best correlation, then accountability, contents of reports and measured standards. The lack of weak correlations proves that all the constructs have a meaningfully significant relationship with purchasing behaviour, whereas the lack of strong correlations implies that none of the factors work alone. This observation validates multi-theoretical views, especially that of the Theory of Planned Behaviour and the Elaboration Likelihood Model which hold that behavioural intention is determined by the presence of many, interacting cognitive and situational determinants to behavioural intention rather than one dominant cue.

More importantly, the triangulation process has a confirmatory and explanatory richness through the linear regression analysis. The model accounts 68.5% of the variance in customer purchase decision which means it has a significant explanatory power in research on consumer behaviour. This level of R^2 proves that the perception relating to greenwashing play pivotal roles in defining purchasing behaviour in the UK grocery retail. The relative importance of each predictor is also explained by the results of the regression. Transparency ($b = 0.397$) is the best predictor, then measured standards ($b = 0.313$), accountability ($b = 0.304$), and report contents ($b = 0.295$), all predictors being statistically significant with $p = .001$.

By triangulating the desk types and the correlation results, a consistent trend is arrived at. Transparency is perceived as having the most positive impact by consumers, and it has the most behavioural impact, which proves the key idea of minimising scepticism and making an informed choice. Lower descriptive means but measured standards have a strong predictive effect indicating that verifiable sustainability cues have a strong behavioural predictive effect when they exist and are comprehended. Accountability and ethical credibility strengthen trust and report contents,

which despite being statistically significant, have a relatively weak effect, probably because of consumer fatigue and cynicism about corporate sustainability reporting.

There is convergence in all the levels of analysis. Exposure and relevance are established through demographics, perceptions gaps are identified through descriptive statistics, the relationship of causes and effect is established through correlations, and the causal explanatory power is established through the proposed conceptual framework through regression analysis. This intersection strengthens the internal validity of the research and minimizes the probability of discovering the results as a product of one method of analysis.

On a general research process point of view, triangulation validates that greenwashing is a multidimensional and systemic phenomenon that has an impact on consumer behaviour, both perceptual and cognitive. The results confirm the research design, the theoretical framework and the hypotheses tested. Notably, the similarity of the findings in the methods enhances the credibility of the conclusions in the study and justifies their application in scholarly publication and applicability to practice.

4.6 Hypothesis

The table of hypothesis testing is a summary of the results of the multiple linear regression test that was done during the current research. It provides the statistical data applied in the assessment of the suggested relationships among greenwashing-related constructs and the customer purchase decision in the UK grocery retail market.

Table 4.6 Hypothesis

Hypothesis	Relationship	Standardised β	p-value	Decision
H ₁	H ₁ : There is a relationship between transparency and customer purchase decision.	0.397	< .001	Accepted
H ₂	H ₂ : There is a relationship between accountability and customer purchase decision.	0.304	< .001	Accepted
H ₃	H ₃ : There is a relationship between report contents and customer purchase decision.	0.295	< .001	Accepted

H ₄	H ₄ : There is a relationship between measured standards and customer purchase decision.	0.313	< .001	Accepted
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Source: Data results through SPSS

The findings showed that the four hypotheses suggested in this paper are all empirically justified. Transparency ($b = 0.397$, $p < .001$) is found to be the most significant predictor of customer purchase decision, which emphasizes the importance of clear and open communication of sustainability in customer behaviour. The accountability ($b = 0.304$, $p < .001$) also proves to have a significant positive correlation, implying that consumers appreciate the readiness of retailers to engage responsibility towards the environmental assertions and consequences. Report contents ($b = 0.295$, $p < .001$), being the least predictive, is still significant which shows that the credibility and clarity of sustainability reports still dominate the purchase decisions despite increasing consumer scepticism. Measured standards ($b = 0.313$, $p = .001$) also support the significance of provable certifications and performance indicators to minimize uncertainty and develop trust. Taken together, these results prove the strength of the conceptual framework and affirm the importance of the greenwashing-related perceptions as the determinants of the customer purchase decision.

4.5 Summary

The chapter had an extensive quantitative study that explored how practices associated with greenwashing are likely to affect customer buying behaviour in the UK grocery retail market. Applying a systematic and methodologically sound technique, the chapter combined the demographic profiling, descriptive statistics, correlation analysis, and multiple linear regression in order to answer the research objectives and hypotheses of the research presented in the chapter. The demographic findings proved the topicality of the sample where regular contact with grocery stores and a significant amount of exposure to sustainability and green-friendly statements were noted.

As demonstrated in the descriptive analysis, there is a significant gap between the professed readiness of the consumers to consider sustainability as a factor in purchase decisions and the relative lack of confidence in transparency, accountability, sustainability reporting, and measured standards. This observation implied the existence of scepticism and information asymmetry that justified the need to study greenwashing as one of the key research concerns. Correlation analysis

also revealed statistical significant and positive correlation between all of the independent variables with customer purchase decision, thus showing its applicability in the proposed conceptual framework.

Most importantly, the regression analysis gave a good empirical evidence in the study, which has a significant proportion of variance in customer purchase decision and that transparency, accountability, report contents, and measured standards have a significant effect. Transparency proved to be the most powerful predictor but other variables also played significant and complementary roles in the final consumer decision-making.

Collectively, the results give strong responses to the research questions and support the hypothesised relationships. This chapter is followed by another chapter that places these empirical findings in the context of the rest of the academic literature, critically interpreting their theoretical implications, and discussing how the results can further develop the existing knowledge on the topic of greenwashing and consumer behaviour within the context of the UK grocery retail space.

CHAPTER V: DISCUSSION

The following chapter is designed to present a discussion of the data findings with relation to the Research objectives. through this discussion the intention is to provide context and inside into the potential answers that can be supplied to the key research questions that form the Foundation of the study. Accordingly, the data findings as well as academic underpinning that have been presented in the previous chapter about it to context with specific relevance to each research objective.

Although the findings of this paper indicate that they indicate congruence with available literature on greenwashing and consumer behaviour, they are not only crucial in confirming them but also explaining why greenwashing remains an influential factor in making buying decisions in the UK grocery retail market. The chapter thus transcends the descriptive comparison and dwells on the interpretation of the mechanisms inherent to consumer vulnerability, regardless of the increased awareness and regulatory coverage. Specifically, the discussion highlights the interaction of low-involvement purchasing environments, information asymmetry and inequitable application of regulation as it affects consumer decision making. Unpacking these dynamics, the chapter is able to show that the problem of greenwashing is not that people are ignorant about it, but rather that structural and communicative issues restrict their capacity to understand sustainability claims in an effective way.

5.1 Research Question 1 :What factors could make the customers more or less prone to greenwashing?

This research question attempts to understand the circumstances under which customers are more vulnerable to the greenwashing practices and which are the factors that reduce the vulnerability. The empirical results of this research are able to give definite answer when descriptive, correlational and regression outcomes are taken into account. Describing statistics showed that customer purchase decision had a fairly elevated mean score, whereas the ratings of report contents, and measured standards were significantly less. Their divergence implies that people have intentions to be pro-sustainable, yet they do not trust the credibility and verifiability of sustainability-related information, which exposes them to becoming greenwashed.

The identified mismatch between the high intentions to be pro-sustainable and low trust in the validity of sustainability information is especially striking, as it refines the problem of consumer

vulnerability as a systemic challenge and not as a personal inability. That this is a deviation and not a sign of apathy or lack of knowledge implies that consumers are willing but lack the access to reliable, verifiable information in the grocery retail setting. The given finding complements the body of literature in that awareness is insufficient to ensure that consumers are no longer deceived by greenwashing provided that the responsibility to verify the situation falls on anyone, who is under the time pressure and has cognitive limitations. As a managerial issue, however, such a lapse has a consequential effect, since continued exposure to unverified assertions will lead to normalisation of scepticism and damaged long-term consumer trust. As a result, greenwashing does not just falsify consumer buying behaviors but jeopardizes sustainability communication in the retail industry, in general.

Correlation analysis revealed statistically significant moderate positive relationships of all the greenwashing-related constructs with customer purchase decision, which demonstrates that consumers perceive them as important elements in examining the sustainability claims. But since there are no significant correlations, it can be concluded that no single factor can ensure consumers against misleading information. The regression analysis further offers more insight because the regression analysis reveals transparency as the most potent indicator of purchase decision ($b = 0.397$), measured standards, accountability and report contents. The results of these studies point to the idea that customers are more likely to become victims of greenwashing provided that there is low transparency, ambiguous accountability mechanisms, and claims of sustainability that are not measurable or verifiable independently.

Such findings fully correspond to the Information Asymmetry Theory that postulates that consumers are unfavoured when companies have better information concerning product specifications, especially credence specifications like environmental performance (Akerlof, 1970; Bergh, 2018). In cases where sustainability information is not clear or verifiable, there is an augmentation in information asymmetry and consumers are more prone to greenwashing. The comparatively lesser strength of the impact of report contents complies with previous studies indicating that sustainability reports are frequently viewed as so complicated, promotional, or not fully disclosed, restricting their protective impact (Delmas & Burbano, 2011; Lu et al., 2022).

Nevertheless, the results also point to the fact that there is no binary information asymmetry in the particular case concerning sustainability communication but rather a gradual one. Transparency,

accountability, measured standards, and report contents are partial corrective mechanisms, instead of full solutions to asymmetry. This can justify the existence of greenwashing even in controlled settings and among rather educated consumers. One point to note is the lesser powerful effect of the contents of the sustainability reports, which means that there will be reduced payoffs of disclosure-intensive strategies especially where the information is difficult to understand or interpret (Delmas & Burbano, 2011; Lu et al., 2022). This extension takes Information Asymmetry Theory to the next level where the larger the amount of information the less uncertainty one is more likely to know unless the information is available, reliable and readily comparable. In that way, the research develops the knowledge base by demonstrating that information asymmetry can be maintained not only by information incompleteness, but also by the usability of information and its credibility in consumption situations in the real world.

This susceptibility is further explained in the Elaboration Likelihood Model (ELM). Low-involvement and high-frequency situations like grocery shopping should involve consumers less-prone to central-route processing and more-prone to peripheral cues (e.g. eco-labels, slogans and visual symbols) (Petty and Cacioppo, 1986). The results of the study that transparency and measured standards have a more significant impact than report contents imply that readily available and tangible signs are more useful to diminish the vulnerability to greenwashing than the comprehensive disclosures that demand cognitive processing.

This prevalence of transparency and measured standards over detailed sustainability reporting has significant connotations regarding them through the Elaboration Likelihood Model. The consumer tends to use peripheral cues rather than processing information in a more effortful central-route processing in high frequency, low involvement buying situations like grocery retail. This implies that conventional assumptions that sustainability disclosure strategies are based on can be false to the real consumer behaviour) (Petty and Cacioppo, 1986).

To practitioners, this result suggests that long materials and multifaceted accounts might provide partial protection to behaviour against greenwashing, whereas simple signals that are verifiable and can be proven have a disproportionate effect. Strategically, retailers are confronted with a crucial decision towards taking advantage of such dependence on heuristics or to invest on plausible cues that actually decrease misinterpretation by consumers. Policymaking-wise, the results suggest that those regulatory means that are based exclusively on the disclosure adequacy

might be inadequate unless the way that sustainability information are processed in practice conditions of the real purchase is also considered.

On the other hand, the findings also show that customers are less likely to be affected by greenwashing in case there is transparency and the sustainability claims are backed by quantifiable standards. Transparency eliminates uncertainty because it makes information available and easily comprehensible, thus inducing the formation of trust (Bhagat, 2024). Measured standards serve as plausible cues, which is in line with the Signalling Theory, as they help to reduce ambiguity and allow consumers to separate between sincere sustainability activities and opportunistic advertising (Spence, 1973; Akturan, 2018). This effect is also further supported by accountability, which indicates organisational responsibility and ethical purpose, which is legitimate in Consumer Trust Theory (Pizzetti et al., 2021).

In general, the results indicate that uncertainty in information, ineffective verification systems, and the lack of accountability make customers vulnerable to greenwashing, whereas obscurity, measurable criteria, and responsible management render vulnerability much lower.

5.2 Research Question 2: What is the level of awareness within the UK grocery retail sector customers regarding green washing practices?

The research question will be looking at the level of awareness of the grocery retail customers of the UK on the subject of greenwashing practices and how this awareness is reflected in perceptions and behaviour of the customers. The descriptive results show that customer purchase decision had a fairly high mean score, although the level of perceptions of report contents and measured standards was significantly low. This trend indicates that consumers are conscious of sustainability statements and weaken the purchasing behaviour, but do not believe in its plausibility. This type of scepticism is a moderate and partial level of greenwashing awareness.

The interpretation is supported by demographic findings. The majority of respondents suggested that the eco-friendly or green claims do not affect their purchasing decision every time, but only sometimes. The implication of this conditional impact is the fact that consumers do not necessarily believe sustainability assertions, implying that they are aware of possible exaggeration or misrepresentation. The previous studies also show that consumers are more aware of greenwashing

practices but do not always have the knowledge to evaluate them (Nyilasy, Gangadharbatla, and Paladino, 2014; Yaqub, 2024).

Correlation also indicates that there exists awareness which is subtle. The statistically significant moderate positive relations between transparency, accountability, report contents, measured standards, and customer purchase decision demonstrate that the customer comprehends them as evaluative criteria. Nevertheless, the fact that there are no significant correlations indicates that awareness does not beget full confidence or assurance. This conforms to the argument by Delmas and Burbano (2011) that consumer awareness towards greenwashing is in most cases, intuitively based as opposed to analytically.

The regression analysis explains the character of this awareness. Transparency was found to be the best indicator of purchase decision, which means that consumers are very sensitive to visible and available sustainability communication. Conversely, the contents of reports and measured standards, despite being important, had weaker influences, which implies a weak sense of awareness or knowledge of technical disclosures and certification schemes. This trend endorses the Elaboration Likelihood Model, which is the concept that consumers who experience time and cognitive limitations depend on peripheral information rather than information processing in detail (Petty and Cacioppo, 1986).

Information Asymmetry Theory also justifies the fact that awareness is still incomplete. Although consumers are aware of greenwashing, in many cases, they do not have the information and knowledge that could help them thoroughly assess the claim of sustainability particularly in complicated retail settings (Bergh, 2018). This is a condition of critical scepticism and not of critical knowledge.

In short, the results indicate that the level of awareness of greenwashing among the UK grocery retail customers is moderate, conditional, and uneven. Sustainability claims and the threat of greenwashing are on the minds of consumers, but mostly, their awareness is guided by surface information and not a rigorous analysis of the reports or standards. This partial knowledge brings to the fore the significance of more transparent and verifiable sustainability communications to facilitate the informed decision-making of the consumer and minimize the usefulness of the greenwashing practice.

5.3 Research Question 3: What strategies could be used to educate the customers regarding green washing to make informed purchasing decisions?

The research question will be to establish the strategies that can be used to enhance customer education to help make better decisions in the face of greenwashing in the UK grocery retail sector. The empirical results of this research can offer a good basis when it comes to answering this question. The descriptive statistics revealed a comparatively high level of the customer purchase intention and reduced levels of confidence in the contents of the reports and measured standards. This disconnect implies that the consumers are interested in making sustainable decisions but they are not knowledgeable or clear enough to make critical decisions about sustainability claims. This kind of trend shows a distinct educational deficit and not a lack of interest in the part of the consumer.

This conclusion is supported by correlation and regression analysis. Constructs of greenwashing were statistically significant in terms of their relationship with the customer purchase decision with transparency being the highest predictor, then measured standards, accountability, and report contents. These findings imply that educational approaches are to focus more on enhancing the capacity of consumers to discern prolific communication, understand quantifiable sustainability metrics and differentiate between believable and deceptive claims. The relatively low impact of report contents suggests that it might not be feasible to use the available reporting formats because they are not easily available and appealing to facilitate effective consumer learning.

Theoretically, the Information Asymmetry Theory is a key theory that explains why customers should be educated. In situations where the firms withhold sustainability information and consumers are not knowledgeable to understand it, greenwashing is more successful (Akerlof, 1970; Bergh, 2018). Sustainability information can be made easier and less asymmetric through educational strategies that can enable consumers make better-informed decisions, e.g. through standardised labelling systems or clear benchmarks. This approach can be justified by the strong regression effect of the measured standards, which implies that verifiable and similar information is especially powerful when perceived by the consumers.

ELM also guides the development of the educational intervention. Since the grocery shopping is often a low-involvement, time-stressed behavior, consumers would not be willing to think heavily about the complex sustainability reports (Petty and Cacioppo, 1986). Thus, education programs

are supposed to aim at improving the quality of peripheral cues and not concentrating on detailed disclosures only. Eco-labels, visual signals and brief explanations at the point of purchase can be used to effect faster but more precise judgments on sustainability assertions. This strategy is backed by previous studies indicating that too technical information has the potential to confuse consumers, decreasing trust (Schmuck et al., 2018; Jóźwik-Pruska, 2022).

One more significant approach is the implementation of more education programs promoted by retailers and regulators. Responsibility is also an important predictor of the regression analysis indicating that consumers react well when retailers are responsible regarding the sustainability communication. Retailers can also help with consumer education by use of in-store signage, digital platforms, and transparency portals, which describe sustainability practices in their simple language. This can also be reinforced by the regulatory bodies in that, they should provide uniform meaning and standards of environmental claims, which will help to minimize confusion and misinformation (Delmas and Burbano, 2011).

Lastly, the education plans must be in place with the use of trust-building tools based on Consumer Trust Theory. Credibility and less scepticism can be improved with transparent disclosure of both success and limitations, third-party validation, and reporting progress to the population (Pizzetti et al., 2021). Consumers are in a better position to rebuff greenwashing when they know not just what claims entail, but also the methods of their verification, which will enable them to make informed purchasing decisions.

To conclude, the customer education methods need include strategies that simplify the information about sustainability, embrace measurable and verifiable standards, increase the transparency at the point of purchase, and enhance accountability of retailer and regulators. The strategies can go a long way in enhancing customer knowledge and awareness in regards to the nuances of greenwashing in the UK grocery market since it is directly related to the cognitive constraints and the attention to information asymmetry.

5.4 Research Question 4: How does the marketing strategy impact upon customer perception regarding sustainability in the UK grocery retail sector?

This research question explores how the marketing strategies determine the level of customer consideration of the sustainability and the impact of environmental claims on the perception of the

environmental claims in the UK grocery retail market. Empirical results of the given research clearly indicate that marketing strategy has the multifaceted and important role in consumer perceptions formation, specifically, the manner in which sustainability information is framed, communicated, and supported.

The descriptive statistics show that the high mean of customer purchase decision was obtained but the perceptions towards report contents and measured standards were less. This indicates that marketing messages are able to attract the attention of consumers and portray the intent to sustainability, but, in most instances, they do not do enough to persuade a consumer about their credibility. This is ordinarily the case meaning that marketing strategies will be effective in terms of creating awareness rather than deep trust. This interpretation is further supported by the demographic result that the green or eco-friendly message has an effect on buying habits in some cases, but not in all, which is one of conditional acceptance and not unconditional belief.

The statistical data of the correlational analysis proved the statistically significant moderate positive relationships between all sustainability-related constructs and customer purchase decision. This means that marketing-based signals, which are associated with transparency, accountability, reporting, and standards are identified by the consumers as being pertinent to sustainability evaluation. The moderate strength of these associations, however, implies that marketing messages per se cannot completely influence the perception, especially as increasing scepticism of consumers towards green claims increases.

The regression analysis explains this interpretation by indicating that transparency was the most relevant predictor of customer purchase decision with measured standards, accountability, and report contents coming second, third, and fourth respectively. The implication of these results is that marketing communications placing a greater emphasis on openness and verifiable information are more perceived (compared to those leaning on the promotional sustainability discourse).

Theoretically, the Elaboration Likelihood Model (ELM) can give a solid explanation of these results. Eventually, consumers in the grocery retail setting work with low involvement and time pressures and hence resort to the peripheral bits of information like slogans, packaging design and visual signs as opposed to the fine print sustainability reports (Petty and Cacioppo, 1986). The marketing practices where emphasis is on simplified messages of sustainability hence constitute a key element in forming the preliminary perceptions. Nevertheless, such cues can create specific

impressions of greenwashing when they do not hold reliable evidence, which will eventually undermine the trust.

Signalling Theory goes further to give an explanation about the effect of the marketing strategy on sustainability perception. Sustainability assertions are indicators of corporate values and intents, the success of which depends on believability and consistency (Spence, 1973). Very high levels of regression by measured standards indicate that marketing programs including third-party certifications and explicit performance measures produce more substantive and more legitimate signals as opposed to self-proclaimed statements. This observation is also supported by previous research that the unconfirmed green marketing attracts scepticism and weaken brand credibility (Akturan, 2018; Delmas and Burbano, 2011).

Consumer Trust Theory also has a close interaction with marketing strategy. Clear and responsible marketing messages increase the perception of integrity and reliability, and overstated or unclear statements destroy trust in the long term (Pizzetti et al., 2021). The results of this paper indicate that the UK grocery retailers that incorporate the principles of transparency and accountability into their marketing principles, have a higher likelihood of developing positive sustainability perceptions and long-term relationships with customers.

Overall, the marketing strategy can have a critical influence on the perception of sustainability in the customers by determining the way the environmental information is framed, accessed, and rated. Tactics based on the superficial green perceptions could raise awareness but at the cost of strengthening greenwashing scepticism. Marketing strategies based on transparency, verifiable standards, and responsible communication would be more effective in creating credible sustainability perceptions in the UK grocery retail industry, in comparison.

5.5 Research Question 5: What are the gaps in the present regulatory framework which allows green washing to continue?

The following research question examines how the restriction in the existing regulatory framework facilitates the existence of greenwashing in the UK grocery retail industry. Although the regulatory awareness was not directly measured in the given study, the results of the statistical analysis were rather strong evidence of the regulatory gaps that can be interpreted in terms of consumer perceptions and behaviour. Descriptive statistics revealed a relatively high purchase intention and

significantly lower confidence in report contents and measured standards. This trend indicates that regulation is not enough to give consumers confidence in the validity and the implementation of sustainability assertions, which implies that the process of transforming regulations to trusted market signals is flawed.

This issue is further contextualised by the demographic results. The respondents stated that claims that are green or environmentally friendly only have a "sometimes" effect on the buying decision which suggests that they do not trust the controlled sustainability communication. With stronger perception of the regulatory systems that are solid and sufficient in practicing them consistently, more trust in the environmental claims is likely to be high. The medium-strong correlations between the sustainability-related constructs and customer purchase decision also indicate the partial confidence: people understand that transparency, accountability, and standards are the constructs that are applied, but not perceived as the ultimate protection of the misleading statements.

The regression analysis gives a better understanding of regulatory deficiency. Transparency proved to be the best predictor of purchase decision followed by measured standards and accountability. This hierarchy implies that consumers depend more on those communication practices that the firm uses rather than on the regulatory mechanisms that are imposed on the firm. In case regulations were clear, visible and trusted enough, measured standards, which tend to be associated with compliance and certification, would be anticipated to dominate consumer choices. Their indirect position presupposes the lack of standardisation, enforcement, or consumer knowledge of regulatory guarantees.

Theoretically, the Information Asymmetry Theory is used to explain how regulatory gaps contribute to greenwashing. Where the rules permit ambiguous or imprecise environmental claims, establish firms have information advantage in comparison to consumers, and selective disclosure and exaggeration can occur (Akerlof, 1970; Bergh, 2018). Even though the UK Green Claims Code and other guidelines attempt to ameliorate this problem, past studies indicate that the guiding principles of regulation that lacks effective enforcement procedures tend to be ineffective in discouraging opportunistic behaviour (Delmas & Burbano, 2011).

Signalling Theory also brings to the fore the drawbacks of the existing framework. To be effective in acting as credible signals, sustainability claims need to be expensive to counterfeit, and always

validated (Spence, 1973). The results of this research point to the fact that a great number of sustainability signals in the grocery retail lack such credibility, as the lack of trust to the contents and standards of the reports. This is consistent with previous research findings that self-reporting and self-proclaimed plans help firms to seem compliant without necessarily performing better (Akturan, 2018).

The other major regulatory gap is inconsistent definitions and labelling practices. Lack of universally accepted and binding sustainability standards presents a challenge of comparison between products and effective evaluation of claims by consumers. As it is shown in research by Nyilasy et al. (2014), these ambiguous words like eco-friendly or sustainable make consumers more confused and allow practicing greenwashing. The awareness levels of the moderate kind that were noted in this research indicate that there are not enough regulations at present that make the sustainability information available to consumers any simpler and clearer.

Lastly, there is lack of enforcing and accountability mechanisms. Although accountability had a strong predictive of purchase decision, it was less powerful than transparency and measured standards, and indicates that consumers do not firmly equate sustainability claims with significant consequences in case of non-compliance. The previous literature mentions that in the absence of visible penalties or remedial measures, companies have little to discourage false environmental communications (Pizzetti et al., 2021).

In short, regulatory gaps such as inadequate claim definition, voluntary and inconsistent standards, inadequate enforcement and lack of clarity to the consumer can be seen as the reasons behind the continued existence of greenwashing. These drawbacks keep the information asymmetry and lack of trust intact and these practices of greenwashing can persist in the face of rising consumer awareness and regulatory will.

5.6 Findings and Conclusion Synthesis to the Research Framework.

This section generalises the empirical evidence presented throughout the research questions and makes sense of how they all play out in the proposed research framework. Although the impact of individual constructs, including transparency, accountability, measured standards and content of the sustainability reports have been individually analysed, it has shown that the impact they have on customer purchase decision is interdependent and not independent. The findings suggest that the perceptions associated with greenwashing are a systematic network of cues, by which

consumers would make their judgements in circumstances of inadequate time, incomplete information and the degree of trust.

The strongest predictor of purchase decision turned out to be transparency as the key point of entry on the way to the evaluation of the credibility of sustainability claims by consumers. The results however indicate that transparency is not enough to alleviate the vulnerability to greenwashing without any measurable standards and accountability measures. The statistical significance of the contents of the sustainability reports seems to be attributed to a secondary and contingent status, and is mostly contingent to the consumer motivation and the ability to process the information in depth.

Such hierarchical interaction narrows down the research paradigm by showing that consumer decision making in the grocery retail context is directed by the sequencing and availability of sustainability cues and not their presence. The combination of the Theory of Planned Behavior, Elaboration Likelihood Model, the Information Asymmetry Theory with the Signalling Theory aids in understanding the lack of transformation of positive attitude towards sustainability into informed or secure decision. Specifically, the results indicate that information asymmetry still exists not only because of absence of disclosure, but also of the usability and credibility of available information.

Theoretically, the findings are useful to expand the already available models of greenwashing by empirically showing the moderating role of cognitive limitations and market structures on the effectiveness of sustainability communication. This synthesis proves that greenwashing needs to be perceived as a systemic process entrenched within communication practices and regulatory settings, and not a set of detached acts of misleading behaviour. Accordingly, the research design is enhanced by depicting the dynamic nature of interaction between consumer psychology, organisational signalling strategies and institutional protection in influencing sustainable purchasing behaviour.

5.7 Cross-Sectoral Synthesis

Even though this research falls within the category of the UK grocery retail market, the results provide valuable information that is not limited to this specific industry but can be applicable to other industries that are typified by high purchasing frequency, credence attributes, and complex sustainability claims. The processes observed in this study, especially dependency on peripheral

signals, limited processing of information, and asymmetric verification, are not specific to the grocery retailing industry but can also be observed in other industries, including fashion, personal care products, home shopping, or consumer electronics.

In these industries, the consumer has the same type of structural problems when assessing the claims about sustainability; lack of time, overload of information, vague terms, and inadequate standards. The results imply that in the cases of purchasing behaviors being routine and less involvement, buyers are more inclined to rely on simplistic signals, i.e. labels, certifications, and marketing stimuli as opposed to the disclosures of complex nature. Such trends make one more vulnerable to greenwashing in cases when these indicators are not strongly controlled or comprehended. Therefore, the preponderance of transparency and calculated norms that we found in this research will probably be emulated in other consumer-focused sectors in which sustainability plays a credence role.

In managerial terms the cross-sectoral implication is that sustainability communication strategies should be coordinated with the actual information processing among consumers and not how organisations believe it should be. Confidence in reports and sophisticated stories could have restricted influence on behaviour in most industries, but believable, standardised, easily explainable cues will carry greater influence over trust and decision-making. This has effects on brand strategy, risk management and long term reputation across industries.

Policy-level recommendations based on the findings include regulatory strategies with priorities of clarity, standardisation and enforcement across sectors instead of sector specific or disclosure intensive strategies. Unless greenwashing is regularly defined and noticeable accountability mechanisms established, there is a risk the practice becomes normalised in the markets and essentially eradicates consumer trust and even actual sustainability efforts. Placing the grocery retail results into a larger cross-sectoral perspective, this synthesis solidifies the point that greenwashing is a systemic market issue that needs an integrated organisational and regulatory reaction, as opposed to a sector-specific, sector-specific reaction.

5.8 Chapter Summary

This chapter critically discussed the empirical findings of the study, as far as they relate to the research questions, theoretical framework and literature available on the subject of greenwashing and consumer behaviour in the UK grocery retail sector. Based on the quantitative findings in the

last chapter, the discussion shifted away to no longer be statistically explained and to the interpretation of how and why transparency, accountability, sustainability reporting, measured standards, and marketing strategies influence customer perceptions and buying choices.

The chapter has shown that consumers cannot be considered simpletons and are not completely safeguarded against greenwashing. Rather, they have moderate awareness, conditional trust and different degrees of vulnerability based on the clarity, credibility of verifiability of sustainability claims. Transparency always proved to be the most decisive factor, and the significance of open and candid communication to minimise scepticism was shown. Standards and accountability were also measured to bring about more confidence in situations where sustainability claims were backed by verifiable evidence and responsible corporate behaviour. Conversely, complicated sustainability reporting and vague marketing messages were depicted to restrain consumer knowledge and create information asymmetry.

The gaps in the existing regulatory landscape that were identified during the discussion are also characterized by ambiguous definitions of claims, the presence of unequal standards, and a lack of enforcement strategies, all of which contribute to the continued existence of greenwashing practices. Through combination of empirical and theoretical evidence, including the Elaboration Likelihood Model, Information Asymmetry Theory, Signaling Theory, and the Consumer Trust Theory, the chapter enabled me to understand the mechanisms whereby greenwashing affects consumer decision-making.

On the whole, this chapter was a synthesis of the results of the study that covers all the research questions and showed how the findings can be used to expand the existing knowledge on greenwashing in grocery retail. The following chapter expands on this discussion by providing the theoretical contribution, managerial implications, policy implications, and future research directions as a result of the study.

CHAPTER VI: SUMAMRY, IMPLICATIONS AND RECOMMENDATIONS

6.1 Summary

The research shows that transparency, measured standards, accountability and sustainability signals play a major role in purchase decisions of consumers of UK grocery products, and, as a result, greenwashing plays a systemic role in behaviour formation. Theoretical implications indicate that by combining Information Asymmetry, Signalling, ELM, and Consumer Trust theories, consumer vulnerability and usefulness of verifiable sustainability cues can be explained. In practice, retailers and FMCG brands need to focus more on effective communication, uniform metrics, third-party validation, uncomplicated marketing cues, and educating consumers to ensure the creation of trust and the reduction of scepticism. Limitations involve the use of one questionnaire and cross-sectional design, and the study could be limited in terms of generalisability and depth of understanding due to the possibility of social desirability bias. According to the research, they can be recommended to standardise labels, use interactive in-store sustainability tools, increase the supply chain transparency, simplify marketing signals in low-involvement shoppers, and streamline sustainability practices across all product lines. All these steps help to solve informational loopholes, enhance credibility and enable consumers make informed choices and reduce the risks of greenwashing.

6.2 Implications

Theory of Information Asymmetry Extension in Sustainability in Retail.

The results are a strong extension of the Information Asymmetry Theory (Akerlof, 1970) where the findings are based on empirical evidence of the role of sustainability claims as credence attributes in grocery retailing. The consumers are still skeptical with vague and unproven information even though their intentions are high when it comes to pro sustainability. Such real-life examples are UK supermarket own-label products that are defined as eco-friendly or responsibly sourced without clear standards. This supports the hypothesis that in the cases where the companies possess control over sustainability information and consumers do not have a tool of verification, there is an amplification of asymmetry, which increases the susceptibility to greenwashing. The explanatory strength of the regression model ($R^2 = 0.685$) is a strong attestation that asymmetry is not an isolated phenomenon but systemic, and entrenched within the communication structures, as opposed to the behaviour of the individual firms.

Signalling Theory Refinement in Sustainability Communication.

The Signalling Theory of transparency ($b = 0.397$) and measured standards ($b = 0.313$) are simplified by its dominance over Signalling Theory (Spence, 1973) to make the difference between credible and symbolic green signals. This can be observed in the retail world, with organisations such as Tesco or Sainsbury, which are prepared to use third-party certifications (e.g. Fairtrade, Rainforest Alliance) that are viewed by the consumers as more credible than their own self-proclaimed sustainability. The lesser influence of report contents indicates that a high-cost externally confirmed signal is more efficient than internally generated sustainability communications, which lends to the view that the signal should be hard to replicate to decrease greenwashing.

The Elaboration Likelihood Model (ELM) has been supported in Grocery Contexts.

Its findings give good empirical evidence to the Elaboration Likelihood Model (Petty & Cacioppo, 1986) when it comes to low-involvement retail settings. Shopping of groceries is a time-constrained activity and people have to use peripheral stimuli like eco-labels, packaging colour, and brief sustainability slogans. That is why transparency and visible standards are better than the detailed sustainability reports. As an example, the shoppers can be persuaded by the carbon labels on the package but not by the long online corporate ESG reports. The results therefore confirm the applicability of ELM to sustainability marketing and why elaborate disclosures do not make the marketing less vulnerable to greenwashing.

Application of Consumer Trust Theory to the study of Greenwashing.

The high impact of accountability ($b = 0.304$) brings Consumer Trust Theory on board the greenwashing scholarship body. A statement of intention is not what builds trust but rather responsibility and consequences. Accountability-driven trust can be demonstrated by the example of retailers, including Marks and Spencer, which publicly report both accomplishments and failures of the Plan A. The research indicates that in locations where accountability measures are apparent; the consumer confidence will be enhanced making them less prone to greenwashing.

This moves the theory a step forward by asserting that accountability is a vital and inseparable trust-building construct and not a peripheral ethical issue.

Regulatory and Institutional Theory Implications Theoretical.

The continued occurrence of greenwashing in spite of consumer knowledge points at the flaws in the Institutional and Regulatory Theory. A lack of institutional credibility to environmental claims is brought about by weak implementation of the UK Green Claims Code and lack of consistency in the definition of sustainability. Practically, such words as natural or green are still legally ambiguous, and a firm can act on the symbolic level without actual change. The results imply that regulations are soft institutions but not enforceable signals in support of information asymmetry.

6.3 Applications to Practitioners

Making Radical Transparency a Priority in Sustainability Communication.

Clear, accessible and verifiable sustainability information should be prioritised by the practitioners since transparency was found to be the most powerful predictor of the purchase decisions. A good example is Patagonia (USA) that publicly reveals the supply chain practices as well as environmental effects and even product failures through its "Footprint Chronicles." (Patagonia, 2024). Such extreme disclosure lessens the suspicion of consumers and creates a trusting relationship in the long term. Grocery retailers and FMCG brands can follow suit by streamlining the data on sustainability to easily digestible formats (for example, QR codes connecting to impact measures that have been verified) instead of making broad green claims.

Integrating Measured and Standardised Sustainability Metrics.

The great impact of the measured standards implies that the consumers are responsive to quantifiable and comparable signs. Carrefour (France) has managed to implement an environmental scorecard on food products and display carbon footprint, impact on biodiversity, and packaging sustainability. The initiative will enable the consumers to undertake proper comparisons and minimizes the risk of greenwashing. Practitioners are advised to embrace internationally recognised standard (for example, ISO 14067, Science Based Targets) and frame

them in simplified form to increase their credibility and confidence among consumers (True, 2025).

Increasing Accountability by Verifying a Third Party.

Responsibility is very important in determining consumer confidence. Unilever (Netherlands) is a good example of success by having independent audits of its Sustainable Living Plan and reporting its non-achievement of targets publicly. Such readiness to admit gaps leads to perceived authenticity (Oxford, 2024). Practitioners may use this by utilizing third party certifiers, publicizing audit results and specifying the corrective measures. The presence of accountability systems will help to assure the consumer that sustainability statements do not go empty, and the lack of accountability will decrease their susceptibility to greenwashing.

Creating Marketing Plans based on Easy to detect and Proven Signals.

It is suggested by the fact that consumers are dependent on peripheral cues and, therefore, practitioners must create marketing strategies that emphasise on simplicity but not extravagance. Aldi (Germany) has managed to convey sustainability by using plain words, like Fairtrade cocoa, and Responsibly Sourced Palm Oil, without using a very technical language (ALDI, 2024). This method is within the cognitive restrictions of the consumer and is credible. Marketers must not use emotional but unproven green claims but they should employ brief and supported evidence-based sustainability indicators at the point of purchase.

Invest upon Customer Education and Engagement Platforms.

The results indicate that there is a disparity between sustainability interest and evaluative knowledge which implies that consumer education is necessary. IKEA (Sweden) is the best example of this; it demonstrates a best practice by explaining features of sustainability in easy language with the help of in-store displays, apps, and product tags (for example, renewable materials, energy-saving). Similar initiatives can be implemented by practitioners using digital platforms, interactive labels and short educational messages that enable consumers to identify

plausible sustainability claims. Individuals who have higher education are less likely to be intact with greenwashing (IKEA, 2024).

6.4 Limitations of the study

Although this research offers some useful empirical evidence on the influence of greenwashing on customer buying behaviour in the UK grocery retail industry, it is affected by a number of methodological shortcomings which need to be considered during the interpretation of the results.

To begin with, the research used one research tool, a structured questionnaire, to gather primary data. The questionnaire methodology was chosen because it is applicable to large-scale quantitative analysis, consistent in measuring variables, and can also be applied to the statistical method of correlation and regression analysis. This dependency, however, restricts the insight into the consumer perceptions. Questionnaires are useful in capturing the attitudes and intentions, but they do not delve into the reasoning or emotional that took place behind the choice to be aware of the greenwashing (Forlano, 2025). This means that subtle consumer logic and situational interpretations might not be captured at all which can lead to simplification of complex behavioural processes.

Second, the research design used was cross sectional meaning that data is taken at a single point in time. This design was selected as a result of lack of time and its capacity to determine relationship between variables. Consumer attitudes on sustainability and greenwashing are however dynamic, and can change depending on changes in regulations, media coverage or corporate scandals (Feghali, 2025). This means that the results are not able to cause or determine how awareness and behaviour changes with time, which restricts the determination of the long-term effects of greenwashing on buying decisions.

Third, self-reported data implies the possibility of the response bias, especially social desirability bias. The respondents will exaggerate how seriously they take the idea of sustainable purchasing or lie about their vulnerability to greenwashing so that they can fit the socially accepted pro-environmental norms (Sun, 2022). Even though anonymity was taken to reduce this effect, there is the likelihood that the intentions of buying stated are not fully indicative of real purchase behaviour. Such a constraint can have the effect of inflating the perceived sustainability awareness and compromising the accuracy of predicting behavioural outcomes.

Fourth, this research targeted only the consumers working in the UK grocery retailing industry. Such a limited sectoral and geographical focus was required in order to have contextual relevance and analytical clarity. Nevertheless, grocery shopping is a low-involvement, routinised task, which can restrict the externalisability of the results to other retail domains like the fashion or electronics industries, where sustainability claims can be executed at a slower pace (Bălan, 2020). The transferability of the results outside the UK context also is limited due to cultural and regulatory differences.

Lastly, the model has a significant percentage of variance in explaining customer purchasing decision ($R^2 = 0.685$), but not every factor that can affect buying decisions was included. Price sensitivity, brand loyalty, income level, product availability are some variables that were omitted because they would not provide parsimony to the model. Although this enabled more efficient study of the constructs that have to do with greenwashing, the absence of these aspects might be somewhat limiting to the explanatory capabilities of the research results and might also fail to account for the interaction effects between economic and ethical issues (Eckberg, 2026).

6.5 Recommendation for Future Research

On the basis of the limitations observed in this study, future researchers are advised to follow some directions in order to provide more comprehensive knowledge about greenwashing and consumer purchase behaviour.

To begin with, the mixed-method research designs involving quantitative surveys with qualitative research methodology including interviews or focus group should be adopted in future studies. Although the questionnaire applied in this research allowed statistical generalisation and hypothesis testing, it was not able to measure the underlying deeper mechanisms of the process of consumer response towards greenwashing in terms of cognition, emotion, and context. Qualitative research would enable the researcher to understand how consumers make sense of sustainability claims, why some signals have more credibility than others, and the formation of scepticism (McLeod, 2024). Such triangulation would provide more explanatory power and minimize the chances of simplifying elaborate decision-making processes.

Second, longitudinal research designs are highly suggested to investigate the change in greenwashing awareness and behaviour with time. Regulatory developments, corporate scandals as well as changes in social norms affect consumer perceptions of sustainability. A longitudinal

design would also allow the researchers to test causal associations and whether a higher level of transparency or regulations results in long-term changes in trust and behaviour (Caruana, 2015). This would overcome the constraints of cross-sectional designs and would give a more reliable information about the long-term efficacy of the anti-greenwashing strategies.

Third, future scholars ought to combine behavioural and observational data with self-reported scales. Though self-reported questionnaires are effective and are popular, they are susceptible to social desirability and intention-behaviour disjuncture. There would be value in using the real purchase data, experimental choice or eye-tracking techniques in the retail setting to confirm the relationship between sustainability described preferences and actual purchasing behaviour (Nordfält, 2024). This would enhance the predictive validity of the greenwashing studies, and present more practical implications to practitioners and policymakers.

Fourth, the research should be generalised by increasing the scope to include non-UK grocery retail sector. The future research can consider high-involment industries like fashion, electronics, or automotive industries in terms of which sustainability claims can be handled in a more centralized and deliberative way. Within-country comparisons based on regulatory regimes in different countries would also enable the researchers to determine the effects of institutional strength and enforcement on consumer vulnerability to greenwashing (Sneideriene, 2025). This type of comparative research would assist in differentiating between the effects that are context specific and those that are universal behavioural patterns.

Lastly, more explanatory variables and moderating factors need to be included in the future research. The following variables which may interact with transparency and measured standards to influence the purchase decision may include price sensitivity, brand loyalty, environmental knowledge, income level, and regulatory awareness. Their inclusion would allow considering more refined models and making more specific conclusions about the consumer segments that are especially susceptible or resistant to greenwashing. In addition, moderating effect testing would contribute more theory to the Consumer Trust Theory, Signalling Theory, and Information Asymmetry Theory (Liao, 2020).

The research in the future must not rely on single-method and cross-sectional research but must be rather integrative, longitudinal and more contextually varied. These improvements would not only reinforce the process of theoretical development but would offer more specific advice to regulators

and practitioners who want to fight against greenwashing and encourage informed consumption that is sustainable.

6.5.1 Recommendation for Action

According to the research results, there are multiple new spheres of practical intervention where the issues exist, and steps of practical interventions are proposed to practitioners.

Use uniform and consistent labelling on all products

First, the results indicate that consumers feel confused because of the irregular sustainability labelling and terminologies and diminish trust in environmental claims. To this end, the practitioners must use uniform and consistent labelling on all products and the terms used including eco-friendly, organic or sustainability must have clear, verifiable definitions. Retailers need to look through every product label step-by-step, harmonise all terminologies depending on the recognised certification standards, educate employees to explain the labels properly and initiate consumer awareness campaigns to convey the meaning of the labels (Ankiel, 2025). Standardisation will ease the process of evaluation, perceived greenwashing will be minimized and confidence in the consumer will be enhanced.

Create interactive in-store digital systems

Second, the study had discovered a knowledge gap in real-time communication of sustainability practices at the store level, which restricts the capacity of consumers to confirm the claims when shopping. The practitioners are advised to create interactive in-store digital systems that give real-time information on product sustainability. The measures that can be implemented step-by-step are to install QR code systems on shelves, which are connected to the verified supplier and environmental data, constantly update this information, add visual dashboards to it, and educate staff that can also help the consumer use these tools (Fischer-Lauder, 2025). This will solve the problem of information asymmetry in the situation and enable the customers to make wise decisions immediately.

Adopt storytelling and traceability programs

Third, the research noted low exposure of ethical supply chain practice, leaving the consumers with doubts regarding the reality of the environmental claims. The retailers are advised to adopt

storytelling and traceability programs which demonstrate the source to shelf path of products. Brands can track significant suppliers in a detailed manner, display sourcing practices on packaging or through apps, give videos or infographics on production ethics and hype up social media campaigns to prove supplier trustworthiness (Sustainability Directory, 2025). This scenario builds a brand trust which fortifies and empowers the sustainability claims made by the brands.

Promotional campaigns should be simplified

Fourth, time-pressed shoppers were found to be vulnerable to deceptive marketing through generalizing and peripheral judgments. Promotional campaigns should be simplified in terms of sustainability signals that should be promoted by the practitioners (Chen, 2024). This will involve creating brief messages that are symbol-based, experimenting with the clarity of such messages using consumer focus groups, standardisation of icons or tags in all campaigns, and behavioural response follow-up to tailor the message.

Aligning the firm with sustainability across the board

Fifth, the findings revealed that cross-category inconsistencies in sustainability practices lead to the diminishment of the brand level credibility, which makes the consumers question even a verifiable product. The practitioners must also aim at aligning the firm with sustainability across the board whereby all the product ranges have common environmental standards (Hossain, 2025). On a category-by-category basis, companies ought to undertake an internal audit, match sourcing, packaging, and marketing practices with centrally-managed sustainability objectives, publish consolidated progress reports publicly, and deploy inner checks and balances. The overall integrity of the brand is enhanced, perceived greenwashing is minimized, and long-term consumer loyalty is promoted.

6.6 Conclusion

The study offers an in-depth insight on how the constructs associated with greenwashing, transparency, measured standards, accountability, and contents of the report influence consumers to buy products in the UK grocery retail industry. In the findings, there is an evident paradox as the intentions of consumers to make sustainable choices are high, but the scepticism towards sustainability reports and certifications is also evident. The greatest predictor was transparency which highlights the necessity of communication regarding sustainability that is open, easy to

understand, and verifiable in establishing trust and informing consumer purchasing behavior. The scales of measured standards and accountability also play an important role in decision making, with objective and third party validated performance measures and responsible corporate behavior making a stronger impact than report contents, although the difference is statistically significant, because of consumer fatigue and perceived complexity.

The research proves that the degree of consumer vulnerability to greenwashing is greatest in cases where the information is vague, not validated, and unaccountable and is least susceptible to failure in case of verifiable standards and clear communication. Marketing practices that are based on ambiguous or excessive claims of promotion will build scepticism as opposed to focusing on tangible, evidence-based sustainability signals that lead to credibility. Inconsistency in definitions, enforcement, and voluntary standards lead to regulatory loopholes that result in information asymmetry and allow moderate consumer awareness to be a factor in the continuation of greenwashing.

Theoretically, the study combines Information Asymmetry, Signalling, Elaboration Likelihood as well as Consumer Trust theories and provides a multi-level account of behavioural reactions to sustainability claims. In practical terms, the findings offer an actionable insight to the retailers and policymakers in enhancing transparency, standardisation, accountability, and consumer education. In general, this paper shows that greenwashing is not a marginal phenomenon but a structural element that affects the buying behaviour and its management requires an integrated approach based on communication, regulation, and training to facilitate consumer empowerment and achieve true sustainability in the grocery retail sector.

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APPENDIX A: QUESTIONNAIRE

Survey Questionnaire

Reference Number:.....

You are invited to take part in this survey as part of a doctoral research study titled “An empirical study to assess the impact of greenwashing on customer purchase decisions: A case study of the grocery retail sector in the United Kingdom.”

The aim of this survey is to understand how supermarket sustainability claims (sometimes referred to as ‘green’ or ‘eco-friendly’ claims) influence customer purchasing decisions. Participation is voluntary, all responses will remain anonymous, and no personal data will be collected. The data will be used solely for academic purposes.

1. Screening question

Are you currently residing in the United Kingdom?

- ☐ Yes
- ☐ No → (exit survey)

2. Which type of grocery store do you most often visit in the UK?

- ☐ Convenience store (e.g., Tesco Express, Sainsbury’s Local)
- ☐ Supermarket (e.g., Tesco, Sainsbury’s, Asda, Morrisons)
- ☐ Discount store (e.g., Aldi, Lidl)
- ☐ Hypermarket (e.g., Tesco Extra)
- ☐ Online grocery (e.g., Ocado, Rahaman Fresh)

3. How often do you shop for groceries?

- ☐ Less than once per week

- ☐ Once per week
- ☐ 2-3 times per week
- ☐ 4-5 times per week
- ☐ Daily

4. Do you have a preferred supermarket for grocery shopping?

- ☐ Yes
- ☐ No

5. On average, how much do you spend per grocery visit in the UK (GBP)?

- ☐ Less than £25
- ☐ £25–35
- ☐ £36–50
- ☐ £51–75
- ☐ More than £75

6. How often do grocery retailers green or eco-friendly claims influence your purchase decisions?

- ☐ Always
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

Select one answer only.

	Key Questions of Conceptual framework	Strongly Disagree (1)	Disag ree (2)	Neut ral (3)	Agr ee (4)	Strongly Agree (5)
7.0	IV -Transparency					
7.1	I believe most grocery retailers keep track and report all their environmental impact					
7.2	When grocery retailers make environmental claims, the details are shared in a way that's easy to understand.					
7.3	I feel that grocery retailers usually give honest information as to how they handle environmental issues.					
7.4	I feel grocery retailers are open about where their products come from and how they are produced.					
7.5	In my view, grocery retailers talk openly about both the good and the bad sides of their environmental impact.					
8.0	Iv-Accountability					
8.1	I am confident grocery retailers accept responsibility when they fall short of fulfilling the environmental promises					
8.2	I believe grocery retailers make an effort to rectify problems when their supply chain does not meet sustainability goals.					
8.3	I believe grocery retailers try to only work with suppliers that are equally or more committed to sustainability					
8.4	I believe grocery retailers respond positively to sustainability concerns raised					

	by stakeholders and address them in a fair and impartial manner.					
8.5	I believe grocery retailers make a genuine effort to continuously improve their negative environmental impact even though they may be legally compliant at present					
9.0	Iv-report contents					
9.1	The sustainability reports from grocery retailers give me a clear picture of their environmental efforts.					
9.2	I find the information in these reports straightforward enough to follow without much difficulty.					
9.3	When I look at a retailer's sustainability report, I feel the details are genuine rather than just marketing talk.					
9.4	These reports help me understand whether a grocery retailer is making real progress on its environmental goals.					
9.5	I trust the figures and claims that grocery retailers include in their sustainability reports.					
10.0	Iv measured standards					
10.1	I believe grocery retailers regularly review and update the standards they follow for environmental practices.					
10.2	It matters to me when a grocery retailer uses well-known certifications (like Fairtrade or organic labels) to back up its claims.					

10.3	I trust grocery retailers more when I see that their products meet recognized environmental or ethical standards.					
10.4	I feel confident buying from grocery retailers that apply strict rules across their supply chains.					
10.5	Before trusting environmental claims, I often look for third-party certifications or labels on grocery products.					
11.0	DV-Customer purchase decision,					
11.1	I will shop from grocery retailers that are open and clear about their environmental practices					
11.2	I will be more likely to buy from grocery retailers that provide trustworthy sustainability reports.					
11.3	The use of recognized environmental or ethical standards will influence where I decide to shop.					
11.4	I am more likely to purchase from grocery retailers that are continuously reducing the environmental impact					
11.5	My choice of grocery retailer will be significantly influenced by concerns about greenwashing claims					

APPENDIX B: INFORMED CONSENT FORM



INFORMED CONSENT FOR QUESTIONNAIRE

PURCHASE DECISION: THE APPLICATION OF GREENWASHING IN GROCERY RETAIL SECTOR.

I, ... agree to be interviewed for the research which will be conducted by Nariman Abbaszadeh doctorate students at the Swiss School of Business and Management, Geneva, Switzerland.

I certify that I have been told of the confidentiality of information collected for this research and the anonymity of my participation; that I have been given satisfactory answers to my inquiries concerning research procedures and other matters; and that I have been advised that I am free to withdraw my consent and to discontinue participation in the research or activity at any time without prejudice.

I agree to participate in one or more **electronically recorded questionnaires** for this research. I understand that such interviews and related materials will be kept completely anonymous and that the results of this study may be published in any form that may serve its best.

I agree that any information obtained from this research may be used in any way thought best for this study.

.....

.....

Signature of Participant

Date

APPENDIX C: DATA SHEET

IV -Transparency					IV- Accountability					IV-Report contents					IV-Measured standards					DV-Customer purchase decision				
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