GREENWASHING IN THE FOOD AND SOFT DRINKS INDUSTRY: IMPLICATIONS ON WELLBEING- A CRITICAL PERSPECTIVE

Marijana P. Donati

DISSERTATION

Presented to the Swiss School of Business and Management in Geneva

In Partial Fulfilment

Of the Requirements

For the Degree

DOCTOR OF BUSINESS ADMINISTRATION

SWISS SCHOOL OF BUSINESS AND MANAGEMENT IN GENEVA

JANUARY 2024

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by

Marijana P. Donati

APPROVED BY

LJILJANA KUKEC

<Chair's Name, Degree>, Chair

<Member's Name, Degree>, Committee Member

Annan David

<Member's Name, Degree>, Committee Member

Apostolos Dasilas

RECEIVED/APPROVED BY:

<Associate Dean's Name, Degree>, Associate Dean

Dedication

To all those who aspire to pursue a balanced and conscious lifestyle actively, valuing their well-being above all else. To all those who understand that our health is our greatest asset, feeling our happiness and allowing us to live life to the fullest. To all those who recognise that food can serve as a remedy and a detriment to consumers, we can shape the market through our purchasing choices. To all those who are dedicated to becoming conssumer (conscious consumer), smarsumer (smart consumer), edsumer (educated consumer)

To my dear husband Stefano, beloved daughter Kalina, and precious son Antigoono Konstantin - I feel grateful to have such attentive listeners who understand the importance of our food.

I would like to express my gratitude to Slavica, my sister, for her constant support and encouragement towards leading a healthy lifestyle.

To my dear brother Bosko and his wife Marija, whose partnership and shared passion for culinary exploration have inspired me throughout the years.

To my ancestors, my dear parents, who instilled in me the willpower, determination, and endurance to pursue all I have dreamt of.

Acknowledgements

I would like to express my deepest gratitude to my beloved husband, Stefano, who has been my unwavering source of support throughout my educational journey. His love and encouragement have given me the strength and determination to explore my passions and strive for personal growth. Having someone by your side who offers unconditional love, support, and complete acceptance is truly a gift.

I would also like to extend my sincerest thanks to Professor David Annan, whose invaluable contributions have played a pivotal role in completing this dissertation. His professionalism, timely guidance, and inspiring mentorship have been like a breath of fresh air, propelling me forward in my academic pursuits.

To my brother Bosko and his wife Marija, I am forever grateful for their unwavering support and encouragement throughout the process of writing this dissertation. Their belief in my abilities and their constant presence has motivated and strengthened me.

Furthermore, I would like to acknowledge my sister Slavica for always being there for me and nourishing me with her unwavering support and understanding. Her presence in my life constantly reminds me of the power of familial bonds.

Lastly, I would like to express my appreciation to the Universe, which has guided me along the right path with its invisible hand. The synchronicities and opportunities presented throughout this journey have been remarkable.

Once again, I am deeply indebted to all those who have supported, guided and believed in me. Thank you for standing by me and contributing to the successful completion of this dissertation.

ABSTRACT

GREENWASHING IN THE FOOD AND SOFT DRINKS INDUSTRY: IMPLICATIONS ON WELLBEING- A CRITICAL PERSPECTIVE

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2024

Prof. David Annan

This research investigates the impact of greenwashing on human well-being, focusing on consumer awareness, sugar-related consequences, and the influence of social media. The study uses a mixed-method approach involving quantitative methods (online surveys and Web of Science database analysis) and qualitative methods (content analysis) to explore factors such as ingredient list neglect, attraction to sugar addiction, and susceptibility to social media influence.

The study reveals the need for clear communication strategies about ingredient information. The analysis of frequently consumed products exposes a prevalence of lower-nutrient items, high processing levels, and a connection between consumption patterns and sugar addiction. The research also examines athlete endorsements in greenwashing practices, revealing potential inconsistencies and contradictions. Athletes such as Cristiano Ronaldo, LeBron James, Neymar, Serena Williams, Ronda Rousey, and Alex Morgan are

scrutinised for their associations with brands like Coca-Cola, KFC, Sprite, McDonald's, and others.

The study concludes by emphasising the intricate dynamics influencing consumer interactions with ingredient information and the challenges in making informed dietary decisions. It highlights the importance of transparent communication, potential interventions for healthier choices, and responsible marketing practices, especially concerning athlete endorsements targeting vulnerable populations like children and adolescents. This research contributes valuable insights to the ongoing discourse on the repercussions of greenwashing for academia and industry.

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1.1 Introduction

Academic conceptions and definitions of greenwashing have recently been refined (Bowen, 2014). Many have adopted variants of the original Oxford English Dictionary (OED) definition, such as (2012), "active dissemination of misleading information to present an environmentally responsible public image. According to the OED, the term blends green, in the sense of environmental, with whitewash: a deliberate attempt to conceal unpleasant or incriminating facts about a person or organisation to protect their reputation (Bowen, 2014).

Definitions of greenwashing in marketing-oriented studies emphasise its business concept. Greenwashing is 'marketing hype to give a firm a green tinge (Polonsky *et al.*, 1997) or 'supposed environmental credentials' that are 'unsubstantiated or irrelevant' (Gillespie, 2008). A strategy that companies adopt to engage in symbolic communication of environmental issues without substantially addressing their actions (Walker and Wan, 2012).

The existing literature covers ample greenwashing research from the supply side, such as Bad Greenwashing and Good Greenwashing to the Corporate Social Responsibility (Wu, Zhang and Xie, 2020), identifying both positive and negative aspects of greenwashing. First, low transparency incentivises a profit-driven firm to engage in

greenwashing through observable investment. Second, sufficiently high transparency eliminates greenwashing and can motivate a socially responsible firm to make extra visible investments under the threat of greenwashing on the part of a profit-driven firm (Wu, Zhang, and Xie, 2020). Moreover, the drivers of Greenwashing (Delmas & Burbano, 2011) examine the external (both institutional and market), organisational, and individual drivers of greenwashing, while Greenwash: the corporate environmental disclosure develops an economic model of "greenwash" in which a firm strategically discloses environmental information and an activist may audit and penalise the firm for disclosing positive but not negative aspects of its environmental profile. (Lyon and Maxwell, 2011).

However, the literature exploring or explaining possible implications for well-being could be more extensive. Too little research has focused on the welfare implications of greening (Bowen, 2014). According to Fombrun (1996),_companies possess more information about their products than consumers, which may enable companies to exploit a lack of knowledge by misleadingly portraying their products as "green" or healthy to appeal to consumers' desires for sustainable choices. This oversight on the part of consumers can lead to a situation where information that could debunk greenwashing claims goes unnoticed, allowing companies to manipulate consumers' perceptions and preferences. Consequently, this has significant_implications for human well-being. That said, firms often face an information asymmetry problem when disclosing environmental information to the public (Lyon and Maxwell, 2011). This means the firm possesses more information about its environmental performance than the public. Hence, greenwashing practices incentivises firms to present their environmental performance in a more favourable light.

In addition, the “green lies”, inter alia, greenwashing buzzwords, biodegradable, organic (unless it is supported by third party certification), Ozon friendly, natural, non-toxic, recyclable, recycled, sustainable (Elving and Van Vuuren, 2011) have been abundantly used to influence green purchase behaviour knowing (Hamilton and Zilberman, 2006) that consumers are willing to pay a significant price premium for green products, such as organic food, green electricity, shade-grown and fair-trade coffee. This study will explore whether the selection of the most scanned products stemmed from applied greenwashing buzzwords or was swayed by sugar addiction, assessing the nutritive value and processing level of the most consumed products.

Consequently, Sachdeva et al., (2009) propose that consuming "green" or healthy products can create a moral license that justifies engaging in other less healthy behaviours. In the context of sugar addiction, individuals may feel that choosing a "green" product allows them to indulge in sugary treats without feeling guilty, contributing to greenwashing and the perpetuation of sugar consumption.

Based on Cialdini (2009) insights, the ongoing study offers a holistic perspective on how social influence could contribute to both greenwashing and sugar addiction.

The behaviour of others influences people, and they are more likely to choose products perceived as popular or endorsed by influencers. Companies may strategically promote their "green" or healthy products through social media influencers to tap into this social influence and drive consumer behaviour.

Hence, the research is to deepen and elucidate our understanding of the effects of greenwashing on human well-being, explicitly focusing on consumer awareness, health implications, and the influence of social media.

1.2 Research Problem

It might seem outrageous in the 21st century, in the area of technology and information, that companies can manipulate public opinion by creating false images or providing fraudulent messages. The concept of greenwashing has gained significant attention in recent years as environmental issues continue to dominate global discussions. Greenwashing refers to the deceptive marketing practices employed by companies to portray themselves as eco-friendly or sustainable, while their actual practices and products may be far from it. This research delves into the implications of greenwashing on human well-being, exploring how such practices undermine efforts toward a sustainable future and impact individuals' health and overall quality of life.

Although Hamilton and Zilberman (2006) argue that environmental regulation plays a crucial role in addressing the challenges posed by greenwashing and propose that the threat of audit and punishment can mitigate greenwashing behaviour by making firms more accountable and reducing the information asymmetry between firms and the public, it is essential to recognise that consumer behaviour and neglecting already provided information on product labels in the form of ingredient list also play a role. Nutrition information on food labels is an essential source of nutrition information but needs to be more utilised by consumers. The nutrition information on food labels could be a cost-effective method of communicating nutrition information to consumers because the information appears at the point of sale for most packaged foods (Campos et al., 2011).

According to the research and survey conducted by Goyal and Deshmukh (2018), it was found that a significant percentage of consumers, precisely 52.5%, do not read the ingredients list provided on food labels.

With the latter being said, the research seeks to explore the reasons behind consumers' lack of interest or awareness when reading the ingredients list. By delving into

this topic, we can better understand whether this behaviour still prevails and how it may impact consumers' health and well-being.

Moreover, companies tell “green lies” to continue with business as usual (Berrone, 2016). These “green lies”, inter alia, greenwashing buzzwords, biodegradable/degradable, organic (unless it is supported by third party certification), Ozon friendly, natural, non-toxic, recyclable, recycled, sustainable (Elving and Van Vuuren, 2011) have been abundantly used to influence green purchase behaviour. Consequently, as underlined by Hamilton and Zilberman (2006) consumers are willing to pay significant price premium for green products, such as organic food, green electricity, shade-grown and fair-trade coffee.

That said, it is essential to assess the application of greenwashing buzzwords as a very effective means of communication with consumers. However, the study intends to execute more profound research to understand better the genesis that led to the selection of purchased products. Sachdeva et al., (2009) propose that consuming "green" or healthy products can create a moral license that justifies engaging in other less healthy behaviours. In the context of sugar addiction, individuals may feel that choosing a "green" product allows them to indulge in sugary treats without feeling guilty, contributing to greenwashing and the perpetuation of sugar consumption. This study elucidates the possibility that the selection of food, soda, and soft drinks stemmed from sugar addiction, knowing that sugar, just like cocaine and heroin, stimulates dopamine and endorphins, leading to reward deficiency (Czirr & Reid, 1986; Leventhal *et al.*, 1995; Moles and Cooper, 1995).

Sugar is biologically addictive, and sugar addiction is a biological disorder driven by hormones and neurotransmitters that fuel cravings and affect the same brain pleasure centres as heroin or cocaine (Hyman, 2019). it represents a consistent part both in sweet and salty products. As latter being said, did this stem from the application of greenwashing buzzwords, individual feeling that choosing a “green” product allows them to indulge in

sugary treats without feeling guilty, or is there an additional cause lying behind, like sugar addiction and a constant urge to purchase products which "feel us" good?

To go further in better understanding, it is of the utmost importance to assess the extent to which purchased products are processed, processed food versus healthy whole food, food, soda, and soft drinks, sugar addiction, the importance of consuming healthy whole foods instead processed food knowing that more than a billion people are sick from eating industrialised, processed diet and not eating a healthy whole foods diet (Ng *et al.*, 2014).

Today's Western diet based on processed food accounts conservatively for 11 million deaths globally a year, according to a study that evaluated the consumption of significant foods and nutrients across 195 countries and quantified the impact of the suboptimal intake on non-communicable diseases (cardiovascular diseases, cancers, chronic respiratory diseases and diabetes which are collectively responsible for 74% of all deaths worldwide) (Afshin *et al.*, 2019). The research goes further, finding that a high intake of sodium (3 million deaths and 70 million disability-adjusted life years (DALYs)), a low intake of whole grains (3 million deaths and 82 million DALYs), and a low intake of fruits (2 million deaths and 65 million DALYs) were the leading dietary risk factors for deaths and DALYs globally and in many countries.

Hence, the research intends to focus on consumers by assessing the most scanned products and, thereof, the most consumed products. This will, inter alia, show us the most scanned and consumed products in 2022 on the selected research sample. This is paramount, knowing that consumers are driving the development of the green product market due to their purchasing power, health concerns, and knowledge (Kautish et al., 2019). Hence, this raises an important issue and puts a possible correlation between

greenwashing, applied greenwashing buzzwords, misleading consumers, selection of products to be consumed, and its implications for welfare.

This research delves into the effect of social influence, underlining social proof as a tendency to rely on the actions or opinions of others as evidence of what is correct, acceptable, or desirable. Social proof is the tendency to rely on the actions or views of others as evidence for what is valid, acceptable, or desirable. In the context of greenwashing, companies often use influencers to promote their "green" products. When consumers see others, especially those they admire or respect, endorsing and using these products, they might be more likely to believe the claims and make a similar purchase (Cialdini, 2009).

Moreover, as defined by (Goldstein et al., 2008), social psychology and behavioural science elucidate a few concepts and techniques of persuasion that have been scientifically proven to be effective, inter alia, social proof. The latter underlines that people are often influenced by what others are doing. Highlighting the behaviours or choices of others can help sway individuals' opinions and actions. In the context of greenwashing and its impact on human well-being, it provides insights into how social influence affects consumer choices and behaviours.

The research has shown that people are often influenced by what others do or think, especially in situations of uncertainty. Social media influencers have become a prevalent marketing strategy for companies to tap into this social influence. By partnering with influencers with large followings and high engagement rates, companies can amplify their greenwashing messages and create a sense of popularity and credibility around their products. This can influence consumers to make choices that align with these perceived trends or recommendations. Thus, this research will deepen to discover the connection between public figures, mainly athletes, and the products they have promoted. When it

comes to better quality of products, consumers may be more likely to purchase those that are endorsed by influencers or promoted as environmentally conscious due to the influence of social proof.

1.3 Purpose of Research

The primary purpose of the research is to deepen understanding and elucidate comprehension of the ramifications of greenwashing on human well-being, with a specific focus on consumer awareness, sugar-related consequences, and the influence of social media. The research aims to explore factors such as the lack of ingredient list reading, attraction to empty greenwashing claims, sugar addiction, and susceptibility to social media influence. Additionally, the research examines how these deceptive practices undermine sustainability efforts and impact individuals' health and overall quality of life.

In addressing the issue of greenwashing, environmental regulations may undoubtedly play a vital role. The threat of audits and punishments can discourage greenwashing behaviour by holding firms accountable and reducing the information gap between companies and the public (Bowen, 2014). However, it is crucial to acknowledge the significant role played by consumer behaviour, including their tendency to overlook the information already provided on product labels, such as ingredient lists. While nutrition information on food labels is a valuable source of information, consumers often underutilise it (Goyal and Deshmukh, 2018).

The second important aspect of this research and its purpose is to explore product-based greenwashing, aiming to raise awareness about companies that use buzzwords without meaningful impact. The study delves into the deceptive use of terms such as organic (unless supported by third-party certification), natural, non-toxic, recyclable, recycled, and sustainable (Lyon and Maxwell, 2011). The research aims to elucidate the difference between processed foods and healthy whole foods, as well as the implications

of consuming processed food, soda, and soft drinks that may lead to sugar addiction. It emphasises the importance of consuming whole foods for a healthy diet.

Furthermore, an additional purpose of research is to highlight the role of social media platforms in amplifying greenwashing practices. It examines how companies collaborate with influencers to promote products with false or misleading claims and how this affects consumers' perceptions and purchasing decisions.

Specific aims

I. To investigate the factors contributing to consumer ignorance of greenwashing in the food industry, particularly the tendency to overlook ingredient lists and underutilise nutrition information on food labels.

II. Examine the impact of greenwashing on human health, with a focus on the addiction to sugar resulting from the consumption of processed foods, soda, and soft drinks.

III. To raise awareness about possible sugar addiction, which might be a consistent part of greenwashing.

These aims will help the study analyse the deceptive use of buzzwords such as organic, natural, recyclable, recycled, and sustainable in product-based greenwashing with no meaning. Moreover, it will increase the knowledge about the nutritional value of the most scanned and consumed products and its correlation to a specific implication on consumers' welfare.

Again, the study aims to highlight the extent to which products were processed and related to a specific implication on consumers' welfare. Explore the role of social media

platforms in amplifying greenwashing practices, specifically the collaboration between companies and influencers to promote products with false or misleading claims.

By addressing these specific aims, the research aims to provide a comprehensive understanding of greenwashing in the food industry and its impact on human well-being, shedding light on consumer awareness, health implications, corporate responsibility, and government regulations.

1.4 Significance of the Study

The significance of this study on greenwashing in the food industry and its impact on human well-being is multi-faceted.

Firstly, it sheds light on the issue of greenwashing, which is the deceptive marketing practices employed by companies to make their products appear more environmentally friendly or healthy than they are. The study contributes to the growing body of knowledge on greenwashing across various sectors by examining this phenomenon in the food industry.

Secondly, the study focuses on the impact of greenwashing on human well-being. It explores how consumer awareness, or lack thereof, regarding greenwashing practices can have negative implications for individuals' health and purchasing decisions. By highlighting the potential health risks associated with falling for greenwashing tactics, the research aims to empower consumers to make informed choices and protect their well-being.

Thirdly, the study delves into the influence of social media on greenwashing and its impact on consumer behaviour. In today's digital age, social media plays a significant role in shaping consumer perceptions and preferences. Understanding how the food

industry exploits social media platforms to promote deceptive marketing practices can help raise consumer awareness and foster a more critical approach to conveyed information.

Overall, this research contributes to the existing literature by providing insights into the mechanisms of greenwashing in the food industry and its impact on human well-being. It raises awareness about the deceptive practices employed by companies, empowers consumers to make informed choices, and promotes ethical marketing practices.

This study will provide a comprehensive picture of the potential impact of applied greenwashing buzzwords, highlighting the need to improve consumers' food selection literacy. The study's findings will provide a place to evaluate the scanned most used products and their impact on human well-being.

The study findings and results can influence different groups and entities' behaviours and ways of doing business.

Companies that genuinely strive to be planet-friendly will be freed of generalisations consumers make due to competitors' misdeeds. Consumers will regain trust in the proper selection of food they purchase and consume instead of questioning the integrity of corporate environmental misconduct by recognising applied greenwashing buzzwords and, inter alia, becoming more educated and conscious consumers.

The environment will benefit from the joint efforts of both businesses and consumers. Once consumers acknowledge and accept a new, more conscious way of selecting good quality products, it will significantly impact companies to think twice about what ingredients to use when producing "green products". An educated, conscious consumer is a win-win solution for both consumers' health and the planet Earth's health, influencing companies' proper business behaviour.

The researcher is also to use these findings not only to publish a book to make a broader audience more informed but also to create a conscious living community applying,

inter alia, these living principles for a fuller, more prosperous, and more mindful life. The importance of the study is related to the assessment of applied greenwashing buzzwords and/or sugar addiction, which could influence consumers' selection of certain goods. It will also contribute to the body of research regarding the Nutrition grade of the selected products and to what extent the consumed products are processed.

1.5 Research Purpose and Questions

The research study aims to contribute to the existing literature by providing insights into the mechanisms of greenwashing in the food industry and its impact on human well-being. It raises awareness about the deceptive practices employed by companies, empowers consumers to make informed choices, and promotes ethical marketing practices.

The research of this study will attempt to answer the following research questions:

1. Do consumers disregard ingredient lists and underutilise nutrition information provided on food labels?
2. To what extent do greenwashing, sugar addiction, and the level of processing impact the nutritional value and consumer choices of frequently scanned and consumed food products?
3. Are companies using athletic public figures to deceive consumers into believing that the products they purchase are healthy despite not being healthy?

Hypotheses:

1. Consumers disregard ingredient lists and underutilise nutrition information on food labels, resulting in a lack of awareness about the nutritional content of the products they consume.

2. The selection of the most frequently scanned consumed products is swayed by sugar addiction, and these products have a low nutritional value and extensive processing.
3. Companies hire athletic, public figures to deceive consumers into believing that the products they purchase are healthy despite the products not being healthy.

1.6 Summary

The starting point of this research is based on the assessment of consumers who tend to overlook ingredient lists and do not fully utilise the nutrition information provided on food labels, resulting in a limited understanding of the nutritional content of the products they consume. The research continues to delve into the presence of greenwashing, high sugar content, and extensive processing in food products, leading to a decrease in nutritional value. This decline in nutritional value influences consumer choices, directing them towards less healthy options.

Furthermore, the research contends that companies use athletic public figures in their marketing campaigns, intentionally deceiving consumers into believing that their products are healthier than they are. This deceptive tactic misleads consumers and may impact their perception of the healthiness of the products, potentially influencing their purchasing decisions.

The study will be exercised through sampling and conducting a survey regarding consumer awareness.

Moreover, it applies Nutrition score and NOVA methods using the Web of Science for the most scanned and used products in 2022.

Again, the research delves into companies that may engage in deceptive marketing practices that strategically utilise athlete endorsements to promote the popularity and

healthiness of their products. The research aims to determine the impact of associating brands with athletes who embody a healthy lifestyle on consumers' perception of the products. By investigating this phenomenon, the study aims to shed light on the potentially misleading practices companies may employ to enhance the appeal of their products in the marketplace. The outline of the chapters is as follows:

In Chapter 2, the literature review about history, different definitions, forms of greenwashing, the most significant cases of greenwashing, the importance of food and wellbeing, ultra-processed food, and health will be assessed. Moreover, this chapter will elucidate three theories: the Information Asymmetry Theory, the Moral Licensing Theory, and the Social Influencers Theory.

In Chapter 3, different research methodologies will be examined, and the rationales for deploying a particular research method for this study will be discussed.

In Chapter 4, the survey findings stemming from the sample will be reported. Along with it, the application of greenwashing buzzwords and assessment of sugar addiction. It is to follow appraisal of the Nutrition score, and the extent to which products were processed will also be recorded and reviewed.

Furthermore, findings result from data assessment of companies endorsing athlete public figures to promote their “healthy” products.

In Chapter 5, the study will further elaborate on findings and their contribution by looking into more details of consumers' awareness, how the evaluations of the buzzword sugar addiction influenced consumers to select products, and what about companies shaping consumers' behaviour by endorsing athletes to promote supposedly healthy products. The research findings, discussions, and implications, which are particularly important to the consumers and companies genuinely striving to use good quality products for humans’ and planet Earth's health, will be outlined.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Introduction

The introduction to the research study embarks on a journey to explore the intricate world of greenwashing, prompted by a series of fundamental inquiries. These fundamental questions set the stage: What precisely constitutes greenwashing? How does it manifest in various contexts? What links can be drawn between greenwashing and the well-being of individuals? Moreover, the introduction delves into the critical issue of consumer awareness. Is there a discernible connection between the deceptive allure of greenwashing buzzwords and the pernicious allure of sugar addiction? Exploring the nutritional dimension, it also scrutinises the nutritive value of the products under examination. To what extent have these products been subjected to processing? Are companies strategically leveraging social media and the influence of athletes to propagate the notion of "green" or healthy products, subtly swaying consumer behaviour?

As the narrative unfolds, it pivots towards the pivotal inquiries that shape this research endeavour. One such query revolves around consumer behaviour and their tendency to overlook ingredient lists while underutilising the nutrition information provided on food labels. The interplay between greenwashing, sugar addiction, and the level of processing stands as a linchpin in understanding the impact on the nutritional value and consumer choices concerning frequently scanned and consumed food products. An additional facet is exploring whether companies employ athletic public figures to mislead consumers into believing that the products they purchase are healthy, even if such a perception does not align with reality.

The subsequent sections of this introduction will concentrate on the literature review aspect, encompassing the definitions, concepts, and manifestations pertinent to the research questions. This review will serve as a foundation, providing the insights necessary to elucidate the research findings in subsequent chapters, ultimately contributing to the overarching aim of this study. The literature review will traverse several interconnected themes, each aligning with the research questions. These themes encompass:

The first section lays a theoretical foundation by discussing key concepts such as "green," "green advertising," and the prevalent scepticism surrounding such advertising practices. This section delves into the shift from genuine green marketing to the controversial territory of greenwashing, shedding light on the intricacies of the greenwashing phenomenon and the way the public perceives it. By elucidating the evolution of green marketing and the rise of greenwashing, this introductory segment sets the stage for a comprehensive exploration of how these dynamics impact consumer behaviour and decision-making in the contemporary marketplace.

The second section of the thesis highlights a well-known paradox in our relationship with food, where it can be both a remedy and a detriment to our health, a fundamental aspect of human life that carries a complex duality. Within this section, the focus narrows to the issue of sugar addiction and the consumption of ultra-processed foods, shedding light on the rationalisation behind our food processing choices and the correlations they have with broader societal factors. The sections delve into the intricate connections between the consumption of ultra-processed foods and the multifaceted challenges that extend into social, cultural, economic, and other aspects of our lives. This section offers a comprehensive exploration of how our dietary choices, particularly regarding sugar and highly processed foods, not only impact individual health but also have far-reaching consequences within society at large. By examining these interconnected

issues, the paper aims to provide a holistic understanding of the challenges posed by modern food consumption and its implications for public health and the broader well-being of communities.

The third section of the paper shifts its focus to the role of social media in the context of greenwashing. It explores strategies for altering behaviour to encourage the adoption of more sustainable and healthier consumption choices. This section delves into the intricacies of effectively communicating sustainability through social media platforms, aiming to provide insights into how messages about green products and practices can resonate with the public. The section also sheds light on the influential role of marketing and how it impacts the broader population, providing a valuable examination of the mechanisms and effects of marketing strategies on consumer behaviour. By combining these elements, the paper seeks to offer a holistic view of the intersection between social media, consumer behaviour change, and the power of marketing in promoting sustainability, ultimately contributing to a more eco-conscious and health-conscious society.

The fourth section is centred on three theories employed to elucidate the concept of greenwashing and how it affects individuals' well-being. These theories form the foundational framework of the study and will be instrumental in clarifying the findings presented in the upcoming chapters. The concluding section serves as a synthesis of the previous sections, drawing comprehensive conclusions from the reviewed literature, thereby providing an integrated perspective that informs the subsequent chapters of the study.

2.2 Greenwashing

2.2.1 Definitions of Green

Environmentally friendly or green products are broadly defined as products “that will not pollute the earth and are less harmful to the environment than the standard alternatives in terms of polluting the earth or depleting natural resources, and/or can be recycled or conserved” (Shamdasani et al., 1993).

For consumers, being green involves a lifestyle of minimal environmental impact, or in the best case, choices that benefit the environment. In choosing to minimize the damage to the environment, consumers are faced with many decisions (Banerjeev et al., 1995). For example, an individual might choose to eat vegetarian meals several days a week to reduce their carbon footprint, while another might opt to go fully vegan. These choices represent different levels of commitment to being eco-friendly, but they both reflect a deliberate evaluation of environmental consequences and a change in dietary patterns. Being conscious about the environment in terms of food consumption is about a continuous effort, whether small or large, to mitigate environmental harm.

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2.2.2 Green advertising

Businesses demonstrate their commitment to environmental concerns through various methods, and green advertising is one of those strategies. This concept of environmentally conscious promotion originated in the 1970s, a time marked by an economic downturn resulting from a surge in oil prices and negligence of environmental harm over many years. Very swiftly, society had to confront the reality that resources were finite, and their utilization carried significant ecological implications. Companies tried to follow this green trend and responded to consumers' concerns by communicating green messages in their marketing (Haytko and Matulich, 2008).

This sudden understanding led to a paradigm shift in marketing strategies, with businesses opting for 'green advertising'. Through this, companies promote their products or services as environmentally friendly, highlighting the use of sustainable resources, low-emission processes, or recyclable materials. This, in turn, not only exemplifies their commitment to the environment and sustainability but also attempts to resonate with an increasingly eco-conscious consumer base. It propagates the idea that making responsible purchasing decisions can make a difference, playing an important role in conserving our planet's finite resources.

Pranee (2010) states that green advertising must be legal and honest and oblige to all environmental regulations and policies. In practice, companies do not always comply with these statements and still manage to follow the set regulations in their field of advertisement (Eltell and Åberg, 2012).

Banerjee et al., (1995) define green advertising as any ad that meets one or more of the following criteria:

(1) Explicitly or implicitly addresses the relationship between a product/service and the biophysical environment.

(2) Promotes a green lifestyle with or without highlighting a product/service.

(3) Presents a corporate image of environmental responsibility.

Hence, in conclusion, as environmental concerns continue to gain prominence in both business and society, these criteria serve as a comprehensive framework for understanding the dynamic and influential landscape of green advertising, offering insights into how marketing can drive positive change towards a more eco-conscious and responsible future, unlike greenwashing deceptive practice.

Error! Reference source not found. **Scepticism towards green advertisement**

With the increase in green advertising, there is also a growing need for more clarity among consumers regarding the green claims used in many ads. One primary reason for the confusion is the lack of generally accepted definitions of common claims advertisers use, such as “bio-degradable”, “environmentally friendly”, “ozone friendly” and so on (Do Paço and Reis, 2012). Usually, consumers do not have enough knowledge to understand the information these and similar claims are based on. Even though guidelines are becoming more specific, environmental product claims continue to be vague and questionable (Newell et al., 1998). In contrast, consumers are likely to ignore the message altogether if a green ad is perceived as too technical or descriptive (Do Paço and Reis, 2012).

The challenge of distinguishing between truth and exaggeration in green advertising has fostered widespread scepticism among consumers. This scepticism undermines genuine eco-friendly companies' ability to effectively communicate their environmental contributions, sometimes deterring the creation of truly green products. Indeed, if consumers lose faith in the environmental advantages touted in ads and green marketing, the efforts invested in green marketing communications could be futile. Sceptical consumers might unconsciously hamper the development of environmentally friendly products ((Do Paço and Reis, 2012). If an advertisement is perceived as environmentally misleading or greenwashed by consumers, they perceive it as deceptive (Newell et al., 1998). Consequently, consumers who perceive an advertisement as greenwashed are likely to view it as more deceptive compared to a neutral ad. The essential query here is whether consumers have the aptitude to discern such greenwashed assertions.

Error! Reference source not found. **Companies Employing Greenwashed Advertising**

According to Delmas and Burbano (2011), there are four underlying reasons companies choose to use greenwashing: firm character, incentive structure and ethical climate, and organisational inertia.

The firm character:

Expectations from competitors and customers to positively highlight their environmental performance are a strong driver of greenwashing. For example, consumer products have greater pressure from consumers than the service industry to operate environmentally friendly and green marketing is here much more frequent.

Incentive structure and ethical climate:

Managers with high financial goals often use unethical methods to achieve them. The industry and the organization's ethical climate have a major impact on what the company is willing to do to increase its environmental reputation and profits.

Organizational inertia:

The company's managers and marketing communicators set up new environmental measures and targets and paint the company as "green" long before these requirements are met. Because of the inertia in the organization, it will not change operations despite promises. The communication in different parts of a company is often poor or sub-optimal. In many cases, a developed green marketing strategy by some bosses or an external marketing firm is not on par with what other parts of the organization can or want to achieve. This reason is often connected with organizational inertia.

These factors collectively shed light on the motivations and complexities behind the use of greenwashing by companies in the pursuit of enhanced environmental image and financial success.

Error! Reference source not found. **Green Marketing to Greenwashing**

In recognition of the significant advantages, numerous companies endeavour to enhance their environmental stance by transparently demonstrating their sustainability initiatives to the public. To accomplish this, they engage in green marketing strategies, creating campaigns tailored to capture the attention of environmentally aware consumers and gain a competitive edge.

The concept of green advertising emerged in the 1970s during a period of economic recession triggered by rising oil prices and the previously neglected environmental damage (Ottman, 2017). Within a short period, society realized that resources were finite, and their utilization had significant adverse effects on the environment. In response to a concerned society, companies sought to align with this growing trend by launching marketing campaigns infused with green messages (Haytko and Matulich, 2008). During the late 1980s, the field of green marketing experienced significant growth. Companies began to recognize the substantial advantages that a socially responsible brand image could bring them. As a result, communication efforts focusing on sustainability expanded beyond just reports and official communication channels. They became more prominent, reaching a wider audience through television and magazine advertisements, websites, and product packaging.

This significant surge in green advertising coincided with the emergence and rapid growth of green consumerism during that time. This movement involved individuals and groups adopting a lifestyle and purchasing behaviour that prioritized the consideration of environmental and social consequences. As a result, they actively avoided brands perceived as unsustainable, polluting, or socially unethical, instead gravitating towards brands that demonstrated a commitment to these issues.

As green marketing has grown, so has the issue of greenwashing. Many companies aim to capitalize on the trend by finding ways to promote their sustainability efforts, no

matter how small or insignificant they may be. Unfortunately, this has led to deliberate and misleading communication by some companies, ultimately harming consumers. This deceptive practice often coincides with an increase in corporate social responsibility activities and their public display by companies. Aggarwal and Kadyan (2014) have provided evidence showing that companies with higher corporate social responsibility (CSR) scores are also more likely to engage in greenwashing practices.

A casual stroll down the supermarket aisles reveals the pervasive and overwhelming influence of green marketing, particularly at the product level. Nearly everything is labelled as "green," "organic," "natural," and "ethical" ….

As defined by Banerjee et al., (1995), green advertising is as any ad that meets one or more of the following criteria:

1) Explicitly or implicitly addresses the relationship between a product/service and the biophysical environment.

2) Promotes a green lifestyle with or without highlighting a product/service.

3) Presents a corporate image of environmental responsibility.

In the realm of green advertising, the criteria they put forth hold significant relevance to the practice of greenwashing. Firstly, the criterion of explicitly or implicitly addressing the relationship between a product or service and the biophysical environment is a central point of connection. Companies engaged in greenwashing often seek to convey a deceptive sense of environmental responsibility by superficially associating their products or services with eco-friendly attributes, even if such associations are insubstantial.

Secondly, the promotion of a green lifestyle, whether it directly highlights a specific product or service, is another key nexus of greenwashing. Greenwashing often involves creating an image of a sustainable and environmentally conscious lifestyle, aiming to lure

consumers into believing that by choosing a particular product or service, they are embracing a greener way of living.

Lastly, the criterion related to presenting a corporate image of environmental responsibility is closely intertwined with greenwashing practices. Companies engaged in greenwashing frequently seek to project themselves as environmentally responsible entities through their marketing efforts, even if their overall operations and products do not align with this image.

The concept of green advertising, as discussed by (Pranee, 2010), hinges on a fundamental requirement of honesty and legality. To qualify as genuine green advertising, it is imperative for companies to adhere to all environmental regulations and policies. This commitment to ethical and lawful conduct is pivotal in preventing green messages from slipping into the realm of greenwashing, where deceptive practices blur the lines between authentic environmental responsibility and mere marketing ploys. However, it is a sobering reality that some companies, even when not fully compliant with these standards, can strategically navigate the regulatory landscape while still projecting a veneer of environmental consciousness.

In the modern context, the American Marketing Association's more recent definition of green marketing as "the marketing of products that are presumed to be environmentally safe" (Líšková *et al.*, 2016) underlines the evolving nature of green advertising. It acknowledges the presumption of environmental safety, reflecting the delicate balance between genuine environmental responsibility and the potential for misleading marketing practices. As consumer awareness and expectations continue to grow, the challenge for companies lies in aligning their green marketing efforts with concrete environmental actions, thereby avoiding the pitfalls of greenwashing while fostering a more sustainable and responsible marketplace.

In conclusion, the term "green marketing" represents a multifaceted and evolving concept with diverse interpretations provided by researchers and marketing specialists. What unites these varying definitions is the recognition of green marketing as a holistic approach, encompassing numerous dimensions and aiming to address the needs of stakeholders while concurrently mitigating negative impacts on society and the environment, as emphasized by Nadanyiova and Kliestikova (2017). This holistic perspective acknowledges that green marketing goes beyond mere product promotion; it involves a commitment to sustainable practices that resonate with consumers increasingly concerned about environmental and societal issues.

A pertinent illustration of the growing prevalence of green marketing is revealed in a study by the European Commission, demonstrating that more than 70% of advertisements examined featured at least one green claim, and 78% of products incorporated green claims on their packaging (Davide, 2015). This data underscores the rising importance of green marketing strategies in the commercial landscape, reflecting the growing consumer demand for environmentally and socially responsible products, and the need for businesses to authentically engage with these concerns to build consumer trust and drive positive change.

Error! Reference source not found. **History and Definitions**

Greenwashing is a deceptive practice where companies create a false impression of being environmentally responsible or sustainable to attract customers. The term "greenwashing" originated in the 1980s, coined by environmentalist Westerveld (de Freitas Netto *et al.*, 2020a), in response to a hotel chain's claim of promoting environmental conservation through reusing towels. However, Westerveld noticed (Motavalli, 2011) that this claim was merely a marketing ploy aimed at saving costs, rather than a genuine effort

to protect the environment. The term caught on almost immediately, becoming the war cry of NGOs and interest groups involved in correcting corporate misbehaviour. His contribution didn't lie within the actual idea; many before him had spent years pointing out the hypocritical stance adopted by many corporations. However, it was he who materialized the latent problem, giving it a catchy and identifiable name for the very first time (Berrone, 2016).

The origins of greenwashing can be traced back to the growing consciousness about environmental issues, such as pollution, deforestation, and climate change. As public concern for the environment increased, consumers started demanding more sustainable products and services. In response, some companies began exploiting this trend by making misleading claims about their environmental initiatives, without implementing substantive changes.

In the 1980s, a deceptive practice known as greenwashing emerged. It involves businesses falsely portraying themselves as environmentally responsible to gain profit. This practice is driven by the desire for financial gain and the lack of standardized regulations. One of the terms used to describe this deceptive advertising was coined by Jerry Mander (Mander, 1972), a former advertising executive, who referred to it as "ecopornography." Mander observed that industries like oil and gas, automobile, and chemical were spending considerable amounts of money on green advertising, featuring images of animals such as seals and dolphins, while neglecting their actual environmental impact and investing very little in pollution control measures (Mander, 1972). This practice undermines genuine efforts towards sustainability and aims to deceive consumers. Although the term was coined in 1986, these strategies have been employed long before then. In the past, individuals would gather information about companies and products

solely through television, radio, or newspapers, with no access to online fact-checking resources that we now take for granted.

In 1991, DuPont, an American chemical company, launched a campaign highlighting their use of double-hulled tankers to prevent oil spills in the ocean. The company created a television commercial featuring dolphins, seals, and other sea creatures joyfully dancing in clean water, promoting an idyllic environment. However, the reality turned out to be quite different and, in some instances, even contradictory. DuPont faced accusations that year of polluting the waters near their production sites, ultimately leading to them being identified as the most polluting company in the United States (Watson, 2017).

Another example is the "People Do" campaign was launched by Chevron in 1985. The goal of the campaign was to showcase Chevron's commitment to the environment and create awareness about its proactive initiatives.

The company, initially presenting itself as an environmentally conscious oil corporation, achieved notable recognition in 1990 when it earned an Effie advertising award. Furthermore, it garnered attention as a case study at Harvard Business School during the same year. However, the truth eventually emerged, revealing that the company's actions were not driven by genuine willingness but rather by legal obligations. Many of the company's environmental initiatives were mandated by law. Shockingly, the company was found to have violated the Clean Air Act, facing accusations and subsequently being convicted for dumping a staggering 18 billion gallons of toxic wastewater into Ecuadorean rivers and spilling approximately 17 million gallons of crude oil into the ancestral lands of six indigenous tribes (Watson, 2017; Cherry and Sneirson, 2012).

Even to this day, these cases are often cited as the initial instances of public discovery of greenwashing. Despite their claims of being environmentally responsible, the

companies involved proved otherwise, resulting in a controversial situation that significantly tarnished their reputations. Greenwashing was not limited to just oil and chemical companies but was a widespread tactic employed by companies across various industries. One significant sector where greenwashing in environmental advertisements is prevalent is consumer goods.

One-fourth of all household products marketed around Earth Day advertised themselves as green and environmentally friendly (Kangun et al., 1991). A 1991 study published in the Journal of Public Policy and Marketing (American Marketing Association) revealed that 58% of environmental advertisements contained at least one misleading or deceptive statement (Líšková *et al.*, 2016).

During the late 1990s and into the 2000s, there was a steady rise in companies' utilisation of greenwashing practices. The growing awareness surrounding this issue led to increased scrutiny and research conducted by environmentalists and marketing experts. As a result, the definition and understanding of greenwashing have become more refined. Greenwashing, as defined in traditional literature, refers to the tactics employed by certain companies to conceal the adverse impacts of their products. Instead, they focus on inventing or communicating alternative positive aspects. However, research into the true essence of greenwashing reveals various interpretations of the concept, which can be ambiguous and troublesome. In the initial stages of studying this phenomenon, greenwashing was perceived as a deceptive communication strategy aimed at misleading stakeholders.

Delmas and Burbano (2011) described greenwashing as “the act of misleading consumers regarding the environmental practices of organisations (firm-level greenwashing) or the environmental benefits of a product or service (product-level greenwashing)” in this way, the authors identified a distinction between two different

tactics of greenwashing while Ramus and Montiel (2005) and Laufer (2003), described greenwashing as “corporate disinformation.” Several authors have argued that the simplistic understanding of greenwashing does not fully capture its complexities. For instance, Lyon and Montgomery (2015) illustrate how this narrow definition might exclude a range of potentially misleading behaviours from being properly recognised as greenwashing.

Several theorists have emphasised the need to explore more specific forms of greenwashing, highlighting the broader nature of this phenomenon beyond its initial conception. Waller and Conaway (2011) conducted a study that examined how strategic framing of messages can deceive consumers. They specifically analysed Nike's use of these tactics to mitigate accusations of unethical working conditions and enhance its corporate social responsibility (CSR) image.

Parguel et al., (2015) directed their attention to using nature-inspired elements in advertising. They introduced the term "execution greenwashing" to describe situations where organisations, without explicitly making "green" claims, subtly imply their commitment to environmental friendliness through cues like images, brand colours, symbols, and more.

The scope of greenwashing encompasses a wide range of activities, surpassing initial expectations. In their widely cited publication titled "The Sins of Greenwashing – Home and Family Edition," Terrachoice (de Freitas Netto *et al.*, 2020b), an advertising consultancy company, provides a comprehensive overview of the most used greenwashing tactic aimed to enhance understanding of environmental claims and deceptive strategies, with a particular focus on home and family products. Terrachoice annually evaluates over 19,000 types of products sourced from more than 66,000 producers. Their analysis includes scrutinising any environmental claims made by companies regarding their products. They

identify false claims through rigorous testing and classify them into various categories. Terrachoice's study has yielded valuable insights and enabled them to compile a comprehensive list of deceptive practices.
The “tricks” or “sins” as described in this paper are the following:

The sin of the hidden trade-off:

This sin is committed when suggesting a product is “green” or “ethical” just considering a narrow set of attributes. You cannot say, for example, that a product is sustainable just because it doesn’t use plastic; there are other factors you must consider. How is it produced, how much energy does it absorb? And from which source? How much CO2 is generated during the production? Considering just one element is insufficient, and a deception may be hidden.

The sin of no proof:

This trick happens when an environmental or ethical claim is made but no proof supports it. The affirmation cannot be demonstrated to be true by data or by a third-party certification, resulting in an end in itself and deception.

The sin of vagueness:

Committed when the claim is so vague to be meaningless. These kinds of claims are specially formulated to be misunderstood by consumers. Perfect examples are those products or commercials on which we read “all-natural” or “friend of the environment”, senseless phrases.

The sin of irrelevance:

A claim is considered irrelevant when, notwithstanding its potential truthfulness, it is unimportant to consider a product more sustainable than others. Many products, for example, especially in the cosmetic industry, claim to be “free” of certain substances, such as parabens, already banned in many countries, including Italy.

The sin of the lesser of two evils:

This kind of sin stands in the fact that the claim may be valid inside the category of a particular product, but it distracts the consumer from the big unsustainability of the category. A perfect example of this is, for example, organic cigarettes or again recycled plastics; if it's true that between plastic and recycled one, the latter is the best choice; the real eco-friendly alternative remains no plastic at all.

The sin of fibbing:

Another commonly used trick is environmental or ethical claims that are simply not true. In some categories of products, such as imitation of low-quality products from countries like China or India, this is often used, exploiting the scarce investigations from the authorities and customers as well.

The sin of worshipping false labels:

The last but essential sin is the one-off reproduction of a fake version of the eco-labels that in many countries have been introduced to help consumers identify the ecological end ethical products on the shelves. In many products, we can find this kind of trick: phrases such as the ones about the sin of vagueness are shaped in a logo that voluntarily reminds those of the authentic certifications. These kinds of symbols are often at the borderline with legality; these are at the end simple symbols depicting a leaf or planet earth often correlated with a slogan such as "natural" or 100% friendly. These labels are meaningless but they're often able to deceive consumers in the time of purchase. The very same study reads that this kind of tricks are commonly increasing and especially in the family products sector, the same research has found that the "green" products in USA had been constantly increasing by roughly 70% each year between 2008 and 2010. Analysing then these products they also found how only 5% of all the products claiming to be green

were actually “greener” and not simply guilty of at least one of these “sins” of greenwashing (de Freitas Netto *et al.*, 2020b).

One of the reasons behind greenwashing is the desire for businesses to capitalize on the growing demand for eco-friendly products. By promoting their products as environmentally friendly, companies can attract an ethically minded consumer base and gain a competitive edge in the market. However, instead of investing in sustainable practices, some businesses engage in greenwashing tactics as a quick and cost-effective way to appear environmentally responsible.

Throughout the 1970s and 80s matters only got worse, several significant environmental disasters like Bhopal, Chernobyl, and Exxon Valdez brought greater attention and strength to the environmental movement. In response, the number and sophistication of greenwash advertisements increased significantly. This reached its peak in 1990, coinciding with the 20th anniversary of Earth Day. It was during this time of heightened environmental awareness and celebration that "corporate environmentalism" gained prominence in the United States. Transnational corporations began to realize that a growing number of consumers were interested in purchasing environmentally friendly products. In fact, a poll in the early 1990s found that 77% of Americans considered a corporation's environmental reputation when deciding what to purchase. Another US poll revealed that 84% of people considered corporate environmental crimes to be more serious than insider trading or price fixing (Parguel, Benoit-Moreau and Russell, 2015)

In response to this phenomenon, the corporate world made extensive efforts to promote themselves and their products as the most environmentally friendly. During the period around "Earth Day 20," approximately one-fourth of all new household products introduced in the United States marketed themselves as "recyclable," "biodegradable," "ozone friendly," or "compostable." At the same time, some of the biggest polluters

globally invested significant amounts of money to create an illusion of environmental responsibility. For example, the oil company ARCO hid its Los Angeles facility behind artificial palm trees and waterfalls, resembling what one observer called "cosmetic dentistry for industrial establishments."

DuPont collaborated with the renowned advertising agency BBDO to produce an advertisement featuring clapping seals, leaping whales and dolphins, and flying flamingos, all set to Beethoven's Ode to Joy, to convey their newly acquired green image. Similarly, Dow Chemical, the leading producer of chlorine worldwide, used the image of planet Earth to highlight its supposed long-standing commitment to the environment, claiming that this dedication could be traced back to the company's inception (Karliner, 1997).

Similarly, Japanese companies like Hitachi, Suntory, and Mitsubishi Corporation have also joined the trend of marketing themselves as environmentally conscious. Hitachi, a nuclear powerhouse, portrayed itself as "a citizen of the Earth" in its advertisements. Suntory, a brewery affiliated with the Sanwa keiretsu, even created a beer named "The Earth" and labelled its cans with the slogan "Suntory: Thinking About the Earth." Meanwhile, Mitsubishi Corporation, through a joint venture, participated in the clearcutting of large areas of century-old Aspen forests in Canada. The wood obtained from this activity was then turned into disposable chopsticks, marketed in Japan as "chopsticks that protect nature." These examples highlight how companies are using deceptive tactics to enhance their green image, even when their practices may not align with genuine environmental concerns (Karliner, 1994).

The presence of greenwashing was equally prominent in Europe. For instance, the Swiss chemical company Sandoz, aiming to restore its reputation following the environmental disaster of the 1986 Basel spill, employed advertisements showcasing an idyllic forest, a serene pond, and a pristine river meandering through the landscape. While

the imagery depicted in the advertisement was partly true, it concealed the fact that Sandoz had shifted its hazardous chemical manufacturing operations from Switzerland to Brazil and India by 1990. This example highlights the deceptive tactics employed by companies to present themselves as environmentally responsible while conveniently omitting key information about their practices (Greer and Bruno, 1996). Meanwhile, the British Corporation ICI, which for years was the world's number two producer of ozone-depleting CFCs until it was forced to phase them out, advertised its shift to HFCs and HCFCs -- global warming gases and ozone-depletes respectively -- as ushering in "a new generation of ozone friendly fluorocarbons (Doyle, 1990).

This toxic greenwashes also spilled into the Third World. In Malaysia, for instance, ICI produced a blatantly deceptive full colour newspaper advertisement whose headline trumpeted "Paraquat and Nature Working in Perfect Harmony." The ad, which described Paraquat as "environmentally friendly," contained a series of outrageous assertions about the highly toxic herbicide that has poisoned tens of thousands of workers in Malaysia alone, is banned in five countries and is listed as one of the "dirty dozen" by the Pesticide Action Network. In New Delhi DuPont ran a weekly environmental advertisement in *The Times of India* where it portrayed itself as an ecological champion. The Brazilian transnational Aracruz Cellulosa advertised to a global audience that its mono-crop plantations, which make it the world's leading producer of chlorine-bleached eucalyptus pulp, are a "partnership with Nature" and promoted itself as a model for sustainable development. In Argentina, Exxon publicised its financial support for a wetlands project with the tagline, "There's a tiger that cares for the deer." In Russia, Chevron aired its People Do advertisements to overcome public opposition to its oil drilling plans (Karliner, 1997)

Greenwashing is a concerning issue as it deceives consumers, undermines the efforts of genuinely eco-friendly businesses, and hinders meaningful progress towards a

sustainable future. Recognising the existence of greenwashing and understanding the origins of this practice is essential for consumers to make informed choices and hold companies accountable for their environmental claims.

Error! Reference source not found. **Perceived greenwashing**

Greenwashing refers to green marketing claims that do not represent a company's environmental activities precisely (Szabo and Webster, 2021). This indicates that the greenwashing phenomenon differs between the action element and the discourse element (Ruiz-Blanco et al., 2022). Because of its inconsistency in marketing communication, greenwashing might harm consumer perception of products, which negatively influences the company's revenue (Szabo and Webster, 2021).

Consumer perceptions toward greenwashing can be divided into two sections: action and discourse, as the greenwashing phenomenon encompasses these two elements. Consumers handle the information of companies' environmental performance such as the record of how much they have an ecological impact and the companies' green activities influence the consumer purchase intention of the products (Grimmer and Bingham, 2013). The purchase intention of green products can be represented as an action factor since it is a process of translating their conceptions into actions. In the context of green purchasing, consumers perceive the products and deal with some information about the products to assess whether they are green or not.

To gain information and knowledge about green products, advertising is the primary source for consumers to receive companies' messages and information which affects CSR initiatives which are corporate social responsibility (Nyilasy et al., 2014). Green labels are also considered a discourse element of greenwashing regarding the way of communication that gives consumers information (Urbański and Ul Haque, 2020).

Consumers recognise the label and consider it while judging the green products. Consumers face these two elements of greenwashing and perceive greenwashing by detecting the decoupling of companies' substantive action and green marketing communication, such as advertising or labels.

Error! Reference source not found. **Action element**

It has been noted that many companies are encouraged to portray themselves in an environmentally green way with their business activities because of the competitive advantage that firms can gain (Miles and Covin, 2000). However, the environmental practices companies conduct sometimes do not match the set objectives that companies claim for (Walker and Wan, 2012). The leading environmental performance companies endeavour to reduce carbon emissions or produce eco-friendly products aimed at by companies across various business fields. In some cases, these business activities related to environmental sustainability are not verified (Lyon and Montgomery, 2015).

Some companies lack substantive environmental actions, resulting in committing greenwashing (Walker and Wan, 2012). Consumers perceive these companies' deceptive environmental performance and the perceived greenwashing impacts on green purchase intentions (Nguyen *et al.*, 2019). Green purchases are consumers' environmental performance, and purchase intention is the main factor in encouraging consumer action for the environment in the context of consumerism. When consumers purchase greenwashed products, their perceptions may influence how they respond and act (Szabo and Webster, 2021). Since the appearance of the greenwashing phenomenon and the need for greener products, consumers have become more critical when looking for environmental choices (Nguyen *et al.*, 2019).

However, the research also demonstrates that individuals, regardless of origin, continue to buy and consume environmentally hazardous products even if they are wary of such information; they will succumb to the temptation to purchase (Urbański and Ul Haque, 2020). Consumers may regard greenwashed products as sustainable because, despite inaccurate information, they believe they are still good products in general (Urbański and Ul Haque, 2020).

The research community of various fields has become attracted to the fact that environmental concerns are on the rise, and the need for research on green consumer perception has surfaced (Bulut *et al.*, 2021). One of the most noticeable rises in environmental concerns has been a positive movement in consumer behaviour toward green products (Szabo and Webster, 2021). Persons with a sensitive ecological moral compass have more pro-environmental beliefs and attitudes and a willingness to buy greener products (Szabo and Webster, 2021).

According to the study conducted by (2021), greenwashing is a moderating factor in the relationship between environmental concern and green purchasing, which means that consumers who have a greenwashing perception are unlikely to have the intent to purchase green products even if they are highly concerned about the environment.

In addition, consumers can be highly aware of the products, whether green or greenwashed, when they have high environmental concerns (Bulut *et al.*, 2021). Contrary to this study by Bulut *et al.*, (2021) regarding the relationship between perceived greenwashing and environmental concern, consumers are not able to identify the greenwashed products. They are not dedicated to checking whether the products are greenwashed or not, even if they have high environmental concerns (Szabo and Webster, 2021).

Error! Reference source not found. **Discourse element**

There are plenty of green marketing claims utilised in advertising that can be recognised everywhere in the consumption scene, some of them are deceptive and misleading consumers to fall into the greenwash trap (Chen and Chang, 2013). In the decision-making process, consumers are dependent on marketing communications such as advertising or green claims to obtain a source of information (Szabo and Webster, 2021).

However, the perceived greenwashing makes consumers actively concerned about the environment and more sceptical of advertising claims (Szabo and Webster, 2021). As a result, consumers shape their negative attachment toward companies when they encounter incongruent green claims and substantive performance, and scepticism also occurs among consumers when they recognise only green advertising as well (Nyilasy et al., 2014). Consumers frequently lack the knowledge or skill to validate green products' environmental and consumer benefits, resulting in misconceptions and distrust (Urbański and Ul Haque, 2020).

It is understood that through the green scepticism which is created by greenwashing, the perception of green trust is influenced negatively (Chen and Chang, 2013). The element of trust means consistency between the discourse and the business activities. Greenwashing is the phenomenon of inconsistency of these elements, which are action and discourse. The phenomenon creates confusion, and consumers perceive risk when purchasing green products, resulting in negatively affecting green trust negatively (Chen and Chang, 2013). Contrary to this study, consumers are sceptical and distrust the green claims Gosselt et al. (2019) claimed that consumers are taking for granted the environmental claims and need to be more cautious in scrutinising their legitimacy. To put it another way, despite all of the advertising and mistrust, consumers have thought that delivering an eco-friendly massage gives them favourable impressions since the claims

show environmental interest, which is considered a dedication to some extent (De Jong et al., 2018).

Furthermore, even when consumers are aware of greenwashing's flaws, labels have been found to be quite successful in influencing them (Urbański and Ul Haque, 2020). Consumers are sceptical of marketing claims, mainly when they are "green, “they trust the labels and proceed to the purchase. However, Urbański and Haque (2020) provided evidence with their study result that customers' impressions of a fake label remain unaffected since they cannot distinguish a false label product despite their mistrust of greenwashing. Participants of related research were astonished and confused when they discovered that the label was a fake as it did not have the stated features, which revealed that consumers are sometimes gullible and prone to falling victim to such schemes, and they become confused when the greenwashing is revealed (Chen and Chang, 2013).

Perceived greenwashing hinders processing the information and creates confusion among consumers when they face green products (Chen and Chang, 2013). This aligns with the study conducted by Field Martínez et al. (2020) concluded that greenwashing perception induces consumers to make wrong purchase decisions with its confusion, negatively affecting customer satisfaction and increasing the perceived risk of buying green products. When consumers perceive greenwashing in the product, consumers feel being lied to and discontinue the products (Martínez et al., 2020).

However, consumers cannot distinguish a false label product despite their mistrust of greenwashing, and customers' impressions of a fake label remain unaffected (Urbański and Ul Haque, 2020).

Error! Reference source not found. **Food and wellbeing**

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Food is the number one intervention to prevent, treat, and reverse diseases and, more importantly, create health. Think of food as your pharmacy. Food is not like medicine; it is medicine. It works on your biology in wondrous and complex ways that are often far more powerful than the pharmaceuticals (Hyman, 2023).

Ninety percent of heart diseases can be prevented with a healthy diet, exercise and not smoking (Yusuf *et al.*, 2004). With every bite of food, you feed the good bugs or the bad bugs, and you heal the lining of the gut or damage it (Hyman, 2023). It is, in particular, of utmost importance to know that 70 per cent of the total immune defence of the body is found in the stomach (Matveikova, 2014).

Too much sugar leads to blood sugar peaks and troughs. The troughs make you tired, so if you have a sugar habit, you will probably also go for caffeinated drinks and other stimulants to counter the sugar blues. On top of that, if you are eating excess sugar, you will also suffer from hyperactivity, impulsive behaviour, and poor concentration. Sugar, just like cocaine and heroin, stimulates dopamine and endorphins, leading to reward deficiency (Czirr & Reid, 1986; Leventhal *et al.*, 1995; Moles & Cooper, 1995).

The main reason why this research, apart from greenwashing in the food industry, also encompasses possible greenwashing in soda and soft drinks is that fact the phenomenon of soda addiction is driven by the inclusion of sugar caffeine, a known addictive substance and thus, based on the data, sugar is addictive, and soda is doubly so (Lustig, 2014).

In addition, a "wrong" selection of products based on greenwashing buzzwords and/or sugar addiction leads us to a third component: the quality of the product. Are these most scanned and thereof consumed products necessarily of a poor or good quality, which, to a great extent, influences consumers' welfare. The excellent quality of the product (unprocessed, minimally processed product) or a poor quality of the product (processed and

ultra-processed product) is of the utmost importance considering that today's Western processed food diet accounts conservatively for 11 million deaths globally a year (Afshin *et al.*, 2019).

Additionally, as underlined by Kautish et al., (2019), noncommunicable diseases (NCDs), such as cardiovascular diseases, type 2 diabetes, and some cancers, are collectively responsible for almost 70% of all deaths worldwide, which stem from processed diet. The current prevalence of NCDs poses devastating health outcomes and constitutes a severe threat to the global health system, and it is believed that most NCDs can be prevented by changes in diet patterns (Chen *et al.*, 2020).

With the increasing trend of NCDs, a steady rise in the share of processed foods has been seen. In the last half-century, food processing has evolved dramatically as a consequence of the industrialisation and globalisation of food systems (Moubarac *et al.*, 2017)

Hence, this research will analyse the quality of the products, assessing to what extent the most scanned products had been processed and their nutritional value.

The number one factor causing these deaths is the lack of fruits and vegetables in our diet, meaning a lack of unprocessed food. Fifty-nine per cent of the US farmland is used to grow commodity crops (corn, wheat, soy) that get turned into ultra-processed foods that we know are deadly. These processed foods make up about 60 per cent of the diet in the US (Hyman, 2020). The energy share from ultra-processed food and drinks varied markedly across the 22 European countries included, ranging from 14 to 44%, with the lowest in Italy and Romania while the highest in the UK and Sweden (Mertens, Colizzi and Peñalvo, 2022). Why does this matter? For every 10 per cent of a diet from processed food, consumers' risk of death goes up by 14 per cent (Schnabel *et al.*, 2018).

Hence, greenwashing in the food, soda and soft drinks industry is related to the most important regulator of disease: our diet and its quality. More than a billion people in the world are overweight and sick from eating our processed, industrialised diet and not eating a healthy whole foods diet (Ng *et al.*, 2014). Thus, it is evident that food is medicine, a remedy, and a detriment to our health.

Most of the fibre and some of the vitamins and minerals in the original food have been extracted in processing. Sugar, salt, and other additives boost flavour (Lustig, 2014).

Sugar is biologically addictive, and sugar addiction is a biological disorder, driven by hormones and neurotransmitters that fuel cravings and affect the same brain pleasure centres as heroin or cocaine Field (Hyman, 2019), and it represents a consistent part both in sweet and salty products.

Error! Reference source not found. **Ultra-processed food and well-being**

Error! Reference source not found. **Rationale on food processing**

Since food both serves as a remedy and a detriment to our health, it is of utmost importance to know which food contributes to health and well-being and which are unhealthy. On 1 April 2016, the UN General Assembly proclaimed the Decade of Nutrition to run from 2016 to 2025 as part of the UN Sustainable Development Goals initiative (Miller, 2019). The FAO, WHO, and other UN agencies will lead the efforts, seeking assistance from civil society and the private sector.

These stakeholders consistently stress the importance of this endeavour, given the clear and escalating risks posed to food systems, supplies, food security, human well-being, the environment, and the biosphere. During the General Assembly meeting, FAO Director-

General José Graziano da Silva emphasised that this Resolution places nutrition as a key aspect of sustainable development.

Special attention to food processing is crucial to understanding the connection between diet and public health. Here are five compelling reasons that substantiate this assertion, elucidating both the development of the NOVA classification and the imperative need to discern the origins of ultra-processed products: (Monteiro *et al.*, 2016).

Conventional food classifications no longer work well. They usually group foods and foodstuffs according to their botanical origin or animal species and the nutrients they contain. In this way, they often group foods that have different effects on health and disease. So 'cereals and cereal products' often group whole grains together with sugared 'breakfast cereals and cookies (biscuits), and 'meat and meat products' often group fresh chicken together with 'nuggets'. This side-lining of food processing has serious consequences, as shown below (Monteiro *et al.*, 2016).

The relationship between food processing and its influence on health has been consistently reinforced by evidence. A clear example is the creation of industrial trans-fats, which occurs during the partial hydrogenation process employed in producing numerous packaged food products such as margarine, biscuits, and long-lasting baked goods. It is widely recognised that trans-fats significantly contribute to the development of cardiovascular diseases (CVD)(De Souza *et al.*, 2015).

Reports issued by UN agencies and other authoritative organisations (World Cancer Research Fund and American Institute for Cancer Research, 2007; WHO and Consultation, 2003) list some processed foods and drinks as certainly or probably implicated in obesity and chronic diseases. These include energy-dense food products, fast foods, processed meat, salt-preserved foods, sugary drinks, soft drinks and refined starchy foods.

However, such reports do not see any pattern and stop short of examining processing as such. The US 2010 and the 2015–2020 Dietary Guidelines for Americans report (Monteiro *et al.*, 2012) United States. Dietary Guidelines Advisory Committee, 2010) recommends reducing consumption of common ingredients in processed foods, including sodium, added sugars, trans-fats, refined grains, and processed meats. However, these reports do not specifically address the issue of food processing itself, and the term 'processing' is not included in their glossaries of terms.

Furthermore, concerns regarding food additives are typically limited to contamination issues, with less attention given to cosmetic food additives like flavours and colours, which are used to make combinations of inexpensive processed oils, refined sugars, and starches more appealing and attractive (Monteiro *et al.*, 2018).

Food systems and supplies are changing globally and are determining changes in food purchase and consumption. Specialist food retailers are rapidly displaced by supermarkets whose central aisles are dominated by branded packaged products. Home cooking has decreased in favour of snacking on processed products, consumption of pre-prepared dishes, and the very rapid rise of franchised fast-food caterers selling processed meat products, French fries, and sugared soft drinks. Branded products such as fatty, sugary or salty snack foods and sugared soft drinks are available in all retail outlets, often around the clock (Monteiro *et al.*, 2012; Fischer and Garnett, 2016; Scott, 2017).

The driving force behind these phenomena is transnational corporations (Monteiro *et al.*, 2018). These corporations have been identified in a 2012 PLoS Medicine series and by Margaret Chan, Director-General of the WHO, in 2014 as 'Big Food'. (World Health Organization, 2013; Stuckler and Nestle, 2012). Since the 1980s, these corporations have capitalised on the opportunities presented by foreign direct investments, a catalyst for economic growth.

According to the Organization for Economic Cooperation and Development, these investments have surged from $US 61 million in 1985 to $US 1,068,000 million in 2000 and $US 1,730,000 million in 2015 (Zafar et al., 2019). Elsewhere, it has been demonstrated that the involvement of transnational corporations, also known as 'Big Food', in foreign direct investments has profoundly impacted the food supplies of middle- and low-income countries. (Hawkes, 2005; Wilkinson, 2012). Unlike many national governments, several corporations have annual turnovers that surpass the gross national product of mid-range countries. These corporations have the ability to divert or invest billions of dollars into new technologies and markets. (Monteiro and Cannon, 2012). As stated in a 2000 report by the Global Policy Forum (Greer and Singh, 2000):

> *"In today's era of deregulated global trade and investment, transnational corporations (TNCs) have emerged as the most influential economic entities worldwide. However, it is concerning that no intergovernmental organisation oversees their conduct. This lack of control by governments raises significant issues related to public health and the environment" (Monteiro et al., 2012).*

It is now becoming increasingly well-known that transnational food corporations have colossal resources to manufacture, market, promote, and lobby for their packaged branded products. Their impact is most evident in the middle- and low-income countries they have penetrated since the 1980s, where they often plan 'double-digit' growth, meaning a 10 % or more increase in annual sales (Greer and Singh, 2000). As pointed out in the September 2016 'Foresight' report (Haddad *et al.*, 2016):

'Food and beverage companies spend large amounts on advertising, accounting (including alcohol retail) for 17 % of global media spending in 2012. Coca-Cola and Nestle, among the top ten professional organisations supported by food product manufacturers, have published reports, brochures, and papers on food processing between

2010 and 2014. These use comprehensive characterisations, such as ‘food processing is any deliberate change made in a food from the time of origin to the time of consumption’ or a variety of operations by which raw foodstuffs are made suitable for consumption, cooking, or storage, or else ‘food processing is the alteration of foods from the state in which they are harvested or raised to preserve them better and feed consumers’ (Monteiro et al., 2018)

A recent analysis of food marketing strategies reveals that in high-income countries, food promotion has focused on making calorie-dense food more accessible, affordable, and appealing by offering more significant portions and enhancing taste. These marketing tactics often employ subtle methods like brand association, sensory complexity, and package design rather than explicit advertisements. Interestingly, similar patterns are also observed in low- and middle-income countries.

Research provides compelling evidence that advertising dramatically influences children's food preferences and choices. Considering all these factors, it becomes evident that in the 21st century, there is a critical need to give significant attention to food processing and ultra-processed products. These factors and the impact of such products on areas like social life, culture, employment, and the environment highlight the importance of understanding and addressing the implications of the widespread consumption of ultra-processed food and drink products. (Monteiro et al., 2012) .

To elucidate the meaning of processing, organisations that represent the interests of professional organisations or food and drink corporations have published reports, brochures or papers between 2010 and 2014 on food processing (Eicher-Miller et al., 2012; Weaver *et al.*, 2014; Baines and Seal, 2012; Moubarac *et al.*, 2014) using comprehensive characterisations, such as, ‘food processing is any deliberate change made in food from the time of origin to the time of consumption’ (Albuquerque *et al.*, 2018), or a variety of

operations by which raw foodstuffs are made suitable for consumption, cooking, or storage' (International Food Information Council Foundation, 2010), or else 'food processing is the alteration of foods from the state in which they are harvested or raised to preserve them better and feed consumers' (Weaver *et al.*, 2014).

Additives are explained with statements such as (International Food Information Council Foundation, 2010) :

'Food additives are added for a particular purpose, whether to ensure food safety, add nutritional value or improve food quality. They play an important role in preserving foods' freshness, safety, taste, appearance, and texture. For example, antioxidants prevent fats and oils from becoming rancid, whereas emulsifiers stop peanut butter from separating into solid and liquid fractions. Food additives keep bread free of mould for longer and allow fruit jams to "gel" so they can be spread onto bread.'

It is also true in a broad sense that (International Food Information Council Foundation, 2010):

'We all process foods every day when preparing a meal for ourselves or our family, and virtually all foods undergo some form of processing before they are ready to eat ... Processing spans the whole food chain from harvesting on the farm to different forms of culinary preparation in the home.'

Practically all food is processed in some sense and in some way, including by 'other procedures' not mentioned above, such as hydrogenation, hydrolysation and extrusion. Thus, the term 'processing' (like the term 'industry') is very general and therefore not helpful. It is a mistake to make any judgement of food supplies or foods simply because they are 'processed'. Further, attempts to distinguish between different types of processing by using undefined terms such as 'highly' or 'heavily' processed, or 'fast', 'convenience', 'snack' or 'junk' food are also unhelpful (Monteiro *et al.*, 2018).

As identified by NOVA, food processing involves physical, biological and chemical processes used after foods are separated from nature and before being consumed or prepared as dishes and meals (Monteiro et al., 2018). Foods may be consumed by themselves (such as fruits, nuts, milk) or as a main item or accompanying items of dishes and meals (such as grains, flours, vegetables, meat, eggs), or as food products used in making these dishes and meals (such as oils, butter, sugar, salt). Or they may be food products ready to consume or heat (such as bread, cheese, ham, packaged snacks, soft drinks, and pre-prepared frozen dishes).

NOVA classifies all foods and food products into four groups (Monteiro et al., 2018):

Group 1. Unprocessed or minimally processed foods

Unprocessed (or natural) foods are edible parts of plants (seeds, fruits, leaves, stems, roots) or animals (muscle, offal, eggs, milk), fungi, algae, and water after separation from nature. Minimally processed foods are natural foods altered by processes that include removal of inedible or unwanted parts, and drying, crushing, grinding, fractioning, filtering, roasting, boiling, non-alcoholic fermentation, pasteurisation, refrigeration, chilling, freezing, placing in containers and vacuum-packaging. These processes are designed to preserve natural foods, make them suitable for storage, or make them safe, edible, or more pleasant to consume. Many unprocessed or minimally processed foods are prepared and cooked at home or in restaurant kitchens in combination with processed culinary ingredients as dishes or meals.

Group 2. Processed culinary ingredients.

Processed culinary ingredients, such as oils, butter, sugar, and salt, are derived from Group 1 foods or from nature by pressing, refining, grinding, milling, and drying. The purpose of such processes is to make durable products that are suitable for use in home and

restaurant kitchens to prepare, season and cook Group 1 foods and to make with them varied and enjoyable hand-made dishes and meals, such as stews, soups and broths, salads, breads, preserves, drinks, and desserts. They are not meant to be consumed by themselves and are commonly used with Group 1 foods to make freshly prepared drinks, dishes, and meals.

Group 3. Processed foods

Processed foods, such as bottled vegetables, canned fish, fruits in syrup, cheeses and freshly made breads, are made essentially by adding salt, oil, sugar, or other substances from Group 2 to Group 1 foods. Processes include various preservation or cooking methods and non-alcoholic fermentation for bread and cheese. Most processed foods have two or three ingredients and are recognisable as modified versions of Group 1 foods. They are edible by themselves or, more usually, in combination with other foods. The purpose of processing here is to increase the durability of Group 1 foods or to modify or enhance their sensory qualities.

Group 4. Ultra-processed foods

Ultra-processed foods, such as soft drinks, sweet or savoury packaged snacks, reconstituted meat products and pre-prepared frozen dishes, are not modified but formulations made mostly or entirely from substances derived from foods and additives, with little if any intact Group 1 food. Ingredients of these formulations usually include those also used in processed foods, such as sugars, oils, fats, or salt. But ultra-processed products also contain other sources of energy and nutrients not typically used in culinary preparations. Some are directly extracted from casein, lactose, whey, and gluten. Many of these sources are derived from further processing of food constituents, such as hydrogenated or interesterified oils.

As stated, ultra-processed products are not modified foods, recognisable as such, but formulations of industrial sources of dietary energy and nutrients, particularly unhealthy types of fat, starches, free sugars and salt, plus additives, including those designed to intensify sensory impact. (Monteiro *et al.*, 2018). They typically contain little or even no intact food. The ingredients of ultra-processed products make them fatty, sugary, or salty, often high in saturated fats or trans-fats, and depleted in dietary fibre and various micro-nutrients and other bioactive compounds. This is why, in several countries, as shown above, higher consumption of these products is associated with unhealthy dietary nutrient profiles and several diet-related non-communicable diseases (Monteiro *et al.*, 2018).

When solid, because of their main ingredients and the lack of dietary fibre and water, the energy density of ultra-processed products ranges from reasonably high (about 940– 1150 kJ (225–275 kcal) per 100 g for baked products) to high (about 1460–1675 kJ (350–400 kcal) per 100 g for 'energy' bars) or very high (1675–2090 kJ (400–500 kcal) per 100 g for most biscuits and chips (crisps)) (Ministry of Health of Brazil, 2014). When formulated as drinks, ultra-processed products are often sugared and are usually depleted in or devoid of nutrients. These attributes make most ultra-processed products prone to cause inadvertent overconsumption of dietary energy, and thus, overweight and obese (World Cancer Research Fund and American Institute for Cancer Research, 2007; Prentice and Jebb, 2003).

They also typically have high glycaemic loads (Fardet, 2016). This makes them liable to disturb and even derange endogenous processes in the nervous system that signal satiety and control appetite, and thus increase the risk of obesity and diabetes (World Health Organization, 2003).

Ultra-processed products are often formulated to be habit-forming and are sometimes even quasi-addictive, which makes it hard to make healthy choices and avoid overconsumption (Brownell and Gold, 2012; Gearhardt, 2015).

Many ultra-processed products create a false impression of being healthy by, for example, the addition of dietary fibre and some micronutrients and the replacement of sugar with artificial sweeteners or the reduction of sodium, enabling manufacturers to make health claims despite the product remaining unhealthy (La Fontaine *et al.*, 2004; Scrinis, 2016). Vast sums of money are spent by the biggest corporations on advertising and promotion of regular or reformulated products, including cross-advertising between brands, to make them attractive, exciting and even glamorous, especially to children and young people (Chandon and Wansink, 2012; Cairns *et al.*, 2009). These practices not only undermine people's ability to make healthier choices but also perpetuate patterns of consumption that may have detrimental effects on public health.

Ultra-processed products now dominate the food supplies of various high-income countries. For instance, they comprised 57.9 % of the US food supply in 2009–2010 (Steele *et al.*, 2016) and 47.7 % of Canada's total dietary energy intake in 2004 (Moubarac *et al.*, 2017). In middle-income countries, figures are lower, for instance 29·8 % in Mexico (Marrón-Ponce *et al.*, 2018), 28·6 % in Chile (Cediel *et al.*, 2018) and 21·5 % in Brazil (da Costa Louzada *et al.*, 2015) (Moubarac, 2015); but, as shown by sales data in Latin American countries (Moubarac, 2015), they are rising rapidly.

Unfortunately, Europe is not lagging, based on (Mertens, Colizzi and Peñalvo, 2022) study, ultra-processed food and drinks (UPFDs) consumption assessed in 22 European countries presents that the highest (UPFDs) The proportion of daily food consumption amount from UPFDs for men ranged from to 6.4% (Italy) and 6.7% (Estonia) to 20.0% (the Netherlands) and 22.9% (Sweden), of which on average around 55% was

coming from UPFs. The share of dietary energy coming from UPFDs for men ranged from 12.9% (Italy) and 14.6% (Romania) to 39.7% (the UK) and 40.6% (Sweden), with on average around 90% of the dietary energy from UPFDs was coming from UPFs.

Similarly, for women, the proportion of daily food consumption amount from UPFDs was low for Estonia (5.7%) and Italy (6.1%) and high for the Netherlands (16.6%), the United Kingdom (17.2%) and Sweden (20.9%). The share of dietary energy coming from UPFDs for women was also low in Italy (13.8%) and Romania (15.8%) while high in the UK (41.3%) and Sweden (43.8%).

Thus, ultra-processed products have troublesome effects on global nutrition and health. The evidence so far indicates that the displacement of unprocessed or minimally processed foods and freshly prepared dishes and meals by ultra-processed food and drink products is driving the high and increasing global burden of obesity and other diet-related chronic non-communicable diseases. The evidence also indicates that this change in dietary patterns can worsen the still relevant burden of micronutrient deficiencies in low- and middle-income countries, notwithstanding the fortification of some ultra-processed products with some micronutrients (Monteiro et al., 2013)

2.3.2.3 The link between ultra-processed food, social, cultural, economic, political, and environmental problems

Ultra-processed products and their makers are also causing social, cultural, economic, political, environmental and other problems (Monteiro et al., 2018).

Ultra-processed products weaken social life in and out of the home. Because they are convenient, being formulated as ready-to-consume snacks and drinks and ready-to-heat items, they displace dishes and meals made at home. The shared experiences of acquiring, preparing, cooking and enjoying food together are part of our evolution as humans Field (Wrangham, 2009; Field Garner, 2009); with all the knowledge this brings of nature, the

meaning and value of food become increasingly lost. Meal tables and all that goes with them are used less often, or even not at all. The kitchen becomes less used, and the dining room, a special place for people who live in the same place to come together and share in one another's lives, may disappear. Instead, people at home get into the habit of eating alone, at different times, inattentively, often when doing something else. Children and young people eat while using their computers or playing video games. Out of the house, ultra-processed products are consumed anywhere, anytime, while working, walking, driving, or using cell phones. These are generally isolated situations, concealed by advertisements and other marketing suggesting that ultra-processed products enhance social interaction Pollan, 2014; Schlosser, 2012).

Culture, national and local, are also harmed by ultra-processed products. Transnational ultra-processed food and drink manufacturers, distributors and caterers are increasingly oligopolistic (Monteiro et al., 2012; Wilkinson, 2012) and work in concert, as is evident from joint trade organisations set up to defend their shared interests (Greer and Singh, 2000). Supported by international free trade agreements (Hawkes, 2006), they displace authentic, established, varied food systems and cultures and generate uniform consumer habits. Their strategy, in effect, is to teach the world to snack (Monteiro et al., 2010).

Ultra-processed products, with their branding, promotion, packaging, and labelling, are eroding the food customs that contribute to the identity of countries and regions and the shared meals that form part of our food cultures. These products, such as soft drinks, burgers, and other offerings from corporate giants, are remarkably similar worldwide. The illusion of diversity is created through extensive marketing campaigns utilising multimedia platforms, social media, the internet, television, and various print advertisements. Unfortunately, this further undermines established dietary patterns, culinary knowledge,

skills, and social cultures. As a result, children and young people may feel disconnected, perceiving the traditions, nature, location, and ethnicity of their own countries as mundane and uninspiring (Story and French, 2004; World Health Organization, 2014; Monteiro et al., 2015).

The economic ramifications of producing and consuming ultra-processed products are significant. Giant transnational corporations and other major companies in this industry capitalise on economies of scale by using inexpensive ingredients in their products. They possess substantial financial reserves for investment and development purposes. They may take over national and local businesses, including the makers, distributors and sellers of minimally processed foods (Monteiro and Cannon, 2012; Greer and Singh, 2000).

To join the market and compete, national and regional manufacturers increasingly produce variations of ultra-processed products. Demand for cheap oils, sugar, starches, and other everyday ingredients of ultra-processed products creates crop monocultures in many countries to produce raw materials, usually for export and not foods for direct human consumption. Judgements vary on the economic effects. Some national and local businesses and family farmers adapt and flourish, but livelihoods, especially of the most vulnerable and impoverished communities, can be made even more insecure (Black, 2016; Whitmee et al., 2015).

In high- and middle-income countries, the price of most ultra-processed food products has decreased relative to that of most minimally processed foods (Brown, 2015). However, varied freshly prepared meals made from minimally processed foods with processed culinary ingredients can readily be made to be cheaper than ultra-processed products (Monroe, 2014; Wiggins et al., 2015; Moubarac et al., 2013). Ultra-processed products also carry another cost: obesity and related chronic diseases such as diabetes are debilitating and impede the ability to work, and their treatment, for those without health

insurance or access to publicly funded health services, can mean financial catastrophe (American Diabetes Association, 2013; Whitmee et al., 2015).

There are also political consequences. Ultra-processed products have made the fortunes of transnational food and drink corporations, of which, as mentioned, the largest have annual turnovers that are the size of middle-ranked national economies. The deregulation that has enabled transnational corporations to grow exponentially and their ability to move into the countries that give them the most scope and their freedom to act as they choose within the law all give them more power and elected national governments less ability to work in the public interest. Thus, it becomes difficult for governments, should they wish to do so, to enact fiscal and other statutory policies designed to make unprocessed and minimally processed foods more available and cheaper and ultra-processed products less available and relatively or more expensive. WHO Director-General Margaret Chan has explained (World Health Organization, 2003).

'Efforts to prevent noncommunicable diseases go against the business interests of powerful economic operators... It is not just Big Tobacco anymore. Public health must also contend with Big Food, Big Soda, and Big Alcohol. All these industries fear regulation and protect themselves by using the same tactics. Research has documented these tactics well. They include front groups, lobbies, promises of self-regulation, lawsuits, and industry-funded research that confuses the evidence and keeps the public in doubt. Tactics also include gifts, grants, and contributions to worthy causes that cast these industries as respectable corporate citizens in the eyes of politicians and the public. They have arguments that place the responsibility for harm to health on individuals and portray government actions as interference in personal liberties and free choice.

This is formidable opposition. Market power readily translates into political power. Few governments prioritise health over big business. As we learned from experience with

the tobacco industry, a powerful corporation can sell the public just about anything. Let me remind you. Not one single country has managed to turn around its obesity epidemic in all age groups. This is not a failure of individual willpower. This is a failure of political will to take on big business.'

Production and consumption of ultra-processed products are also damaging the environment. For example in the USA, food packaging is about half of total packaging by weight and accounts for almost two-thirds of complete packaging waste by volume (Marsh et al., 2007). Bottles, containers, wrappings, and other packaging of ultra-processed products create colossal amounts of garbage, some not gradable, thrown away in the street and countryside, washed out of sewers, and disposed of in landfill sites. The manufacture and distribution of ultra-processed products and their ingredients often involve long international transport routes and, therefore, excessive use of non-renewable energy, contributing to climate disruption (Council, 2007).

The intensive breeding of animals for human food is incredibly extravagant in its energy use. Cattle bred for the burger trade require animal feed produced by monocultures such as soybeans and corn, and many other inputs, including antibiotics, and in countries such as Brazil, involve the destruction of great tracts of rainforest and savannah (Spanne, 2014; Union of Concerned Scientists, 2016). Like other forms of industrial agriculture, all these factors contribute to climate disruption, pollution, loss of biodiversity, and the depletion, degradation, and loss of water, soil, energy, and other non-renewable natural resources.

In addition to these environmental consequences, ultra-processed products also pose economic challenges. Their production often relies on complex supply chains, which can be expensive to manage and prone to disruptions. Furthermore, the focus on mass

production and low-cost ingredients may lead to economic inequalities and the exploitation of vulnerable communities along the supply chain.

Error! Reference source not found. **Social Media**

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To address the alarming environmental degradation caused by the resource-intensive lifestyle of modern society, it is imperative to transition towards more sustainable consumption patterns (Thøgersen, 2014). This shift is crucial given the rising global demand for goods and services driven by a materialistic lifestyle and a continuously escalating trend of over-consumption. This unsustainable consumption is defined as an individual consumption level that exceeds planetary boundaries (Brown and Cameron, 2000; Thøgersen, 2014). Multiple studies have reported that people's present ways and rate of using goods and services are not sustainable and pose a significant threat to future generations (Gilg et al., 2005) Jackson, 2005).

Moreover, addressing climate change requires a shift towards a sustainable everyday lifestyle. At the heart of this effort is the concept of sustainable consumption, which encompasses meeting our present needs and ensuring the needs of future generations are met in the long run. This transition towards sustainable consumption is critical to creating a more environmentally responsible and resilient world (Luchs and Mooradian, 2012; Peattie and Belz, 2010).

More specifically, sustainable consumption thus refers to consumers' use of products that cause minimal environmental harm, and/or products produced using ecological processes and materials (Kilbourne and Pickett, 2008; Leonidou et al., 2010).

There is widespread agreement that to achieve sustainable consumption, there needs to be a change in everyday consumption behaviour. However, several theories have

been proposed to explain why it is a significant challenge for consumers to change their habits (Kilbourne and Pickett, 2008).

One theory that has been extensively studied is the concept of the intention-action gap. According to this theory, there is often a disconnect between individuals' intentions and their actual actions. As surveys indicate, a prime example is the increasing positive attitudes towards plant-based food. Still, this shift is only sometimes reflected in their purchasing behaviour at the store. This can be attributed to the fact that consumption habits are deeply ingrained in individuals' daily routines, which have developed over a significant period and are closely tied to their personal identities (Schäfer et al.,2012).

Promoting sustainable consumption requires overcoming the challenge of ingrained consumer habits and their impact on purchasing decisions. Existing research emphasises the importance of changing these habits to transition towards more sustainable behaviour. (Verplanken and Sato, 2011).

One potential approach to disrupting individuals' routines (Fischer et al., 2017) and reducing habitual and automatic behaviour is enhancing awareness, which can be achieved through communication efforts that endorse sustainable products (Brown et al., 2007; Bishop et al., 2014).

Error! Reference source not found. **Communicating Sustainability**

Marketing communication, which involves strategically managing brand communication programs focused on the audience, centred on the channels used, and driven by measurable results, is widely recognised as a crucial factor in altering the dynamics of unsustainable consumption (Kliatchko, 2005).

Additionally, social media is emerging as a channel for promoting sustainable concepts and attitudes (McKeown and Shearer, 2019). The Zafar et al., (2021) study offers essential insights into the impact of social media on promoting sustainable purchasing

attitudes. The findings demonstrate that using and browsing social media can positively influence individuals' motivation to adopt environmentally friendly behaviours. This aligns with the well-established Social Learning Theory proposed by researchers Bandura and Walters (1977), which suggests that people acquire knowledge by observing the actions of others. This also holds for environmental education, where individuals can learn about eco-friendly behaviours by observing and emulating others. Social media has unique qualities that can address the challenges of sustainability being seen as unclear. It has transformed traditional one-way communication into interactive and peer-to-peer communication (Berthon, Pitt and Campbell, 2008).

Social media platforms possess distinctive communication capabilities as they are online platforms that provide a variety of interactive methods, including video, audio, and animation, to engage users. These platforms utilise rich media to enhance the user experience and make content more captivating. (Chabrow, 2006).

According to a research article by Haenlein et al., (2020), platforms like Facebook, Instagram, and TikTok offer various modes of communication, including text, visuals (such as images and videos), animations, and interactive features like comments, likes, and direct messages. The same research continues to underline that the average age differs from platform to platform, and a younger demographic uses Instagram and TikTok compared to other social media platforms. The difference is also apparent in effectiveness when it comes to influencer marketing. In a January 2019 survey of marketers in the United States, 78 per cent of respondents viewed Instagram posts as the most effective type of influencer marketing content. Moreover, Social media platforms serve as a public space where individual consumers can express their opinions and gain access to product information to aid in their purchasing decisions. The significance of social media profiles in shaping personal identities is undeniable, and their distinctive features empower them as influential

tools for consumer influence. Brands are effectively utilised in social media to educate and engage with consumers, heightening product awareness and influencing purchasing behaviour (Kruman et al., 2008).

Error! Reference source not found. **Influencer Marketing**

The amount of user-generated content (social media users' self-made content appearing before others practically or entertainingly (Krumm et al., 2008)) proliferates on social media, and users themselves can become famous by producing and sharing content and, therefore, gain followers. The most successful ones are either decided by the size of their following (the number of users who follow the specific user (De Veirman et al., 2017), or by who their following is if they target a particular crowd in a specific niche, are referred to as "social media influencers" (Freberg *et al.*, 2011; Lim *et al.*, 2017). Previous literature defines social media influencers as "a new independent third-party endorser who shapes audience attitudes through blogs, tweets, and other social media" (Freberg *et al.*, 2011).

Using influencers to promote brands is a marketing strategy introduced previously. In traditional media channels (advertisements on analogue TV, print, and billboards), celebrities influenced consumer behaviour similarly to today, long before the social media frenzy (Erdogan, 1999). Similarly to celebrities in previous and well-established research on celebrity endorsements, social media influencers are considered opinion leaders for their followers in the social networks on which they perform, the most popular platforms being Instagram (89%), YouTube (70%), and Facebook (45%) (Statista, 2020). Social media influencers share their lifestyles, tastes, and hobbies, thus shaping and spreading trends and maintaining a permanent link with their followers. Because they share information based on their interests, they are considered credible, authentic, and experts in their field.

Therefore, firms invest significant funds into influencers promoting their brands to transfer the influencer's attractiveness, likeability and trustworthiness over to the brand and generate desirable campaign outcomes (Erdogan, 1999).

A prerequisite for this credibility is that the content appears like personal advice from the influencer to transfer best the credibility the followers feel towards the influencer to the product or service being promoted. If the content seems like sponsored content, many users feel annoyed and confused by the subtle character of sponsored posts integrated into various content on social media, which might negatively impact their reactions to sponsored posts (Stubb et al., 2019).

In addition to the risk of not being perceived as authentic, there are other pitfalls. Influencer and brand collaborations have failed due to a mismatch between the brand and the influencer. For example, Kendall Jenner ended police brutality with a Pepsi, harnessing massive critique. Therefore, brands spend considerable time finding the right influencer, highlighting that influencer-brand fit positively impacts the effectiveness of the advertising and the image of the influencer (Breves *et al.*, 2019).

In a study conducted by Ong and Ito, an examination of a Japanese travel campaign that utilised social media influencers revealed that social influencer marketing has proven to be a potent instrument in altering consumer attitudes, particularly regarding the perception of destinations. This shift in perception subsequently influences consumers' travel intentions and their inclination to partake in related activities. (Ong and Ito, 2019). The most impressive results showed a 20% increase in tourism numbers from Singapore the following year.

Influencer marketing also impacts their followers' relationship with sustainability, Johnstone and Lindh (2018) investigated the relationship between age and sustainability awareness for consumers, mediated by influencers, and demonstrated the importance of

influencers for increased sustainability awareness in younger consumers. The researchers also suggest that for younger generations (millennials, born between 1980 and 1990), influencers acting as the communication medium can influence sustainable attitudes in two ways: (1) as a moderator for people who already have a sustainable consumption pattern or concern in place to strengthen and influence the relationship between sustainable consumption behaviour and (2) as a mediator to promote sustainable purchase intent as socially acceptable through social proof, as indicated in many respondents answer when asked why they purchased a specific product: “They see other people buying this, so they do it.” (Johnstone and Lindh, 2018).

Therefore, influencers can affect consumer attitudes and morality by normalising sustainability values and making them more conform by frequently exposing them to their followers. Additionally, it has been argued that influencer marketing can reduce the intention-purchase gap of sustainable products by availing the power of marketing sustainable products and the social responsibility (Carrington et al., 2010).

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Akerlof's work (1978) laid the foundation for studying information asymmetry, where information imbalances play a critical role in market dynamics. His research has had a lasting impact on understanding how information gaps can lead to market inefficiencies. It has led to the development of solutions, such as signalling and screening mechanisms, to mitigate the adverse effects of asymmetric information.

Moreover, Fombrun (1996) contributes to a broader understanding of corporate reputation and its relationship to communication strategies. Fombrun delves into the concept of corporate reputation and its importance for businesses. His work explores how information asymmetry can impact a company's reputation. A lack of transparency or

accurate information about a company's operations, practices, and performance can create information gaps and asymmetry among stakeholders. This information gap can lead to misunderstandings, misperceptions, and even mistrust, affecting a company's reputation.

In addition, Lyon and Maxwell (2011) study investigates the strategic behaviour of firms in response to the threat of audit by regulators, specifically focusing on how this threat affects the accuracy of environmental information provided by firms. The study acknowledges that firms often face an information asymmetry problem when disclosing environmental information to the public. This means the firm possesses more information about its environmental performance than the public. Consequently, greenwashing practices incentivise firms to present their environmental performance more favourably.

Thus, information asymmetry can elucidate greenwashing from an unequal distribution of information, whereby companies possess greater knowledge about their products than consumers. By capitalising on consumers' limited understanding, companies may engage in deceptive practices to falsely present their products as environmentally friendly or healthy, aligning with the consumers' inclination towards sustainable choices.

However, this study aims to challenge and complement this theory by introducing a novel perspective. While information asymmetry is present, the researcher contends that consumers must pay more attention to ingredient lists and underutilise nutrition information on food labels.

Error! Reference source not found. **Moral Licensing Theory**

Moral licensing theory posits that individuals may employ positive actions or behaviours to rationalise engaging in harmful or undesirable behaviours, thereby allowing them to uphold a positive self-image (Sachdeva et al., 2009).

Sachdeva et al. (2009) propose that consuming "green" or healthy products can generate a moral license that rationalises engaging in other less healthy behaviours.

Specifically, in the context of sugar addiction, individuals may perceive that choosing a "green" product permits them to indulge in sugary treats without experiencing guilt. This tendency contributes to the phenomena of greenwashing and the perpetuation of sugar consumption.

In the context of greenwashing and its implications for human well-being, the moral licensing theory can be applied to elucidate how the act of purchasing and consuming "green" or environmentally friendly products can lead individuals to partake in other behaviours that could be detrimental to their well-being, such as the excessive consumption of sugary products.

The study conducted by Sachdeva et al., (2009) delves explicitly into moral licensing in the realm of food choices. Their findings indicate that individuals who perceive themselves as health-conscious are more inclined to consume foods high in calories and laden with unhealthy ingredients after exposure to health-focused food products. This behaviour suggests that opting for healthier food gives individuals a moral justification to indulge in less nutritious options.

In the case of sugar addiction, individuals may rationalise their consumption of sugary treats by opting for "green" products, like organic snacks or beverages. This form of moral licensing can perpetuate the consumption of sugar and compromise efforts aimed at enhancing overall health and well-being. This phenomenon is disconcerting due to its potential negative consequences on individuals' physical health, contributing to issues like obesity, diabetes, and related health concerns.

In summary, the moral licensing theory offers valuable insights into how individuals' behaviours can be influenced by their choices and the image they project. To gain a deeper insight into this theory, further research is being undertaken to investigate the underlying mechanisms of moral licensing within the context of greenwashing and its

effect on sugar consumption. It is essential, however, to recognise and confront the problem of sugar as an immensely addictive substance within this research. Consequently, this study seeks to examine the most frequently scanned products and assess whether they are genuinely "green" or healthy products or contain sugar, a highly addictive component. This examination is vital for comprehending the reasons behind the popularity and consumption of these products.

Error! Reference source not found. **Social Influence Theory**

The Social Influence Theory draws upon Cialdini (2009) and Goldstein et al,.(2008) research and highlights the impact of social influence on people's behaviour. The behaviour of others easily sways individuals, and they tend to select products perceived as popular or endorsed by influencers. In response, companies may employ strategic marketing tactics by utilising social media influencers to endorse their "green" or healthy products, capitalising on this social influence to shape consumer decision-making. The Social Influence Theory, as discussed by Cialdini (Cialdini and Cialdini, 2007), examines how various social influence factors can shape people's behaviour. It suggests that individuals often look to the actions, attitudes, and opinions of others as guides for their behaviour.

This theory encompasses several fundamental principles or triggers of social influence, including:

1. Reciprocity: People tend to reciprocate favours or gifts. We often feel obligated to return the favour if someone does something for us.
2. Commitment and Consistency: Once individuals commit to a course of action, they are more likely to remain consistent, even if it is not rational or beneficial.

3. Social Proof: People often look to the behaviour of others in uncertain situations to determine how they should act. If many people do something, it is often perceived as suitable or desirable.

4. Liking: People are more likely to be influenced by those they like and find attractive. Building rapport and establishing common ground with others can increase the likelihood of persuasion.

5. Authority: People tend to follow the guidance or instructions of perceived authorities or experts in a particular field or domain.

6. Scarcity: The perception of something being scarce or in limited supply can lead to an increased desire for that item or opportunity.

On the other hand, Goldstein et al., (2008) further contributed to persuasion by providing practical and scientifically validated strategies to influence and persuade others. Their work is built on the foundations of Social Influence Theory and offers insights into how to apply these principles in various contexts. The Social Influence Theory profoundly impacts people's behaviour, influencing a broad spectrum of choices, including consumer purchases, social interactions, and political decisions. It is rightfully employed by companies when marketing their products.

Consequently, this study aims to investigate products that enjoy a perception of popularity and health due to their association with sporty individuals despite not possessing the genuine qualities associated with health.

2.6 Conclusion

The initial section of the study, which encompasses various facets of greenwashing, has been divided into six sub-sections, each contributing to a comprehensive understanding

of this deceptive marketing practice. It commences with an exploration of the very concept of greenwashing, wherein products or companies are falsely portrayed as environmentally friendly or socially responsible when they are not. In environmental sustainability, the term "green" definitions are dissected, offering multiple perspectives and interpretations. Moving forward, the section delves into green advertising, examining its role in accentuating the environmental attributes of products and services while shedding light on the scepticism surrounding the authenticity of these environmental claims.

Furthermore, the motivations driving companies to engage in greenwashed advertising are scrutinised, unveiling the underlying factors that propel such deceptive practices. An additional segment, "From green marketing to greenwashing," charts the shift from genuine eco-friendly marketing to the unethical terrain of greenwashing, exploring the historical evolution and various definitions associated with this phenomenon.

The perception of greenwashing, a critical aspect, is analysed to discern how consumers perceive and interpret green marketing claims and the consequential impact of these perceptions on their choices and actions. These sections offer an exhaustive journey into greenwashing, encompassing its definitions, motivations, historical context, consumer perception, and the responses elicited when confronted with deceptive green advertising.

The second part explores the significance of food and its impact on overall well-being. It delves into the intriguing paradox that food can both serve as a remedy and a detriment to our health. The section emphasises the importance of making informed choices when selecting our food, especially considering the constant exposure to various deceptive tactics employed in greenwashing. Furthermore, a specific sub-section addresses the issue of sugar addiction, recognising it as a crucial factor that can unconsciously influence our food choices alongside the lure of greenwashing buzzwords. This section examines why consumers should consider limiting their food intake and explores the

potential connection between ultra-processed food and greenwashing. It aims to investigate whether greenwashing tactics are utilised in marketing these food products. Furthermore, the impact of ultra-processed food on health and consumer well-being is examined, shedding light on the potential negative implications. Additionally, the section delves into how producers of these ultra-processed products contribute to various societal, economic, environmental, and political problems.

The culmination of this paper brings attention to the pivotal role of social media within the context of greenwashing and its potential to drive transformative change in consumer behaviour, fostering the adoption of sustainable and healthier consumption patterns. This section thoroughly investigates the nuances of effectively conveying sustainability messages through various social media platforms, aiming to elucidate how these messages can resonate with the public. Furthermore, it underscores the profound impact of marketing in influencing a broader societal shift toward more sustainable practices, offering a comprehensive examination of marketing strategies and their direct consequences on consumer behaviour.

By amalgamating these integral components, this paper endeavours to provide a thorough understanding of the intricate interplay between social media, the dynamics of consumer behaviour transformation, and the potent force of marketing in advancing the cause of sustainability. In doing so, it contributes to the collective endeavour of fostering a society that is both eco- and health-conscious.

The final section outlines theories for the research. Information Asymmetry Theory, based on Akerlof's (1978), explains how unequal information distribution in markets can affect efficiency and has led to strategies like signalling and screening. Additionally, Lyon and Maxwell (2011) reveal how firms facing information gaps in environmental disclosures are incentivised to engage in greenwashing, capitalising on

consumers' limited understanding. This theory highlights that greenwashing often arises from this information imbalance, enabling companies to deceive consumers into perceiving their products as eco-friendly. The research introduces a fresh perspective, emphasising that while information asymmetry is a factor, consumers tend to overlook ingredient lists and underutilise nutrition information on food labels, which adds complexity to greenwashing.

Another pertinent theory, the Moral Licensing Theory by Sachdeva et al. (2009), suggests that consuming "green" or healthy products may lead to a moral license that justifies indulging in less healthy behaviours. In the context of sugar addiction, individuals might believe that choosing a "green" product allows them to enjoy sugary treats without feeling guilty, contributing to both greenwashing and the perpetuation of sugar consumption.

However, it's essential to address the issue of sugar's highly addictive nature in this research. Therefore, the study examines the most frequently scanned products to assess whether they genuinely qualify as "green" or healthy or are primarily sugar-laden items, shedding light on why they are so popular among consumers. The third theory, Social Influence Theory, draws upon Cialdini (2009) and Goldstein et al,.(2008) research and highlights the impact of social influence on people’s behaviour. The behaviour of others easily sways individuals, and they tend to select products perceived as popular or endorsed by influencers. In response, companies may employ strategic marketing tactics by utilising social media influencers to support their "green" or healthy products, capitalising on this social influence to shape consumer decision-making. Consequently, this study aims to investigate products that enjoy a perception of popularity and health due to their association with sporty individuals despite not possessing the genuine qualities associated with health.

The next chapter explores the study methodology using a mixed-method approach to correlate the literature review and the study results.

CHAPTER III:

METHODOLOGY

3.1 Overview of the Research Problem

In today's technologically advanced era, where information is abundant, it may appear astonishing. Still, the truth remains that companies can manipulate public opinion by creating deceptive images and conveying fraudulent messages. Lately, the concept of greenwashing has garnered significant attention, fuelled by the ongoing global discussions surrounding environmental issues. Greenwashing refers to the deceitful marketing strategies utilised by companies to present themselves as environmentally friendly or sustainable, while their actual practices and products often fall short of such claims. This research delves into the consequences of greenwashing on human well-being, examining how these practices undermine endeavours toward a sustainable future and have an adverse impact on individuals' health and overall quality of life.

Although Lyon and Maxwell (2011) argue that environmental regulations are vital in addressing greenwashing challenges and propose that audits and punishments can hold firms accountable and reduce information asymmetry with the public, it's crucial to acknowledge the role of consumer behaviour and the neglect of already available product information, such as ingredient lists. Food labels, precisely nutrition information, serve as an essential source of nutritional details but must be more utilised by consumers. However, these labels could be a cost-effective means of communicating nutrition information to consumers, as they are conveniently displayed at the point of sale for most packaged foods. (Campos et al., 2011).

According to the research and the survey conducted by Goyal and Deshmukh (2018), it was found that a significant percentage of consumers, precisely 52.5%, do not read the ingredients list provided on food labels.

Given the context above, the research aims to investigate the factors contributing to consumers' lack of interest or awareness in reading food ingredient labels. This exploration will provide valuable insights into whether this behaviour remains prevalent and shed light on the underlying reasons for consumers' indifference towards ingredient lists. By addressing these aspects, the study aims to enhance our understanding of current affairs and uncover the motives behind consumers' lack of interest in this critical food-related practice.

When it comes to companies they tell “green lies” to continue with business as usual (Berrone, 2016). These “green lies”, inter alia, greenwashing buzzwords, biodegradable/degradable, organic (unless it is supported by third party certification), ozone friendly, natural, non-toxic, recyclable, recycled, sustainable (Elving & Van Vuuren, 2011) have been abundantly used to influence green purchase behaviour. Consequently, as underlined by Hamilton & Zilberman (2006) consumers are willing to pay significant price premium for green products, such as organic food, green electricity, shade-grown and fair-trade coffee. That said, it's clear that utilising greenwashing buzzwords proves to be a highly effective method of communicating with consumers. However, the study aims to delve deeper into research to understand better the underlying factors that influence product choices.

Sachdeva et al., (2009) propose that consuming "green" or healthy products can create a moral license that justifies engaging in other less healthy behaviours. Within the context of sugar addiction, some individuals might perceive that opting for a "green" product provides a guilt-free way to indulge in sugary treats. This dynamic contributes to the phenomenon of greenwashing and perpetuates sugar consumption. This study sheds light on the hypothesis that the choices of food, soda, and soft drinks may originate from a sugar addiction. This is based on the understanding that sugar, much like cocaine and

heroin, stimulates the release of dopamine and endorphins, potentially leading to reward deficiency (Czirr & Reid, 1986; Leventhal et al., 1995; Moles & Cooper, 1995).

Sugar is biologically addictive, and sugar addiction is a biological disorder driven by hormones and neurotransmitters that fuel cravings and affect the same brain pleasure centres as heroin or cocaine Field (Hyman, 2019), and it represents a consistent part both in sweet and salty products. That said, one must wonder whether this behaviour stems solely from using greenwashing buzzwords, where individuals believe that selecting a "green" product permits them to enjoy sugary treats without guilt, or if another underlying factor is at play. Could this also be influenced by sugar addiction and an ongoing urge to purchase products that provide a sense of well-being? To go further in better understanding, it is of the utmost importance to assess the extent to which purchased products are processed, processed food versus healthy whole food, food, soda and soft drinks, sugar addiction, the importance of consuming healthy whole foods instead processed food knowing that more than a billion people are sick from eating industrialised, processed diet and not eating a healthy whole foods diet (Ng et al., 2014).

Today's Western diet based on processed food accounts conservatively for 11 million deaths globally a year, according to a study which evaluated the consumption of significant foods and nutrients across 195 countries and quantified the impact of the suboptimal intake on non-communicable diseases (cardiovascular diseases, cancers, chronic respiratory diseases and diabetes which are collectively responsible for 74% of all deaths worldwide) (Afshin et al., 2019). The research goes further, finding that a high intake of sodium (3 million deaths and 70 million of disability-adjusted life years (DALYs)), low intake of whole grains (3 million deaths and 82 million DALYs), and low intake of fruits (2 million deaths and 65 million DALYs) were the leading dietary risk factors for deaths and DALYs globally and in many countries.

Hence, the research intends to focus on consumers by assessing the most scanned products and, thereof, the most consumed products. This will, inter alia, show us what the most scanned and consumed products are in 2022 on the selected research sample. This is of paramount importance, knowing that consumers are driving the development of the green product market due to their purchasing power, health concerns and knowledge (Kautish er al., 2019). Hence, this raises an important issue and puts a possible correlation between greenwashing, applied greenwashing buzzwords, misleading consumers, selection of products to be consumed and its implications for welfare.

Finally, this research delves into the effect of social influence, underlining social proof as a tendency to rely on the actions or opinions of others as evidence of what is correct, acceptable, or desirable. Social proof is the tendency to rely on the actions or views of others as evidence for what is correct, acceptable, or desirable. In the context of greenwashing, companies often use influencers to promote their "green" products. When consumers see others, especially those they admire or respect, endorsing and using these products, they might be more likely to believe the claims and make a similar purchase (Cialdini, 2009).

Moreover, as defined by (Goldstein, Martin and Cialdini, 2008), social psychology and behavioural science elucidate a few concepts and techniques of persuasion that have been scientifically proven to be effective, inter alia, social proof. The latter emphasises that the behaviours and choices of others frequently sway people. Drawing attention to the actions or decisions of others can significantly influence individuals' attitudes and behaviours. In the context of greenwashing and its impact on human well-being, this highlights the role of social influence in shaping consumer choices.

Prior research has consistently demonstrated that people often look to the behaviours and opinions of others, particularly in situations characterised by uncertainty.

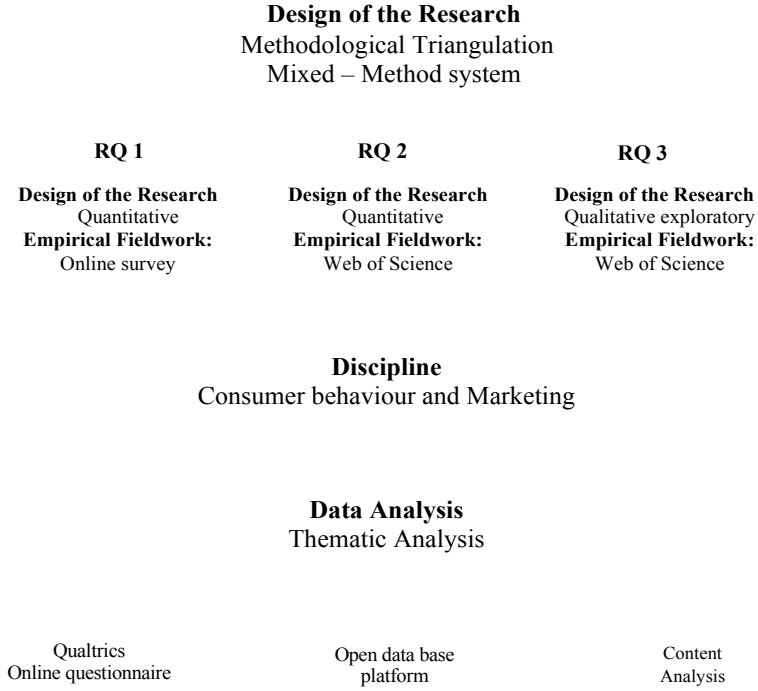
Social media influencers have become a prevalent marketing strategy for companies looking to harness the power of this social influence. By partnering with influencers who boast large followings and high engagement rates, companies can magnify their greenwashing messages and create an aura of popularity and credibility around their products. This, in turn, can sway consumers to make choices aligned with these perceived trends or recommendations.

Hence, this research seeks to delve into the connection between athlete figures and the products they endorse. Concerning product quality, consumers may be more inclined to purchase items endorsed by influencers or promoted as environmentally conscious due to the impact of social proof.

3.2 Operationalization of Theoretical Constructs

Although there are many domain research methods, the three most used are quantitative, mixed-method, and qualitative methods. According to Koys and Adams 2015 and Saunders et al. 2015, to make predictions, quantitative researchers use estimates to examine differences or variable relations to respond to questions about relationships among variables in the form of correlations (Bilgin, 2017).

In addition, there are properties of both quantitative and qualitative approaches in a mixed-method system (Saunders et al., 2015). To understand the phenomena, the research prefers to use a qualitative approach (Silverman 2016). Nevertheless, quantitative and mixed approaches were inadequate for this analysis because quantitative research explores associations or similarities between variables.



To fulfil its primary objective of deepening understanding and elucidating comprehension of the ramifications of greenwashing on human well-being, with a specific focus on consumer awareness, sugar-related consequences, and the influence of social media, the research employs triangulation (Johnson *et al.*, 2017) in particular methodological triangulation (Morse, 1991), combing quantitative methods (online survey and web of science database for a first and a second research question) with

qualitative method (content analysis for a third research question), a mixed-method system (Saunders et al., 2000) combination of both qualitative and quantitative methods depending on the research question.

3.3 Research Purpose and Questions

The research study's overall aim is to contribute to the existing literature by providing insights into the mechanisms of greenwashing in the food industry and its impact on human well-being. It raises awareness about the deceptive practices employed by companies, empowers consumers to make informed choices and promotes ethical marketing practices.

The research of this study will attempt to answer the following research questions:

1. Do consumers disregard ingredient list and underutilise nutrition information provided on food labels?
2. To what extent do greenwashing, sugar addiction, and the level of processing impact the nutritional value and consumer choices of frequently scanned and consumed food products?
3. Are companies using athletic public figures to deceive consumers into believing that the products they purchase are healthy despite not being healthy?

Hypotheses:

1. Consumers tend to overlook ingredient lists and underutilise nutrition information on food labels, resulting in a lack of awareness about the nutritional content of the products they consume.

2. The selection of the most frequently scanned consumed products is swayed by sugar addiction, and these products have a low nutritive value and extensive processing.
3. Companies hire athletic, public figures to deceive consumers into believing that the products they purchase are healthy despite the products not being healthy.

3.4 Research Design

To answer the proposed first research questions, the study shall use a quantitative method focusing on the Web surveys (Groves *et al.*, 2011) encompassing questionnaire surveys as a popular data collection method for academic or marketing research in a variety of fields (Ajayi, 2017). The notion of a survey relates to a method of systematic data collection, where we ask people questions by using standardised questionnaires to quantitatively analyse some target population (Fowler , 2014; Groves et al., 2011), which is the population of interest.

Typically, survey data are collected only from a sample of the target population, although it may collect data from the entire population, also called a census. Surveys can be mandatory, extremely rare (e.g., some official surveys in certain countries), or voluntary.

With the rise of the Internet – particularly with the expansion of modern web browsers in the mid-1990s – web surveys have rapidly evolved to become the prevailing type of survey data collection concerning the number of questionnaires that are filled in daily and also to the number of survey projects carried out (Guideline, 1991; Macer and Wilson, 2017). A web survey, in this case, a questionnaire, is to be applied to describe specific characteristics of the survey measurement process. By measurement, the research denotes data collection, where respondents respond by filling in the questionnaire.

The second research question – To what extent does greenwashing, sugar addiction, and the level of processing impact nutritional value and consumers' choice of frequently scanned and consumed products - the deployed question is related to the variable correlations (Bilgin, 2017). The study will follow a quantitative approach to examine the relationships between variables. It aims to gather data on commonly scanned and consumed products, specifically focusing on factors such as greenwashing, sugar addiction, level of processing, and nutritional value. The study will also investigate how these factors influence consumers' choices regarding these products. The data collected will be analysed to determine the extent of these relationships.

Web of Science allows one to comprehensively understand the existing body of knowledge in their field of interest and identify gaps or areas for further investigation. Web of Science is a valuable resource for researchers exploring existing literature and identifying relevant studies. It enables researchers to analyse and learn from the methodologies used by others in their field of study, but the specific research methodology will be determined by the researcher based on their research question and objectives (Martín-Martín et al., 2019; Heise et al., 2019). Web of Science, particularly an open database of Open Food Facts, is to be applied as a research database.

To address the third research question - Are corporations employing athletic, public figures to mislead consumers into thinking that the products they purchase are healthy, even when they might not be in reality? - qualitative research will be employed. Qualitative methodology is frequently utilised to comprehend the underlying causes and motivations profoundly. It predominantly takes a subjective approach, aiming to grasp human behaviour and its rationale. Qualitative research not only offers insights into problem framing but also has the potential to generate ideas and hypotheses for subsequent quantitative investigations (Creswell, 2012). The study examines social media posts and

online articles. It aims to identify and analyse instances where athletic public figures may have been engaged to mislead consumers into believing that the products they are purchasing are healthy, even when they may not be.

3.5 Population and Sample

For the study to achieve its aim and for a part related to the first research question - *Do consumers disregard ingredient lists and underutilise nutrition information provided in the ingredients list* – a convenient sampling was adopted (Etikan et al., 2016). This type of sampling is done through precise and time-intensive sampling methods. When employed, the population sample reflects those who were available (or those accessible to) at a moment instead of selecting a genuinely *representative* sample. The researcher will distribute the questionnaire to individuals quickly reached through online platforms or the research's existing network.

Convenience sampling is often used when there is no comprehensive list of the entire target population, making it suitable for studying behaviours like reading ingredient lists among customers. Rather than selecting participants from the population at large, participants are recruited from a convenient subset of the population. The unfortunate reality of convenience sampling is that you cannot be positive that the information you collect represents your entire population (Baxter et al., 2015). While it's not possible to definitively assert that convenience sampling ensures that the gathered data wholly represents the entire population, it remains a fact that virtually every individual engages in grocery shopping.

In relation to a second research question – *To what extent do greenwashing, sugar addiction and the level of processing impact nutritional value and consumers' choice of*

frequently scanned and consumed products - the research will deploy an open database of the Open Food Facts web platform.

As to a third research question - *Are corporations employing athletic, public figures to mislead consumers into thinking that the products they purchase are healthy, even when they might not be in reality* - a purposive sampling was adopted as a form of non-probability sampling where the investigator of the research uses as judgment for selecting members of the study population to participate in the study (Yin, 2018).

In purposeful sampling, researchers may use judgment to pick respondents who could provide reliable and valuable information to address research questions or accomplish research goals (Abdullah *et al.*, 2015). Six (6) research participants, athletic and public figures, will be selected.

3.6 Participant Selection

This study's population selection was epitomised by the research question, whereby it is essential to base a questionnaire on consumer behaviour and explore whether, when doing groceries, they read ingredients and, if not, why.

The survey will be administered within an online context (Van Selm and Jankowski, 2006) utilising one online platform such as SurveyMonkey, Google Forms, Qualtrics, Typeform, SurveyGizmo, or LimeSurvey. Some social media channels will be dispatched using an online platform to elucidate the survey's purpose succinctly.

The researcher will utilise the open database on the Open Food Facts web platform. Around 2.9 million products have been scanned in 1165 countries. The study will select the most scanned 10,000 products in 5 countries (France, Germany, Spain, Switzerland, and Belgium) for accuracy and data reliability.

As to the third research question and in the context of qualitative case study design, it is imperative for the researcher to meticulously consider the selection of respondents who possess the capacity to elucidate perspectives directly relevant to the research inquiry, Tong and Dew (2016). This consideration becomes particularly crucial when examining the cohort of ten athletic public figures enlisted for the promotion of ostensibly healthful products, thereby serving the dual purpose of optimising research outcomes and aligning with the overarching objectives of the study.

Nonetheless, it is crucial to emphasise that the deliberate inclusion of these assessed participants was a conscious decision, primarily driven by their unique status as athletic, public figures endorsing products ostensibly aligned with health and wellness principles. This methodical selection strategy ensures the study's alignment with its research goals and objectives, facilitating a more comprehensive exploration of the nuances surrounding this distinctive cohort of endorsers—a healthy product which may not be.

3.7 Instrumentation

The research data collection will be accomplished through a primary source; the researcher is the first person to obtain the data and a secondary source, the researcher gets the data that has already been collected by other sources, such as data disseminated in a scientific journal, (Ajayi, 2017). Primary data is real-time data, whereas secondary data relates to the past (Mesly, 2015). Some sources of primary data are surveys, observations, questionnaires, focus groups, case studies, and interviews (Ajayi, 2017).

The novel data collection strategies based on internet/e-based technologies (e.g. online platforms and email) can collect large amounts of data from participants in a short time frame. As a significant proportion of the population currently in the world is digitally connected, the shift from postal (paper-pencil) or telephone towards online survey use in

research is in the interests of researchers in academia as well as in the commercial world (Regmi *et al.*, 2016).

With the latter being said, the researcher will deploy an online questionnaire as one of the primary sources of data which comprises a series of items presented to a respondent in a written form, in which the individual is expected to respond in writing. The respondents will be given list of written items which they respond to by ticking the one considers appropriate (Ajayi, 2017).

Moreover, the researcher will also employ social media posts, websites publications as some of sources of secondary data like government publications websites, books, journal articles, internal records (Ajayi, 2017).

3.8 Data Collection Procedures

To investigate the initial research question, the development of a questionnaire, following the online survey methodology outlined by Callegaro et al., (2015), with a specific focus on understanding consumer behaviour regarding the reading of ingredients lists, necessitated a thorough examination of survey design principles. The sample questionnaire on this topic, following best practices for online surveys is attached in Appendix A.

A thorough research on a different online survey platform (SurveyMonkey, Google Form. Qualtrics, Type Form, SurveyGizmo, and LimeSurvey) was conducted. In order to meet the aim of the study and based on the following parameters, research needs, budget, and time, but also the fact that there is substantial evidence that many large cross-country studies have been completed using online questionnaire surveys through popular dedicated platform (e.g. .SurveyMonkey, online surveys, qualtrics.com) (Ajayi, 2017), the Qualtrics online survey platform was selected as a primary data collection source.

Online survey approach provides convenience in several ways, for example, a) respondents can answer at a convenient time; b) respondents can take as much time as they need to respond to questions; c) respondents can complete a survey in multiple sessions (Ajayi, 2017).

According to Yin (2018), data collection instruments must be explicit, the researcher tried as much as possible to access and use documents within the last five years that are relative to the study, and this ensured the reliability and generalizability of the study.

3.8.1 Data Collection, Data Management, and Data Analysis

Yin (2018) listed five steps to organize and secure information, beginning with (i) data management, (ii) journal data preservation, (iii) CAQDAS data entry, (iv) study-wide analysis of researcher notes, and (v) storing all data on an external storage device. Hence, the data collection procedures for each research question are as follows:

Research Question 1: Do consumers disregard ingredient list and underutilize nutrition information provided in ingredient lists?

Data Collection Procedure, Data Management, and Data Analysis for Web Surveys (Groves et al., 2011; De Pelsmacker et al., 2018; Guideline, 1991) is to adhere to the following:

1. Survey Development: The researcher has developed a structured web survey questionnaire encompassing questions related to consumer behaviour towards ingredient lists and nutrition information, Appendix A

2. Pilot Testing: Before administering the survey to the target population, the researcher will pilot-test the questionnaire with a small group of individuals to identify any issues or ambiguities in the questions that will be executed.

3. Sampling is to be done based on convenient sampling

4. Data Collection: The web survey is to be administered to the selected sample using Qualtrics online survey platform

5. Data Management provided in the Qualtrics online survey platform is to ensure that collected data is securely stored and coded for analysis. The anonymity of respondents is to be respected.

6. Data Analysis: Qualtrics online survey platform will provide an adequate statistical method to quantitatively analyse the data, exploring the extent to which consumers disregard ingredient lists and underutilize nutrition information.

Data Collection Procedure, Data Management, and Data Analysis for Research Question 2: To what extent does greenwashing, sugar addiction, and the level of processing impact nutritional value and consumers' choice of frequently scanned and consumed products?

The research will employ a comprehensive data collection procedure that utilizes the Open Food Facts database through Web of Science (Moreno-Guerrero et al., 2020; Chadegani et al., 2013). This procedure will help to investigate how greenwashing, sugar addiction, and the level of processing impact nutritional value and consumers' choices of frequently scanned and consumed products. The data collection procedure for the research is as follows:

1. Definition of Research Objectives: The researcher clearly outlines research objectives, focusing on understanding how greenwashing, sugar addiction and the level of processing influence the nutritional value of products and consumer preferences.

2. Access to Open Food Facts Database: Log in to the Open Food Facts database (https://world.openfoodfacts.org) provided through Web of Science.

3. Data Selection: The researcher will select a representative dataset from the Open Food Facts database that includes a substantial number of frequently scanned products. by assessing the 10,000 most scanned products (the number was selected based on data validity and reliability in France, Germany, Spain, Switzerland, and Belgium.

4. Variable Identification: The key sugar content, level of processing, and nutritional value will be identified and specified

5. Data Retrieval: Relevant data from the Open Food Facts database will be extracted. This will encompass ingredients, nutritional values, sugar, and any available data related to greenwashing practices.

6. Data Cleaning and Pre-processing:

- To ensure consistency and accuracy the researcher will clean and format the retrieved data.

- Any missing or inconsistent data points will be addressed, if necessary.

7. Variable Measurement:

- For each variable of interest (greenwashing, sugar content, processing level, nutritional value), the researcher will define clear measurement criteria and indicators.

- The researcher will also calculate or categorize values based on these criteria.

8. Data Analysis Plan:

- The statistical and analytical methods will be determined to examine the relationships between variables by applying descriptive statistics.

9. Ethical Considerations:

- The research will ensure adherence to ethical guidelines and copyright laws when using data from Open Food Facts.

10. Data Analysis:

- The data using the selected statistical methods, and descriptive statistics to explore will be analysed to elucidate how greenwashing, sugar content, and processing level impact nutritional value.

- Patterns, correlations, and trends in the data will be also examined.

Research Question 3: Do corporations employ athletic public figures to mislead consumers into thinking that the products they purchase are healthy, even when they might not be in reality?

Data Collection Procedure, Data Management, and Data Analysis:

1. Data Sources: The sources of qualitative data will be identified, encompassing social media content, online articles, and other relevant online platforms where corporations make public engagement they have with athletic public figures for promotion.

2. Data Collection: The researcher will collect qualitative data by systematically reviewing and analysing these sources. Document instances where athletic public figures are/were used in product promotion.

3. Coding and Analysis: The researcher will apply qualitative data analysis techniques, such as content analysis, to identify themes and patterns related to the use of athletic public figures to mislead consumers.

4. Triangulation: The study will employ cross-verify findings from different sources to ensure the reliability and accuracy of the qualitative data. Triangulation will be employed using two complementary approaches. Firstly, it will draw from the Social Influence Theory, as presented by Cialdini (2009) and Goldstein et al,.(2008), which posits that individuals are readily influenced by the behaviour of others and are inclined to choose products endorsed by influencers or perceived as popular.

Secondly, triangulation will involve cross-verification of findings from various data sources. The researcher will compare results derived from social media content, online articles, website analyses, and observations to identify shared themes, patterns, and disparities.

5. Interpretation: The findings will be interpreted to draw conclusions and insights regarding the use of athletic public figures in misleading consumers about product health.

6. Reporting: The researcher will present the qualitative findings in a clear and organized manner, possibly using quotes and examples to illustrate the identified patterns.

7. Data collection will be performed systematically and in a well-documented manner to ensure the validity and reliability of the research findings.

3.9 Research Design Limitations

Assumptions are facts that have not yet been verified but validate the study (Yin, 2018). Consequently, the researcher formulated certain assumptions during the development and analysis of the research design. Exploring the research design limitations (Leedy and Ormrod, 2015) (Black, 1999; Creswell, 2014) within each of the three categories (online survey and online questionnaire), Web of Science, and qualitative research (social media content and online articles) – will provide a clearer understanding of these limitations

Online Survey (Online Questionnaire) limitations:

1. Selection Bias:

Online surveys may not reach a representative sample of the target population, as they rely on voluntary participation. Those who choose to respond may have different characteristics than non-respondents. Since online surveys often rely on voluntary participation this can lead to selection bias. People who choose to respond to the survey

may have different characteristics, interests, or motivations than those who do not participate. This can result in a sample that does not accurately represent the broader target population.

2. Non-Response Bias:

Not all individuals contacted for an online survey will respond, which can lead to non-response bias. The characteristics of non-respondents may differ from respondents.

This bias can skew the results and lead to inaccurate conclusions about the population of interest.

3. Response Quality:

Responses may vary in quality and accuracy. Some participants may provide incomplete or inaccurate information due to misunderstandings, lack of interest, or simply errors. This can affect the reliability and validity of the data collected.

4. Self-Selection Bias:

Participants in online surveys self-select to participate, which can introduce bias, especially if certain groups are more or less likely to respond based on their interests, motivations, or the relevance of the survey topic. It can lead to an unrepresentative sample.

5. Limited Question Depth:

Online surveys may have limitations in the depth and detail of questions. Due to time constraints and respondent attention spans it can be challenging to gather in-depth information on complex topics. This can make it difficult to fully explore the nuances of certain issues.

6. Limited Control Over Environment:

Researchers have limited control over the survey environment. Respondents may complete surveys in various settings, potentially leading to distractions and inconsistent

responses. Factors such as noise, interruptions, or the presence of others can impact the data quality.

7. Access Limitations:

Not everyone has equal access to the internet or online survey platforms. This can result in the exclusion of certain demographic groups, such as individuals with limited internet access or those who are not proficient with online technology. As a result, the survey sample may not be representative of the entire population.

Research design limitations related to the Web of Science, in this case Open Food Fact database:

1. Publication Lag:

In addition to the time delay in the inclusion of newly published research, it's important to note that the Open Food Facts database, like any other repository, may not immediately capture the latest data on food products. This publication lag can affect the timeliness and relevance of research findings, especially in fast-changing fields such as food science and nutrition.

2. Data Errors and Inconsistencies:

The database may contain data errors, duplicate records, and inconsistencies in product information. This can include misspelled product names, incorrect nutritional values, or discrepancies in serving sizes. The researchers will exercise caution when using such data and should implement rigorous data cleaning and validation processes to ensure the accuracy and reliability of their findings. This decision to restrict our investigation to the top 10,000 most frequently scanned products is precisely aimed at managing the extensive dataset efficiently, avoiding the complexity of analysing over 2 million products encompassed within the database platform.

3. Data Completeness:

The Open Food Facts database may not contain complete information for all food products. Some products, especially those from less well-documented regions or small producers, may be underrepresented or missing entirely. Researchers must be aware of potential data gaps and consider how these gaps might affect the generalizability of their findings.

4. Data Source Heterogeneity:

The Open Food Facts database may collect data from various sources, including user-generated content and official sources. These sources may have different levels of accuracy and reliability. Researchers should be aware of this heterogeneity and consider the potential impact on the quality of the data they are using.

5. Data Usage Rights:

Researchers will be aware of the terms and conditions regarding data usage rights for the Open Food Facts database. Some data may be subject to copyright or licensing restrictions, which can affect how it can be used and shared in research publications.

Qualitative Research Limitations (Social Media Content, Online Articles):

1. Quality and Reliability of Data:

The quality and reliability of qualitative data extracted from social media and online articles can vary significantly. Some sources may lack credibility or contain misinformation, making it imperative for researchers to critically assess the trustworthiness of the data they use. Inaccurate or biased information can undermine the validity of the research findings.

2. Ethical and Privacy Concerns:

Collecting and analysing social media content may raise ethical and privacy concerns, particularly if individuals' personal information or data is involved. Hence, researcher will be mindful of ethical considerations, including obtaining informed consent,

protecting individuals' privacy, and adhering to ethical guidelines, such as those outlined in institutional review board (IRB) protocols, if need be.

3. Data Volume and Overwhelming Amount of Information:

Social media and online platforms generate vast amounts of data continuously. Managing and making sense of this large volume of information can be overwhelming. Researchers may encounter challenges in sifting through the data to extract relevant insights, leading to potential data overload and difficulties in data management.

4. Limited Generalizability:

Qualitative research often provides rich, context-specific insights. However, findings may not be easily generalizable to broader populations due to the specific nature of the data. The idiosyncrasies of online content and the non-random sampling of participants can restrict the ability to generalize findings to wider populations.

5. Subjectivity and Interpretation:

Qualitative research relies on interpretation and subjective analysis. Researchers approach the data with their own perspectives and biases, which can influence their interpretations. Different researchers analysing the same data may arrive at different conclusions, potentially introducing subjectivity and variability in the findings.

6. Selective Bias in Online Content:

Content available online is selectively posted by users, which means that it may not fully represent all perspectives or experiences related to the research topic. The inherent bias in user-generated content can limit the comprehensiveness of the data and may not capture the full spectrum of opinions or experiences.

7. Data Credibility:

Ensuring the credibility and authenticity of online content can be challenging. Misinformation and fake content are prevalent on the internet, and distinguishing between

credible and unreliable sources can be a complex task. The researcher will employ rigorous methods to verify the authenticity of online content and cross-reference information, when possible, to enhance data credibility.

Ensuring the recognition and proactive management of these limitations during the research design phase is of paramount importance for researchers across these three categories. By acknowledging the potential constraints inherent in their chosen methods and data sources, the researcher can refine their approaches to mitigate these limitations. This not only bolsters the credibility and robustness of their research but also lays the foundation for more rigorous and insightful investigations.

3.9 Conclusion

In conclusion, this chapter has provided a comprehensive overview of the research problem, its significance, and the various elements that constitute the methodology of the study. The research is rooted in the recognition of the pervasive issue of greenwashing, a marketing strategy where companies portray themselves as environmentally friendly while their practices often fall short of such claims. The consequences of greenwashing on human well-being, encompassing its adverse effects on sustainability and individual health, have driven the need for this investigation.

The research is guided by a multi-faceted approach, addressing key elements such as consumer behaviour, the underutilisation of product information, the influence of greenwashing buzzwords, the role of social proof, and the potential connection between sugar addiction and product choices. The study aims to uncover the underlying motivations behind consumer choices, particularly the selection of purportedly "green" products that may not align with sustainable practices. Additionally, it seeks to explore the impact of public figures and influencers in shaping consumer preferences through social proof.

The methodological framework has been outlined, including the research purpose, operationalisation of theoretical constructs, research design, and data collection procedures. Furthermore, the chapter emphasises the significance of considering and addressing research design limitations to enhance the credibility and validity of the study's findings.

In the subsequent chapters, the research will delve deeper into the data collection and analysis phases, exploring the dynamics of consumer behaviour, greenwashing strategies, and the influence of social proof in more detail. Doing so aims to contribute valuable insights into the complex interplay between marketing practices, consumer choices, and the broader implications for human well-being. The next chapter four will present the study results related to the research questions.

CHAPTER IV:

RESULTS

4.1 Research Question One

Drawing from the outcomes of the conducted online questionnaire survey (a complete set of results is presented in Appendix B), the results pertaining to the investigation into consumer behaviour regarding research question 1- Do consumers disregard ingredient lists and underutilise nutrition information provided in ingredient lists - therein are as follows:

1. Demographics:

- Gender: Most respondents are male (51%), followed by females (43%), and non-binary individuals (4%). The appendix reveals how most of the respondent's participation of males was highest with consumer behaviour towards greenwashing and the lowest being non-binary individuals.

- Age: The highest percentage of respondents falls within the 45-54 age group (35%), followed by the 25-34 age group (24%).

- Educational Background: A significant portion of respondents hold a postgraduate degree (43%), followed by a bachelor's degree (31%).

- Household Income: The majority prefer not to disclose their income (24%), but among those who do, a notable percentage falls in the 75,001€ - 100,000 € range (75%).

- Location: Most respondents are from Europe (73%), followed by Asia (12%). This indicates that most respondents' consumer behaviour on food consumption emanates from Europe more than other countries, with Asia being the smallest.

2. Reading Habits: The questionnaire was based on how well people read the labels of nutrition contents (ingredient lists) on food items, and the result indicates that

Frequency of Reading Ingredient Lists:

- Often (44%) and sometimes (31%) are the most common frequencies, indicating that many respondents pay attention to ingredient lists. Hence, 44% of the respondents stated that they are likely to read ingredient list on food items 31% indicated that sometimes, they read the content before they buy any food item, and 25% of the respondents were not sure and did not read content information on food items.

Reasons for Reading or Not Reading Labels: Most respondents were highly concerned with health as a primary motivator for reading, especially since most products have artificial ingredients. The respondents stated that:

- Health concerns (73%) are the primary motivation for reading labels, while lack of interest is a factor for some (2%).

Specific Information of Concern:

- Respondents are particularly concerned about artificial ingredients (80%), sugar content (73%), and additives/preservatives (60%).

3. Barriers and Challenges: Another interesting indicator of consumer behaviour is the barriers and challenges most people find in reading, hence their inability to take time to read food labels with their ingredients. Most people trust the brand, and others need more time to read as they rush in to buy items. Respondents indicated that:

Barriers to Reading Ingredient Lists:

- Lack of time (27%) and trust in the brand (53%) are significant barriers for those who need to read ingredient lists.

Challenges Encountered: - Confusing ingredient names (42%) and hard-to-read lists (47%) are common challenges faced by those who read ingredient lists.

4. Preferences and Impact on Purchase Decisions: The study participants mentioned that it is better for them if the food product is simplified and more user-friendly. 64%

indicated that it is better to simplify products, and 36% did not mind whether the product features. Moreover, most consumers prefer clear and easy-to-understand ingredient information on food products. 77% of the respondents positively indicated their preference for precise details, and 33% were not sure and did not care about product information.

Preference for Simplified Information:

- A majority (64%) find it helpful if food products had simplified, user-friendly formats for displaying ingredient information.

Impact on Purchase Decisions:

- Clear and easy-to-understand ingredient information influences purchasing decisions for most respondents (77%).

5. Understanding and Awareness:

Respondents generally have a moderate understanding of the information provided on food labels (66%), and a majority (68%) are aware of the potential health or dietary implications of the ingredients listed. The remaining 34% and 32% had no understanding of the possible health or dietary implications of food labels.

6. Behavioural Changes and Influencing Factors:

- A significant portion of respondents (87%) have changed their purchasing decisions based on the information found on food labels, and 13% have not made changes as food prices impact their choices.

- Factors such as packaging design or certification logos (71%) and specific nutritional concerns or allergens (71%) influence the decision to read food labels. 29% of the respondents mentioned that the packaging design and nutritional allergens should have been prioritised when dealing with consumer products.

7. Online Shopping Habits:

- A notable percentage (38%) shops for food or beverages online

- For online shoppers, the availability of ingredient information significantly influences purchasing decisions (a lot 19% and 19% somewhat).

The findings suggest varying attention to ingredient lists, with health concerns being a significant driver. The presence of barriers, such as lack of time and trust in the brand, indicates potential challenges in conveying accurate information. Most respondents preferred simplified details, emphasising the importance of clear and easily understandable labels. Notably, most respondents (43%) hold postgraduate degrees, and 31% have bachelor's degrees, which may influence a decision to read the ingredients list.

4.2 Research Question Two

Research Question 2: To what extent do greenwashing, sugar addiction, and the level of processing impact nutritional value and consumers' choice of frequently scanned and consumed products?

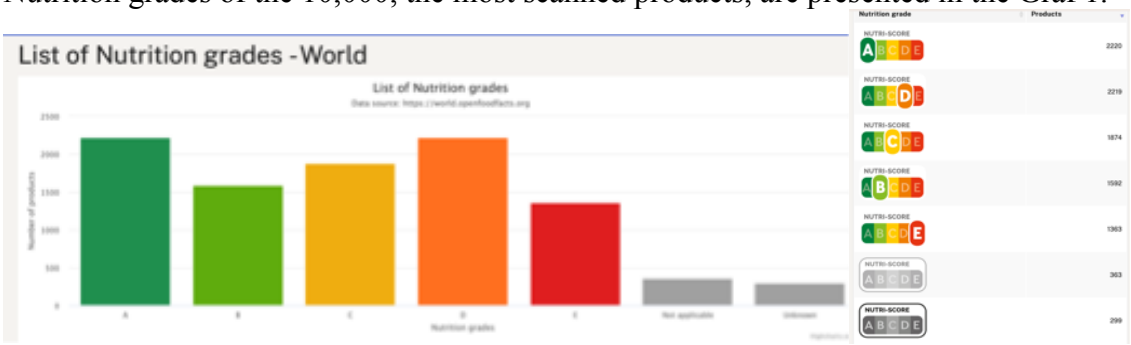
The principal findings, derived on November 2nd, 2023, are based on an analysis of the Web of Science data. The website link is attached in Appendix E.

Out of the 10,000 most scanned products, data from 269 countries was included. However, the research presents the top six countries with the most scanned products.

Country	Products	*
France	8313	
Germany	2030	
Spain	1596	
Switzerland	1381	
Belgium	1155	
Italy	592	

Table 1. The first six countries entail the most significant number of scanned products.

Nutrition grades of the 10,000, the most scanned products, are presented in the Graf 1.



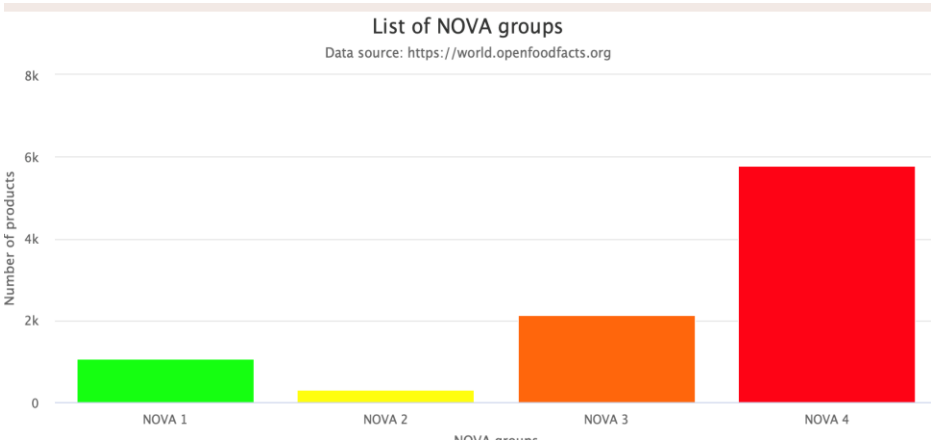
Graf 1. Nutrition grade

Graph 1. illustrates five Nutri Scores, categorising A as dark green for the best nutritional value, B as light green for good nutrition value, C as a neutral Nutri score, D as orange, and E as red, indicating not favourable and very poor nutritional values, respectively. The distribution of products across Nutri Scores is as follows: A - 2220 products, D - 2219 products, C - 1874 products, B - 1592 products, and E - 1363 products.

The data reveals a notable prevalence of products in the categories with lower nutritional value (C, D, and E). This observation aligns with the hypothesis that frequently scanned and consumed products tend to exhibit lower nutritional quality.

However, a more comprehensive understanding is provided with the introduction of the NOVA classification, presented in Graph 2 and Table 2, offering a complete overview of the nutritional information based on NOVA groups.

NOVA groups



Graf 2. NOVA groups

Upon the introduction of the NOVA classification to the same sample, a profound shift in the overall scenario becomes evident, with Group 4 (Ultra-processed food and drink products) emerging as the predominant category:

- Group 1 – green (Unprocessed or minimally processed): 1063 products
- Group 2 – yellow (Processed culinary ingredients): 314 products
- Group 3 – orange (Processed foods): 2146 products
- Group 4 – red (Ultra-processed food and drink products): 5788 products

The prevalence of products in Group 4, denoting ultra-processed items, indicates a substantial degree of processing in the analysed food sample. This observation underscores concerns about the potential impact of extensive processing on the nutritional composition of food, as well as the associated health implications linked to the consumption of ultra-processed products.

NOVA group	Products
4 - Ultra processed food and drink products	5788
3 - Processed foods	2146
1 - Unprocessed or minimally processed foods	1063
Unknown	614
2 - Processed culinary ingredients	314
Unknown	3

Table 2. NOVA groups

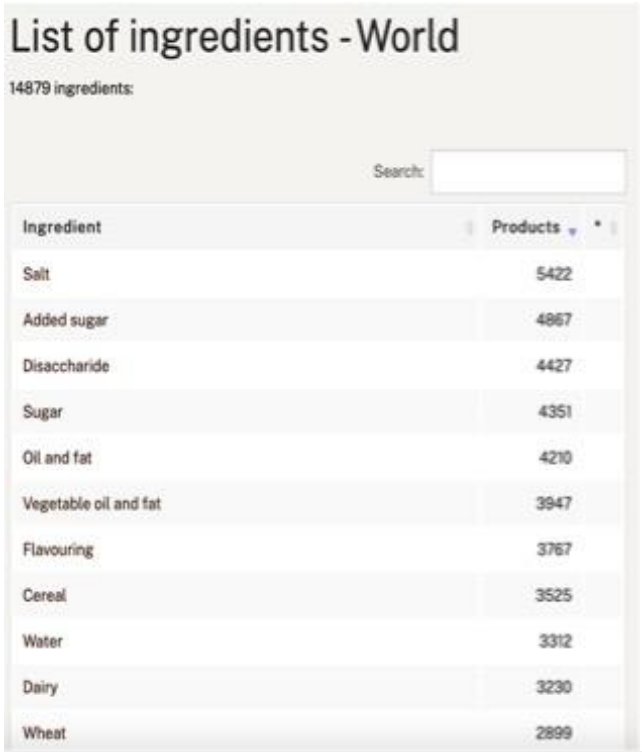
Food groups

Food group	Products	*
Sugary snacks	2122	
Cereals and potatoes	1748	
Beverages	1180	
Milk and dairy products	1171	
Biscuits and cakes	1076	
Fats and sauces	739	
Sweets	631	
Salty snacks	620	
Breakfast cereals	559	
Bread	556	

Table 3. Food groups

The distribution of food groups emphasises a notable prevalence of sugary snacks, sweets, biscuits, and cakes. This underscores the correlation between the consumption and frequent scanning of these products and the concept of sugar addiction.

List of 10,000 ingredients



Ingredient	Products	*
Salt	5455	
Sugar	4385	
Oil and fat	4245	
Vegetable oil and fat	3980	
Flavouring	3782	
Cereal	3537	
Water	3317	
Dairy	3274	

Table 4. List of Ingredients

- Sugar (including added sugar): 9218 products

- Salt: 5422 products

- Disaccharide: 4427 products

The abundance of products featuring sugar as a primary ingredient in most scanned items provides additional evidence supporting the hypothesis of sugar addiction. Elevated

levels of salt and disaccharides in these products also raise apprehensions regarding the overall nutritional quality.

4.3 Research Question Three

Research question three relates to the Content Analysis Guide (Saldaña, 2021) (Appendix D), which serves as a systematic roadmap for investigating the use of athletic public figures by corporations to potentially mislead consumers about product healthiness, a phenomenon commonly associated with greenwashing.

The study also developed a coding scheme (Appendix E) *as* a pivotal phase in content analysis. This process is integral to investigating whether corporations utilise athletic, public figures to potentially deceive consumers regarding the healthiness of their products, grounded in the Social Influence Theory.

Findings: Below are the results related to famous sportspeople and their influence on greenwashing. The link to the sample results are attached below for cross-references:

Cristiano Ronaldo - Soccer player IG 613m

	ATHLETES
CODING SCHEME	Cristiano Ronaldo IG 613m followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	Ronaldo's image in the Coca-Cola ad for the 2006 World Cup in Germany is mentioned, where he is superimposed on Coke cans and playing soccer with an ice cube in a fridge.
Subcode 1.2: Athlete's image in product packaging	No mention of athlete's image on product packaging in the provided.
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	Ronaldo's endorsement of Coca-Cola and KFC is discussed, with specific details about the 2013 KFC ad in the Middle East where he scores a penalty before consuming fried chicken (https://www.youtube.com/watch?v=kZV01QAcl20&t=4s)
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The text doesn't explicitly mention Cristiano Ronaldo using the products (Coca-Cola or KFC) in the provided context. The focus is more on his recent snub of Coca-Cola at a press conference, and the discussion surrounding his past endorsements.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The text doesn't explicitly mention social proof tactics.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	Ronaldo's endorsement of Coca-Cola and KFC positions him as endorsing products, but expertise in terms of health or fitness is not emphasized.

3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	There is a mention of people on social media noting Ronaldo's change in preferences over time.
Subcode 5.2: Conformity to athlete-endorsed products	People on social media accused Ronaldo of hypocrisy, but others praised him for discouraging fizzy drink consumption.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The text implies a shift in social norms regarding fizzy drink consumption, influenced by Ronaldo's actions.
Subcode 6.2: Peer and social media effects	- The reactions on social media indicate both criticism and support for Ronaldo's actions.

https://www.businessinsider.in/sports/news/old-coca-cola-and-kfc-adverts-starring-cristiano-ronaldo-have-resurfaced-after-he-went-viral-for-snubbing-the-drink/articleshow/83581029.cms

Overall, the provided text illustrates the use of Cristiano Ronaldo in both Coca-Cola and KFC advertisements, showcasing a potential inconsistency in his endorsements given his recent criticism of Coca-Cola. The social media reactions also highlight the influence athletes can have on consumer behaviour and public perception.

	ATHLETES
CODING SCHEME	Cristiano Ronaldo IG 613m followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	Cristiano Ronaldo is mentioned as the face of KFC Arabia, featuring in online platforms and outdoor advertisements.
Subcode 2.2: Athlete's image in product packaging	No mention of athlete's image on product packaging in the provided
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	No information about the athlete's image on product packaging in the provided text
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The text does not provide information on whether Cristiano Ronaldo is depicted using the products (KFC or any other) in the context of the provided content. The focus is more on his endorsement and the impact on brand consumption.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The text suggests that brands linking up with high-profile athletes, like Ronaldo, are more likely to see a positive impact on brand consumption.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The expertise of athletes in influencing consumer behaviour is implied, with the mention that athletes are role models and can positively influence consumers.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	

Subcode 5.1: Identification with athletes	The text indicates that consumers trust in a product or brand can increase by as much as 75% due to athlete endorsements, as athletes are seen as role models.
Subcode 5.2: Conformity to athlete-endorsed products	The emphasis is on how successful promotions are judged on sales, and a campaign with an athlete is ultimately assessed based on its impact on sales.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The text mentions that athletes bring a lot to sport, and the involvement of fast-food brands in sports sponsorship is highlighted.
Subcode 6.2: Peer and social media effects	Social media is recognized as providing more platforms for brands to engage with consumers and to track the success of campaigns.

https://gulfnews.com/technology/media/cristiano-ronaldo-and-kfc-show-how-branding-has-changed-1.1221806

This analysis suggests that the use of athletes, such as Cristiano Ronaldo, in endorsements is seen as a valuable strategy by brands, and the success of such campaigns is often measured by sales impact. The influence of athletes on consumer behaviour, trust, and engagement is acknowledged in the context of sports marketing. The text also touches on the evolving landscape of sports marketing in the region and the potential future regulation of certain sponsorships.

ATHLETES	
CODING SCHEME	Cristiano Ronaldo IG 613m of followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	Ronaldo's actions, particularly removing Coca-Cola bottles during a press conference, are mentioned. There is also reference to his promotional video for Coca-Cola in 2006 and commercials for KFC.
Subcode 1.2: Athlete's image in product packaging	No information about the athlete's image on product packaging in the provided text. However, there is photo of Cristiano holding a full cup of fried KFC chicken  Cristiano Ronaldo has promoted KFC and Coca-Cola in the past (Credits: Twitter)
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article discusses Ronaldo's endorsements, including Coca-Cola, KFC, Herbalife, and a Brazilian brewing company. It also mentions the value of his contracts with Herbalife and the Brazilian brewing company.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The article does not provide specific information about Cristiano Ronaldo being depicted or observed using the products (Coca-Cola, KFC, Herbalife, Brazilian brewing company) in question. The emphasis is more on his past endorsements, the impact of his

	actions on Coca-Cola's market share, and his strict dietary routine.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	Ronaldo's impact on Coca-Cola's market share value suggests the influence of a high-profile athlete. The article also mentions the value of Ronaldo's endorsement deals, indicating the potential financial impact.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	Ronaldo's strict diet and fitness routine are highlighted, emphasizing his expertise in maintaining a healthy lifestyle. This contrasts with his past endorsements of junk food and sugary drinks.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	Ronaldo's influence on Coca-Cola's market share and his strict dietary routine makes him a reference point for fitness and lifestyle choices.
Subcode 5.2: Conformity to athlete-endorsed products	Despite promoting unhealthy foods in the past, the article notes Ronaldo's strict dietary routine and his prohibition of junk food for his children, suggesting a potential shift in consumer behaviour influenced by the athlete's actions.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	Ronaldo's impact on Coca-Cola's market share and the value of his endorsement deals indicates the influence of high-profile athletes on promotional campaigns.

Subcode 6.2: Peer and social media effects	The article doesn't explicitly mention peer or social media effects but discusses Ronaldo's actions at a press conference and his past endorsements, which may generate discussions and reactions on social media.

https://sportsmanor.com/soccer-news-is-cristiano-ronaldo-really-about-the-clean-diet-4-times-cr7-promoted-unhealthy-foods/

This analysis suggests that the use of Cristiano Ronaldo in endorsements, despite his clean image and fitness routine, raises questions about the authenticity of such promotions. The contrast between his past endorsements of unhealthy products and his current strict diet adds complexity to the analysis, highlighting the potential impact of athlete endorsements on consumer perceptions of health and wellness.

2. LeBron James - NBA basketball player 159m of IG followers

ATHLETES	
CODING SCHEME	Le Bron James
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	The article extensively discusses the LeBron James Sprite ad, emphasizing its persuasive marketing, emotional resonance, and storytelling.
Subcode 2.2: Athlete's image in product packaging	LeBron James' name is in product packaging present on the bottle and on the can of a product Sprite, as well as LeBron James cartoon character drinking Sprite. 
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article mentions LeBron James endorsing Sprite and highlights the success of the commercials.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The article mentions LeBron James discussing Sprite but not explicitly recommending it. It also talks about a commercial where he is seen playing basketball and enjoying Sprite.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The article mentions the Sprite commercial going viral on social media, serving as an aspect of social proof.

Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The article briefly touches on LeBron James being a successful basketball player, indicating expertise in endorsing Sprite.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	The article highlights the public's admiration of LeBron James, suggesting a form of identification with the athlete
Subcode 5.1: Conformity to athlete-endorsed products	The article mentions the success of the LeBron James Sprite commercial, indicating a level of conformity in consumer behaviour.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The article discusses LeBron James' extensive partnerships, indicating a social norm influence
Subcode 6.2: Peer and social media effects	The article mentions the Sprite commercial going viral on social media, emphasizing the influence of peer and social media effects

https://bashabearsbasketball.com/the-power-of-persuasive-marketing-a-look-at-the-lebron-james-sprite-ad/

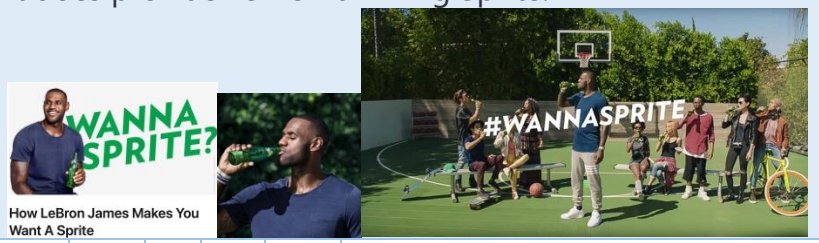
The article heavily focuses on the LeBron James Sprite ad and its success, providing insights into its marketing strategies. It addresses aspects of athlete endorsement, social influence, and endorsement tactics, albeit with limited information on specific subcodes. The article effectively portrays LeBron James as a successful endorser, utilizing various marketing tactics to promote Sprite. The LeBron James Sprite ad campaign employs a multifaceted approach, combining humour, relatability, and innovation. The use of LeBron James' image, statements, and endorsements aligns with various endorsement tactics and social influence theory aspects. The content analysis provides insights into how persuasive marketing strategies, social norms, and peer influences are leveraged to potentially shape consumer perceptions of Sprite's healthiness. Further research and analysis could delve deeper into consumer responses, attitudes, and behaviours influenced by such advertising.

	ATHLETES
CODING SCHEME	Le Bron James – 159m of IG followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	The article mentions LeBron James and Beyonce in the context of endorsement deals with Coca-Cola, McDonald's, and Pepsi, indicating the use of their images in advertisements.
Subcode 1.2: Athlete's image in product packaging	No information is provided regarding the athletes' images on product packaging.
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article discusses LeBron James' endorsement deals with Coca-Cola and McDonald's and suggests that these ads might contribute to the consumption of unhealthy products.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The article mentions LeBron James' endorsement deals with Coca-Cola and McDonald's but does not specifically describe him using the products.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The article does not explicitly mention the "most trusted by athletes" concept.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The article refers to LeBron James as an NBA star, indicating a level of expertise in endorsing products.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	

Subcode 5.1: Identification with athletes	The article discusses the potential impact of famous athletes like LeBron James and Beyonce endorsing unhealthy products, suggesting a form of identification.
Subcode 5.2: Conformity to athlete-endorsed products	The article discusses the potential impact of famous athletes like LeBron James and Beyonce endorsing unhealthy products, suggesting a form of identification.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The article highlights the potential harm caused by advertisements for unhealthy foods and suggests that athletes' disassociation from such products could raise awareness.
Subcode 6.2: Peer and social media effects	The article does not explicitly mention peer and social media effects.

https://abcnews.go.com/Health/lebron-james-sprite-ads-responsible-selling-billion-spoonfuls/story?id=17934300

The article discusses the potential influence of athletes like LeBron James and Beyonce in endorsing unhealthy products, emphasizing the testimonial effect and the impact on consumer behaviour. It touches on aspects of social influence, highlighting the potential harm caused by such endorsements. However, specific information on athletes using the products or discussing their benefits is limited. The analysis suggests that the article aligns with the coding scheme, focusing on the use of athlete endorsements and their potential impact on consumer perceptions and behaviours, contributing to the broader theme of greenwashing in the food and soft drinks industry.

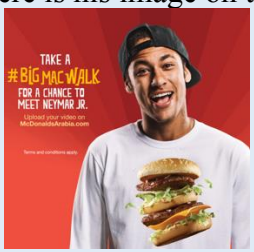
ATHLETES	
CODING SCHEME	Le Bron James – 159 m IG
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	The article describes the #WannaSprite marketing campaign featuring LeBron James and highlights how the image of LeBron James is used in the campaign.
Subcode 1.2: Athlete's image in product packaging	The article does not provide information about LeBron James' image being used on Sprite product packaging, but it does provide LeBron drinking Sprite. 
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article discusses how LeBron James, along with other influencers, contributes to the relatability and trustworthiness of Sprite, acting as an endorsement for the product.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The article mentions LeBron James drinking from a bottle of Sprite, creating a connection between the athlete and the product
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	

Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The article emphasizes the influence of influencers like LeBron James, making the experience of the product more relatable and real, thus providing social proof.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The article doesn't explicitly mention expertise but focuses on how the inclusion of influencers like LeBron James enhances the overall campaign.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	The article highlights how consumers may identify with influencers like LeBron James, enhancing trust and the desire for the product.
Subcode 5.2: Conformity to athlete-endorsed products	The article suggests that seeing an influencer like LeBron James appreciating Sprite influences consumer trust in the product
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The article mentions that adding influencers like LeBron James makes the product experience more relatable, indicating a social norm influence.
Subcode 6.2: Peer and social media effects	The article briefly touches on the increased engagement on social media due to influencers like LeBron James, showcasing some peer and social media effects.

https://www.linkedin.com/pulse/how-lebron-james-makes-you-want-sprite-corey-lowe/

The article analyses how LeBron James is utilized in Sprite's #WannaSprite marketing campaign, providing insights into the use of athlete images, athlete endorsements, and the influence of social proof and reference groups. It connects LeBron James with the product context, emphasizing the impact on consumer behaviour and engagement. The findings align with the coding scheme, offering valuable qualitative insights into the strategies employed by corporations in the food and soft drinks industry, specifically in the context of greenwashing and athlete endorsements.

3. Neymar – soccer player IG followers 217m

	ATHLETES
CODING SCHEME	Neymar – 217m of IG followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	Neymar Jr.'s image is featured prominently in the McDonald's campaign, where he is shown walking with swagger after scoring a goal
Subcode 1.2: Athlete's image in product packaging	No information is provided regarding Neymar Jr.'s image on McDonald's product packaging. However, there is his image on the poster promoting bigmac and McDonalds 
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article does not directly provide Neymar Jr.'s explicit verbal endorsement or statements regarding McDonald's or the Big Mac. The focus is on the visual representation of Neymar Jr. in the campaign.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	Neymar Jr. is depicted in the campaign ordering and eating a Big Mac, creating a product context in which the athlete is associated with the consumption of McDonald's products.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The campaign suggests that by taking a #BigMacWalk, consumers can win a chance to meet Neymar Jr., indicating

	social proof that this athlete is associated with McDonald's and the Big Mac.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The campaign implies that Neymar Jr.'s expertise in football and celebration is associated with the act of taking a #BigMacWalk.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	The campaign encourages consumers to identify with Neymar Jr. by celebrating their own victories with a #BigMacWalk, creating a connection between the athlete and the act of enjoying McDonald's.
Subcode 5.2: Conformity to athlete-endorsed products	The promotion suggests that by conforming to Neymar Jr.'s celebratory walk with a Big Mac, consumers can win a chance to meet him in Spain.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The campaign implies that celebrating with a #BigMacWalk is a social norm associated with victory and style, creating an influence for consumers to participate.
Subcode 6.2: Peer and social media effects	The campaign encourages consumers to upload videos of their #BigMacWalk on the campaign website and share them using the hashtag, suggesting a peer and social media influence aspect.

https://campaignme.com/mcdonalds-takes-a-walk-with-barcelona-star-neymar/

In summary, the McDonald's campaign with Neymar Jr. utilizes the athlete's image, endorsements, and celebratory style to associate McDonald's and the Big Mac with victory and style. The use of social proof, expertise, and social influence elements are evident in the promotional strategy.
This additional analysis indicates that while the article doesn't explicitly mention verbal endorsements by Neymar Jr., it does showcase him visually using and enjoying the product in the context of the promotional campaign.

	ATHLETES
CODING SCHEME	Neymar – 217m of IG followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	The article mentions Neymar Jr.'s affiliation with McDonald's, describing his involvement in serving Happy Meals to kids for a day and his preference for McDonald's over other fast-food chains. However, it doesn't explicitly mention the use of Neymar Jr.'s image in traditional advertisements.
Subcode 1.2: Athlete's image in product packaging	No information is provided regarding Neymar Jr.'s image on McDonald's product packaging.
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article mentions Neymar Jr.'s endorsement of McDonald's, emphasizing his preference for McDonald's over other fast-food chains, even after a significant victory. This statement serves as an endorsement and aligns the athlete with the brand.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The article provides context by describing Neymar Jr.'s actions related to McDonald's. It mentions his volunteering at a McDonald's restaurant to serve Happy Meals to kids for a day. Additionally, it narrates an incident during Barcelona's victory parade where Neymar called upon fans to deliver him a Big Mac while he was atop the team bus. This creates a product context of Neymar using and expressing a preference for McDonald's products.

2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	Neymar Jr.'s association with McDonald's is highlighted, showcasing his social media following (Instagram, Facebook, Twitter). The article suggests that Neymar's endorsement contributes to McDonald's social proof, indicating that the brand is trusted by a popular athlete.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The article portrays Neymar Jr.'s endorsement of McDonald's, emphasizing his preference for McDonald's even after a significant victory, creating an association between his expertise in football and his choice of fast food.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	The article suggests that Neymar Jr.'s affiliation with McDonald's creates an identification between the athlete and the fast-food brand, potentially influencing consumers who are fans of Neymar.
Subcode 5.2: Conformity to athlete-endorsed products	Neymar Jr.'s explicit preference for McDonald's, even during a victory parade, implies a form of conformity, suggesting that consumers may be influenced to choose McDonald's based on the athlete's endorsement.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The article suggests that Neymar Jr.'s affiliation with McDonald's contributes to the social norm of athletes endorsing and consuming fast food. By highlighting his preference for McDonald's, the article implies that it is a socially acceptable and

	normative behaviour for athletes to be associated with and endorse such food brands.
Subcode 6.2: Peer and social media effects	The article emphasizes Neymar Jr.'s significant social media following (Instagram, Facebook, Twitter), indicating his influence on these platforms. This suggests that Neymar's endorsement of McDonald's can have peer and social media effects, potentially influencing the choices and behaviours of his followers and the broader audience.

https://biz.opendorse.com/blog/top-athlete-endorsements-and-sponsorships-in-the-fast-food-industry/

In summary, the article indicates Neymar Jr.'s influential role in endorsing McDonald's, using elements of social proof, expertise, and reference groups to associate the athlete with the fast-food brand and potentially influence consumer behaviour.

In summary, Neymar Jr.'s endorsement of McDonald's not only aligns with social norms related to athlete endorsements but also leverages his substantial social media presence to potentially influence a wider audience, demonstrating the impact of group influence in the context of fast-food endorsements.

FEMALE ATHLETES

4. Serena Williams – former top tennis player 17m of IG followers

	ATHLETES
CODING SCHEME	Serena Williams – 17m of IG followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	Serena Williams is featured prominently in the article, with her endorsement deals highlighted. The article mentions her endorsement deals with Oreos, Nabisco's 100 Calories Pack Snacks, "Got Milk," and Gatorade
Subcode 1.2: Athlete's image in product packaging	The specific mention of Serena Williams' endorsements indicates the use of her image in product promotion, especially on food and beverage packaging.
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article discusses endorsements by superstar athletes, including Peyton Manning, LeBron James, and Serena Williams, for calorie-dense and unhealthy food and beverages.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	While not explicitly mentioned in the article, the general context suggests that athletes are endorsing and promoting these unhealthy products.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The article implies that the use of superstar athletes in endorsements provides social proof for the products, potentially misleading consumers into thinking these products are healthy.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The athletes' expertise in their respective sports is leveraged to endorse food and beverages, creating an impression of credibility.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	

Subcode 5.1: Identification with athletes	The article suggests that adolescents, particularly ages 12 to 17, are the primary target audience for such commercials, indicating a potential identification with athletes.
Subcode 5.2: Conformity to athlete-endorsed products	The athletes' endorsements may influence consumers to conform to their choices in food and beverages.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The article highlights the irony of physically fit athletes promoting unhealthy foods, suggesting a potential influence on social norms related to diet and health.
Subcode 6.2: Peer and social media effects	While not explicitly mentioned, the reference to adolescents as the primary audience implies the influence of peers and social media, which play a role in shaping attitudes toward endorsed products.

https://www.latimes.com/science/sciencenow/la-sn-athlete-food-endorsements-20131004-story.html

The article raises concerns about the impact of athlete endorsements on public health, especially among adolescents. It suggests a need for reconsidering the ethics of athletes promoting unhealthy products and emphasizes the potential influence on societal norms and consumer behaviour. The findings align with the qualitative research question related to the use of athletes to mislead consumers about the healthiness of food and beverage products, contributing to the phenomenon of greenwashing in the industry.

	ATHLETES
CODING SCHEME	Serena Williams – 17m of followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	The article discusses the endorsement of unhealthy food and drinks by professional athletes, such as LeBron James, Peyton Manning, Serena Williams, and Sidney Crosby. Their images are used in advertisements to promote these products.
Subcode 1.2: Athlete's image in product packaging	The article does not explicitly mention the use of athlete images on product packaging. However, it implies that athletes' endorsements contribute to the promotion of these products.
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article's central focus is on athletes endorsing and promoting unhealthy food and drinks. Specific mentions include McDonald's and Sprite by LeBron James, Gatorade and Pepsi-Cola by Peyton Manning, Kraft Oreo cookies and Gatorade by Serena Williams, and Gatorade and Tim Hortons by Sidney Crosby.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The article does not explicitly mention athletes using the endorsed products. However, it emphasizes the athletes' promotion of these products through endorsements.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The article implicitly suggests that athletes serve as a form of social proof for the promoted products, despite the nutritional concerns associated with these endorsements.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The expertise of professional athletes is leveraged to endorse and market these food and beverage products, creating an association between athleticism and the consumption of such products.

3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	The article discusses the impact of athletes' endorsements on children, highlighting the potential for mixed messages about diet and health. It suggests that children may identify with and be influenced by the dietary choices of their sports idols.
Subcode 5.2: Conformity to athlete-endorsed products	The article implies that athletes' endorsements may contribute to the conformity of consumers, especially children, to the endorsed products despite their nutritional shortcomings.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The study authors point out the irony of physically fit athletes promoting nutrient-poor products, highlighting a potential influence on societal norms related to diet and health.
Subcode 6.2: Peer and social media effects	While not explicitly mentioned, the article suggests that athletes' endorsements, especially in media targeted at youth, may have peer and social media effects on children's perceptions of these products.

https://www.cbc.ca/news/health/athletes-in-junk-food-ads-send-kids-mixed-messages-1.1913330

The article underscores the concern that athletes, as influential figures, are endorsing unhealthy food and drinks, potentially leading to mixed messages about diet and health, particularly among children. The findings align with the qualitative research question related to the use of athletes in greenwashing, as corporations leverage their images and

endorsements to promote products that may not align with health and wellness. The article suggests a need for reconsidering such endorsements and implementing policies to restrict food advertisements featuring athletes in media aimed at youth.

5. Ronda Rousey – Ultimate Fighting Champion (UFC), 17.6m of IG follower

	ATHLETES
CODING SCHEME	Ronda Rousey – 17.6m of IG followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	Both articles emphasize the use of Ronda Rousey's image in advertisements. The first article mentions her debut in a new series of commercials for Carl's Jr., and the second article describes the content of the commercial, including footage of Rousey fighting in the ring.
Subcode 1.2: Athlete's image in product packaging	The articles do not provide information about Ronda Rousey's image being used on product packaging. However, there are a lot of commercials / photos of her consuming the product.  Source:MiddleEasy. Source:AwfulAnnouncing
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	Rousey's endorsement of Carl's Jr. is a central theme in both articles. The first article highlights her becoming the new face of the company's commercials, and the second article discusses her representation of Carl's Jr. in promoting their breakfast sandwich.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The articles do not explicitly mention Ronda Rousey using the endorsed product. However, the second article describes her interaction with the breakfast sandwich in the commercial.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	

Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The first article mentions Carl's Jr.'s shift in advertising strategy, choosing Rousey, a renowned athlete, as the new face of their commercials. This aligns with the use of social proof to enhance the brand's image.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	Both articles emphasize Ronda Rousey's status as a professional athlete, endorsing a breakfast sandwich for Carl's Jr., using her expertise in sports and her appeal to a broad audience.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	.
Subcode 5.2: Conformity to athlete-endorsed products	The articles suggest that Ronda Rousey is chosen for endorsement because she is loved and respected by both men and women, indicating an attempt to leverage her broad appeal for consumer identification.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The articles do not explicitly mention social norm influence, but the use of a popular athlete in advertising implies an attempt to set a positive social norm around the endorsed product.
Subcode 6.2: Peer and social media effects	The first article mentions Rousey's fight generating over 934,000 messages on Twitter, indicating potential peer and social media effects, contributing to the overall influence of the endorsement.

Two related events https://www.foxnews.com/sports/ronda-rousey-is-the-new-face-of-carls-jr-commercials and https://people.com/food/ronda-rousey-carls-jr-ad/

The articles reveal a strategic shift by Carl's Jr. in choosing Ronda Rousey, a popular athlete, for endorsement. The use of Rousey's image, her statements endorsing the product, and the endorsement strategy align with the qualitative research question on how corporations leverage athletic public figures to influence consumer perceptions, potentially contributing to greenwashing in the food industry.

6. Alex Morgan – soccer player – 10.2m of IG followers

	ATHLETES
CODING SCHEME	Alex Morgan – 10.2m of IG followers
1.Theme: Use of Athlete	
Code1: Use of Athlete's Image	
Subcode 1.1: Athlete's image in advertisements	The article includes a photo of Alex Morgan and Ashton Eaton holding an opened bottle of Coca-Cola, illustrating the use of athletes in advertising.
Subcode 1.2: Athlete's image in product packaging	The articles do not provide information about Alex Morgan's image being used on product packaging. However, it demonstrates the photo of Alex Morgan and Ashton Eaton holding an opened bottle of Coca-Cola. 
Code 2: Athlete's Statements	
Subcode 2.1: Athlete's endorsements	The article discusses the endorsements of athletes like Alex Morgan and Ashton Eaton, pointing out their association with Coca-Cola and the potential impact on consumer behaviour.
Code 3: Product Context	
Subcode 3.1: Athlete using the product.	The article challenges the idea that athletes like Alex Morgan and Ashton Eaton consume products like Coca-Cola, emphasizing that their trainers wouldn't allow such behaviour and suggesting that parents should discourage it as well.
2.Theme: Endorsement Tactics	
Code 4: Endorsement Strategy	
Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")	The article implies that using athletes like Alex Morgan and Ashton Eaton to endorse junk food products provides a form of

	social proof, suggesting that if these athletes consume such products, others may perceive them as trustworthy or acceptable.
Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")	The article criticizes the use of athletes to endorse junk food, arguing that it creates a perception of expertise or approval from these athletes.
3.Theme: Social Influence Theory Aspects	
Code 5: Reference Groups	
Subcode 5.1: Identification with athletes	The article points out that children may identify with athletes and be influenced by their behaviour, creating a reference group for unhealthy consumption.
Subcode 5.2: Conformity to athlete-endorsed products	The content implies that individuals might be inclined to conform to the behaviour endorsed by athletes, even if it involves consuming unhealthy products.
Code 6: Group Influence	
Subcode 6.1: Social norm influence	The article suggests that the advertising of unhealthy products during the Olympics contributes to shaping social norms, potentially normalizing the consumption of such products.
Subcode 6.2: Peer and social media effects	The article implies that the use of athletes in marketing campaigns during the Olympics can have effects on peers and social media, influencing how individuals perceive and engage with the promoted products.

In summary, the article critically examines the use of athletes, particularly during the Olympics, to endorse junk food and how this practice may influence the perceptions and behaviours of consumers, especially children. It emphasizes the

potential contradiction between the promotion of unhealthy products and the image of healthy competition associated with the Olympics. The analysis aligns with the research focus on greenwashing and the impact on human well-being by questioning the authenticity of the messages conveyed through athlete endorsements.

4.4 Summary of Findings

In exploring the first research question of whether consumers disregard ingredient lists and underutilise nutrition information, the study reveals a nuanced picture. Most respondents were male, primarily within the 45-54 age group, and hold postgraduate degrees, with a significant proportion from Europe. Despite the prevalence of barriers like lack of time and trust in the brand, a substantial number of respondents, mainly driven by health concerns, demonstrate a frequent or occasional habit of reading ingredient lists.

However, concerns revolving around artificial ingredients, sugar content, and additives/preservatives exist. The study respondents express a preference for simplified information, with clear and understandable labels influencing purchasing decisions for the majority. The study underscores the impact of online shopping, with a notable percentage engaging in this trend, emphasising the importance of accessible ingredient information in shaping purchase choices. The educational background of respondents, with a significant proportion holding advanced degrees, may contribute to the discernment and consideration of ingredient lists in their decision-making process. Overall, the findings illuminate the intricate dynamics influencing consumers' interaction with ingredient information, emphasising the need for clear communication strategies to bridge existing gaps.

Regarding research question 2: To what extent do greenwashing, sugar addiction, and the level of processing impact nutritional value and consumers' choice of frequently scanned and consumed products?

The analysis raises significant concerns about the potential impact of greenwashing, sugar addiction, and processing levels on the nutritional value and consumer choices within the food and soft drinks industry. Follows the breakdown and the key findings.

1. Nutri Score Distribution:

- Nutri Score A: 2220 products
- Nutri Score D: 2219 products
- Nutri Score C: 1874 products
- Nutri Score E: 1363 products

The distribution of Nutri Scores indicates a significant proportion of products fall into the categories with lower nutritional value (C, D, and E). This aligns with the hypothesis that frequently scanned and consumed products tend to have lower nutritive value.

2. NOVA Group Distribution:

- Group 1 (Unprocessed or minimally processed):1063 products
- Group 2 (Processed culinary ingredients): 314 products
- Group 3 (Processed foods): 2146 products
- Group 4 (Ultra-processed food and drink products): 5788 products

The dominance of products in Group 4 (ultra-processed) suggests a high level of processing in the analysed food items. This aligns with concerns about the impact of extensive processing on the nutritional content of food, as well as the potential health implications associated with consuming ultra-processed products.

3. Food Groups:

- Sugary snacks, sweets, biscuits, and cakes: 3818 products
- Cereals and potatoes: 1748 products
- Beverages: 1180 products
- Milk and dairy products: 1171 products
- Fats and sauces: 739 products
- Salty snacks: 620 products

- Breakfast cereals: 559 products

- Bread: 556 products

The distribution of food groups highlights a significant presence of sugary snacks, sweets, biscuits, and cakes, reinforcing the connection between sugar addiction and the types of products frequently consumed and scanned.

4. Main Ingredients:

- Sugar (including added sugar): 9218 products

- Salt: 5422 products

- Disaccharide: 4427 products

The prevalence of sugar as a main ingredient in a vast majority of scanned products further supports the thesis of sugar addiction. The high levels of salt and disaccharides also raise concerns about the overall nutritional quality of these products.

Regarding the third research question—whether corporations utilise athletic public figures to deceive consumers into believing that the products they buy are healthy, even when they may not be—the outcomes derived from the conducted quantitative research for the selected six influential athletes (Cristiano Ronaldo, LeBron James, Neymar, Serena Williams, Ronda Rousey, and Alex Morgan) can be summarised as follows:

Cristiano Ronaldo:

The evaluation of the provided text suggests that Cristiano Ronaldo's involvement in Coca-Cola and KFC advertisements may contradict his endorsements, especially considering recent criticism of Coca-Cola. Social media reactions underscore athletes' considerable influence over consumer behaviour and public perception.

Furthermore, additional analysis underscores the perceived value of using athletes like Cristiano Ronaldo in endorsements, with campaign success often measured by sales impact. Acknowledging the influence of athletes in sports marketing, the text delves into

the evolving landscape of sports marketing in the region and the potential future regulation of specific sponsorships.

Moreover, another analysis raises questions about the authenticity of Cristiano Ronaldo's endorsements despite his clean image and fitness routine. The contrast between past endorsements of unhealthy products and his current strict diet adds complexity to the analysis, emphasising the potential impact of athlete endorsements on consumer perceptions of health and wellness.

LeBron James:

The focus on LeBron James centres around the success of the Sprite ad campaign, showcasing his effectiveness as an endorser through various marketing strategies. The article highlights LeBron James' success in combining humour, relatability, and innovation in the Sprite ad campaign, employing a multifaceted approach to shape consumer perceptions of Sprite's healthiness.

The potential influence of athletes like LeBron James in endorsing unhealthy products is explored, emphasising the testimonial effect and its impact on consumer behaviour. While specific information on athletes using the products is limited, the analysis aligns with the broader theme of greenwashing in the food and soft drinks industry.

Additionally, the article analyses LeBron James' role in Sprite's #WannaSprite marketing campaign, providing insights into the strategies employed by corporations in the context of greenwashing and athlete endorsements.

Neymar:

The McDonald's campaign featuring Neymar Jr. uses the athlete's image, endorsements, and celebratory style to associate McDonald's and the Big Mac with victory and style. Social proof, expertise, and social influence elements are evident in the promotional strategy.

The analysis indicates that while verbal endorsements by Neymar Jr. are not explicitly mentioned, the article showcases him visually using and enjoying the product in the context of the promotional campaign.

Furthermore, Neymar Jr.'s influential role in endorsing McDonald's aligns with social norms related to athlete endorsements and leverages his substantial social media presence to influence a wider audience, demonstrating the impact of group influence in the context of fast-food endorsements.

Serena Williams:

The article raises concerns about the impact of athlete endorsements, particularly Serena Williams's, on public health, emphasising the potential influence on societal norms and consumer behaviour, especially among adolescents. The findings align with the qualitative research question related to the use of athletes to potentially mislead consumers about the healthiness of food and beverage products, contributing to the phenomenon of greenwashing.

Additionally, the assessed article underscores the concern that influential athletes endorsing unhealthy products may lead to mixed messages about diet and health, particularly among children. The findings suggest a need for reconsidering such endorsements and implementing policies to restrict food advertisements featuring athletes in media aimed at youth.

Ronda Rousey:

The articles reveal a strategic shift by Carl's Jr. in choosing Ronda Rousey for endorsement. The use of Rousey's image, her statements endorsing the product, and the overall endorsement strategy align with the qualitative research question on how corporations leverage athletic and public figures to influence consumer perceptions, potentially contributing to greenwashing in the food industry.

Alex Morgan:

The article critically examines the use of athletes, particularly during the Olympics, to endorse junk food and how this practice may influence the perceptions and behaviours of consumers, especially children. It emphasises the potential contradiction between promoting unhealthy products and the image of healthy competition associated with the Olympics. The analysis aligns with the research focus on greenwashing and its impact on human well-being by questioning the authenticity of the messages conveyed through athlete endorsements.

4.5 Conclusion

In conclusion, the research findings shed light on consumers' multifaceted relationship with ingredient lists and nutrition information. While a notable percentage is committed to scrutinising these details, mainly influenced by health concerns, barriers such as time constraints and brand trust, pose challenges to widespread engagement. The expressed preference for simplified information highlights an opportunity for the food industry to enhance transparency and facilitate better-informed consumer choices.

The influence of educational background, with a significant portion of respondents holding postgraduate degrees, suggests a potential correlation between higher education and the inclination to read ingredient lists. The impact of online shopping underscores the need for accessible ingredient information in the digital landscape.

In navigating these complexities, it becomes evident that crafting clear, concise, and easily understandable labels is crucial to bridge information gaps and empower consumers in making informed dietary decisions. As consumers evolve in their awareness and preferences, the food industry must adapt, recognising the pivotal role of transparent communication in shaping consumer trust and loyalty.

Furthermore, examining frequently scanned and consumed products in relation to Nutri Scores, NOVA group classifications, food groups, and main ingredients yields a comprehensive understanding of the intricate dynamics influencing nutritional value and consumer choices. Across these analyses, several vital findings emerge, collectively pointing to significant challenges in the nutritional landscape and the choices consumers face.

The relationship between corporations, athletes, and consumer perceptions of product healthiness is multifaceted. While athlete endorsements can be powerful marketing tools, the potential for contradictions, concerns about public health, and the need for authenticity in advertising highlights the importance of careful consideration and, potentially, regulatory measures. As athletes continue to wield significant influence, there is a call for responsible marketing practices that prioritise the well-being of consumers and the authenticity of the messages conveyed through endorsements.

In conclusion, the analysis suggests that the use of influential athletes in endorsements can contribute to greenwashing, potentially misleading consumers about the healthiness of products. There is a need for greater scrutiny and consideration of the societal impact of such endorsements, especially when targeting vulnerable populations such as children and adolescents. Policies and regulations may be necessary to address these concerns and ensure the authenticity of messages conveyed through athlete endorsements.

CHAPTER V:

DISCUSSION

5.1 Discussion of Research Question One

The male majority in the respondent pool may reflect broader trends in survey participation or a specific interest in the topic among males. Understanding gender differences could provide insights into how marketing and communication strategies around food labels might need to be tailored. The higher representation in the 45-54 age group suggests that this demographic may have more experience in making food purchasing decisions and could be more health conscious.

Moreover, the respondent's educational background suggests that the significant percentage of respondents with postgraduate degrees might indicate a higher level of education and awareness about health and nutrition, potentially influencing their reading habits and decision-making.

Furthermore, the respondents were reluctant to disclose their household income. The preference for not declaring income, coupled with a substantial percentage in the $75,001-$100,000 range, raises questions about the relationship between income levels and attention to food labels. Hence, income levels determine to most extent their desires and care about food labels and ingredients.

The regional distribution suggests that cultural factors and regulatory environments may play a role in shaping consumer behaviours. The location of the consumers from different countries can explain their choices on food label ingredients and the content; therefore, most people in Europe had a higher percentage of checking the labels of the food products before they bought them.

This again explains the reading habits of the respondents in the survey. The frequency of reading the ingredient lists often or sometimes by most respondents indicates

a substantial level of attention to product details. The high percentage of respondents motivated by health concerns aligns with the growing trend of consumers seeking healthier food options.

Although many of the respondents were concerned with health habits, there were barriers and challenges associated with their choice. The obstacles identified, such as lack of time and trust in the brand, highlight potential obstacles in effectively communicating essential information. Brands may need to find ways to overcome these barriers to ensure consumers make informed choices. Challenges like confusing ingredient names and hard-to-read lists emphasise the need for clear and transparent labelling practices.

Another important revelation from the results indicates consumer preferences and their impact on purchase decisions. The preference for simplified information and the positive effects of clear labels on purchasing decisions underscore the importance of user-friendly packaging design. Brands that prioritise clarity may have a competitive advantage.

The results also indicate a massive understanding and awareness of food labels as consumers knew what food products they were buying, even though most of them needed more time to read the content of ingredient information. Respondents' moderate understanding of food labels suggests room for improvement in communication strategies. Education campaigns can enhance consumer awareness.

A high percentage of respondents making changes in purchasing decisions based on food labels indicates the potential influence of label information on consumer behaviour. Factors like packaging design and certification logos play a role in decision-making, emphasising the need for standardised labelling practices and the importance of trustworthy certifications.

Another worthy of note is online shopping habits. The prevalence of online shopping for food or beverages and the significant influence of ingredient information on

purchasing decisions highlight the importance of accessible and accurate online product information.

The findings suggest a complex interplay of demographic factors, consumer attitudes, and external influences on the utilisation of nutrition information. Brands and policymakers should consider tailoring communication strategies based on demographic characteristics and addressing identified barriers to ensure consumers make informed and healthy choices. Additionally, the preference for simplified information and the impact of clear labels on purchasing decisions underscore the need for transparent and consumer-friendly food labelling practices.

5.2 Discussion of Research Question Two

The study delves into the discussion part based on the presented findings regarding greenwashing, sugar addiction, and the impact of processing on nutritional value and consumer choices.

Greenwashing and Nutritional Value: The Nutri Score distribution reveals a substantial number of products falling into categories C, D, and E, indicating lower nutritional value. This suggests that the Nutri Score, often used as an indicator of healthiness, may only partially capture the nutritional quality of products.

Furthermore, greenwashing concerns were prevalent throughout the study. The presence of products with lower nutritional scores challenges the effectiveness of Nutri Score as a reliable measure for consumers. This raises concerns about greenwashing, where products may be marketed as healthier than they indeed are. It emphasises the need for more comprehensive and accurate labelling to prevent misleading consumer choices.

Moreover, regarding sugar addiction and ingredient analysis. The prevalence of sugar as the primary ingredient in a vast majority of scanned products, coupled with the focus on

sugary snacks and sweets, provides substantial evidence for the hypothesis of sugar addiction. This aligns with the broader societal challenge of excessive sugar consumption and its negative impact on health.

The impact on Well-being came out throughout the survey as using promotional celebrities could be deceptive, and consumers were buying products that had a high sugar content. High sugar content is linked to various health issues, including obesity, diabetes, and cardiovascular diseases. Recognising the pervasive use of sugar in scanned products underscores the potential negative implications for public health and well-being.

Processing Levels and Health Implications show that there was a high dominance of products in NOVA Group 4 (ultra-processed), which indicates a high level of processing. Ultra-processed foods are associated with adverse health effects. Their prevalence in the analysed products raises concerns about the overall nutritional quality and potential health risks, and these also influence consumer choices and convenience. The significant representation of ultra-processed products in frequently scanned items suggests that consumer choices may be affected by factors such as convenience and taste preferences. Addressing these influences is crucial for promoting healthier food choices.

5.3 Discussion of Research Question Three and correlation with existing literature

The study stated that using celebrities as a promotional tool influences consumers to buy certain types of food products and soft drinks. Cialdini (2009) states that the social influencer theory can easily impact people's product image. For instance, Coca-Cola and KFC's use of Cristiano Ronaldo can have a bigger impact on the products consumers buy.

Hence, examining Cristiano Ronaldo's endorsements, notably with Coca-Cola and KFC, unveils potential contradictions in portraying a healthy lifestyle. The recent criticism directed at Coca-Cola, coupled with Ronaldo's clean image and fitness routine, prompts a

complex analysis. Social media reactions underscore the significant influence athletes like Ronaldo wield over consumer behaviour and public perception.

Additionally, the perceived value of using athletes in endorsements, measured by sales impact, is acknowledged. The evolving landscape of sports marketing and potential future regulations regarding sponsorships are explored. The analysis raises questions about the authenticity of Ronaldo's endorsements, given his past associations with unhealthy products and current commitment to a strict diet, emphasising the intricate impact of athlete endorsements on consumer perceptions of health and wellness.

The discussion surrounding LeBron James centres on the success of the Sprite ad campaign and its multifaceted approach, incorporating humour, relatability, and innovation to shape consumer perceptions of Sprite's healthiness. The analysis delves into LeBron James' effectiveness in endorsing Sprite, emphasising the testimonial effect and its impact on consumer behaviour. While specific details about athletes using the products are limited, the analysis aligns with the broader theme of greenwashing in the food and soft drinks industry. The examination of LeBron James' role in Sprite's #WannaSprite marketing campaign provides valuable insights into the strategies employed by corporations in the context of greenwashing and athlete endorsements, contributing to the understanding of how public figures influence consumer perceptions.

The evaluation of Neymar Jr.'s endorsement of McDonald's reveals a strategic utilisation of the athlete's image, endorsements, and celebratory style to associate McDonald's and the Big Mac with victory and style. Social proof, expertise, and social influence elements are evident in the promotional strategy. Although verbal endorsements by Neymar Jr. are not explicitly mentioned, the article visually showcases his engagement with the product in the promotional campaign. Neymar Jr.'s influential role in endorsing McDonald's aligns with social norms related to athlete endorsements, utilising his

substantial social media presence to influence a wider audience. This underscores the impact of group influence, particularly in the context of fast-food endorsements, contributing to the broader discussion on how athletes contribute to consumer perceptions of product healthiness.

Examining Serena Williams' endorsements raises concerns about their impact on public health, especially among adolescents. The findings align with the qualitative research question, emphasising the potential influence on societal norms and consumer behaviour. Sachdeva et.al., (2009) posit that the consumption of "green or healthy products can generate a moral license that rationalises engaging in other behaviours that are less healthy. Hence, concerns are mainly directed at the use of influential athletes, like Serena Williams, to potentially mislead consumers about the healthiness of food and beverage products, contributing to the phenomenon of greenwashing. The article underscores the need for reconsidering such endorsements and implementing policies to restrict food advertisements featuring athletes in media aimed at youth. This discussion highlights the ethical considerations associated with athlete endorsements and their potential impact on public health perceptions.

The strategic shift by Carl's Jr. in selecting Ronda Rousey for endorsement is a focal point of analysis. Rousey's image, statements endorsing the product, and overall endorsement strategy align with the qualitative research question of how corporations leverage athletic, public figures to influence consumer perceptions. This strategic alignment could contribute to greenwashing in the food industry. The discussion emphasises the impact of public figures like Ronda Rousey in shaping consumer perceptions and calls attention to the ethical dimensions of such endorsements, contributing to the broader discourse on the influence of athletes in advertising.

The critical examination of Alex Morgan's involvement in endorsing junk food during the Olympics raises questions about the potential contradiction between promoting unhealthy products and the image of healthy competition associated with the event. The analysis aligns with the research focus on greenwashing and its impact on human well-being by questioning the authenticity of messages conveyed through athlete endorsements. This discussion contributes to understanding how athletes, particularly during high-profile events like the Olympics, may inadvertently contribute to mixed messages about diet and health. It underscores the need for a nuanced approach in athlete endorsements, especially in products that may not align with health and wellness.

5.4 Summary

The chapter highlighted the importance of providing accurate information on food products, and consumers' inability to read food ingredients could have a detrimental health effect on them. The relationship between corporations, athletes, and consumer perceptions of product healthiness is multifaceted. While athlete endorsements can be powerful marketing tools, the potential for contradictions, concerns about public health, and the need for authenticity in advertising highlights the importance of careful consideration and, potentially, regulatory measures. As athletes continue to wield significant influence, there is a call for responsible marketing practices that prioritise the well-being of consumers and the authenticity of the messages conveyed through endorsements.

The chapter discussed the themes raised from the research questions findings that whether consumers disregard ingredient lists and underutilise nutrition information, the study reveals a nuanced picture of working staff.

Lastly, the chapter discussed the correlation of the themes to the conceptual framework and related it to the existing literature review.

The next chapter summarises social change and implications for professional practice, the study's limitations, and recommendations for future study.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

This research involved an online questionnaire survey to explore research question 1 and consumer behaviours related to utilising nutrition information found in ingredient lists.

The discussion of this research question 2 emphasises the interconnectedness of greenwashing, sugar addiction, and processing levels in the food and soft drinks industry. The conclusion highlights the necessity for collaborative efforts from regulators, the industry, and consumers to foster a more transparent and health-conscious food environment.

As to research question 3, the research focuses on corporations using top athletic public figures to potentially mislead consumers into perceiving their products as healthy. The study provides valuable insights into the complexities of athlete endorsements, addressing consumer perceptions, ethical considerations, and the broader landscape of sports marketing.

6.1.1 Research Question 1

The conducted online questionnaire survey aimed to investigate consumer behaviours regarding the utilisation of nutrition information provided in ingredient lists revealed critical insights across various dimensions with the following conclusion:

-The findings highlight a nuanced relationship between demographic factors, consumer attitudes, and external influences in utilising nutrition information.

- There is a notable preference for simplified and clear information, suggesting the importance of transparent and consumer-friendly food labelling practices.

- The identified barriers and challenges emphasise the need for improved communication strategies to overcome obstacles in conveying essential information.

- The impact of online shopping habits underscores the importance of accessible and accurate online product information in influencing consumer choices.

6.1.2 Research Question 2

The discussion emphasises the interconnected nature of greenwashing, sugar addiction, and processing levels in the food and soft drinks industry. Addressing these issues requires a concerted effort from regulators, the industry, and consumers to create a more transparent, health-conscious food environment.

6.1.3 Research Question 3

The research investigates corporations' use of athletic public figures to potentially deceive consumers into believing that their products are healthy. The focus is on six influential athletes: Cristiano Ronaldo, LeBron James, Neymar, Serena Williams, Ronda Rousey, and Alex Morgan.

In conclusion, the study provides valuable insights into the complexities of athlete endorsements and their potential impact on consumer perceptions, ethical considerations, and the broader landscape of sports marketing.

6.2 Implications and Recommendations for Future Research

6.2.1 Implication for Social Change

To gain a deeper understanding of consumer behaviour regarding the underutilization of ingredient lists, the researcher meticulously outlines the implications and recommendations of each segment of the online questionnaire individually.

- Implications: Understanding demographic variations is crucial for targeted communication strategies. Greenwashing awareness campaigns may need to be tailored to specific age groups, educational backgrounds, and regions.

Recommendation: Further research should delve into the nuanced relationships between demographic factors and consumer attitudes toward ingredient lists. This could include qualitative studies to explore cultural influences on food label perceptions.

Reading Habits:

- Implications: The prevalence of health concerns as a motivator for reading labels suggests an opportunity for transparent communication about the health benefits of products. However, the challenge is to capture the attention of those not motivated by health concerns.

- Recommendation: Future studies can explore the effectiveness of different messaging strategies in promoting ingredient list awareness, targeting diverse motivational factors beyond health, such as environmental sustainability.

Barriers and Challenges:

- Implications: Barriers like lack of time and trust highlight the need for concise, trustworthy, and easily accessible information. Overcoming these barriers could enhance the effectiveness of ingredient lists in influencing consumer choices.

- Recommendation: Investigate the impact of interventions like simplified labels or mobile apps providing quick access to ingredient information. Assess consumer trust-building initiatives by brands to identify effective strategies.

Preferences and Impact on Purchase Decisions:

- Implications: The preference for simplified information and its positive impact on purchasing decisions underscores the importance of transparent labels. Brands should prioritise user-friendly packaging design.

- Recommendation: Research on the design elements that enhance clarity can inform industry guidelines. Additionally, longitudinal studies can assess the long-term impact of clear labelling on consumer loyalty and satisfaction.

Understanding and Awareness:

- Implications: While the majority has a moderate understanding, there is room for improvement. Consumer education efforts could enhance awareness and empower individuals to make more informed choices.

- Recommendation: Conduct educational interventions and measure their effectiveness in increasing consumer understanding. Explore innovative ways to communicate nutritional information, considering various learning styles.

Behavioural Changes and Influencing Factors:

- Implications: The high percentage of behavioural changes based on food labels indicates the potential influence of marketing practices. However, it also raises questions about the authenticity of label claims.

- Recommendation: Investigate the accuracy of label claims through audits and verifications. Explore the impact of regulatory measures on reducing greenwashing practices and increasing consumer trust.

Online Shopping Habits:

- Implications: The moderate influence of online ingredient information on purchasing decisions indicates a need for comprehensive online product information.

- Recommendation: Evaluate the user interface and accessibility of online platforms for food and beverage products. Study the impact of online platforms providing detailed nutritional information on consumer decision-making.

Future research must focus on developing and testing interventions to overcome identified barriers and enhance consumer awareness and understanding. Explore the role of regulatory bodies in ensuring transparent and accurate labelling practices and their impact on consumer trust.

Furthermore, other research must investigate the long-term effects of consumer education initiatives and the potential for sustained behavioural changes in response to improved labelling practices and collaborate with industry stakeholders to develop standardised, user-friendly labelling practices that align with consumer preferences and needs.

6.3 Implication for Business Practitioners

The implications of the findings call for a multi-pronged approach involving regulatory reforms, public health campaigns, and industry initiatives.

The significant presence of products with lower nutritional scores (C, D, and E) indicates a need for consumers to assess Nutri Scores data. Moreover, the dominance of products in NOVA Group 4 (ultra-processed) indicates a high level of processing. Ultra-processed foods are associated with adverse health effects, and their prevalence in the analysed products raises concerns about the overall nutritional quality and potential health risks.

Policymakers should consider refining and expanding nutritional labelling systems to provide a more accurate representation of product healthiness. A comprehensive approach is imperative, involving consumer education, transparent labelling, and policy interventions to encourage the production and consumption of nutritionally sound and minimally processed foods, ultimately fostering healthier dietary patterns. Addressing greenwashing practices and enhancing transparency in food labelling is essential to empower consumers to make informed, healthier choices. Policymakers and health advocates may consider implementing measures to regulate marketing practices and product formulations, particularly for items high in sugar and extensively processed, to promote public health and well-being.

The dominance of ultra-processed products raises concerns about the potential health risks associated with extensive processing. Policymakers should consider implementing measures to encourage the food industry to reduce ultra-processed ingredients, fostering a shift towards minimally processed and whole foods.

The prevalence of sugary snacks, sweets, biscuits, and cakes underscores the need for targeted interventions in these food groups. Public health campaigns should educate consumers on healthier alternatives and encourage the food industry to reformulate products to reduce sugar content.

The high levels of sugar, salt, and disaccharides highlight the need for regulatory action to limit the use of these ingredients in processed foods. Public health initiatives should focus on reducing the consumption of products high in these components to address potential health risks.

By addressing greenwashing, sugar addiction, and the impact of processing on food products, policymakers can contribute to improving the overall nutritional landscape and the well-being of consumers through the following recommendations:

6.4 Recommendations:

Concerning greenwashing, the study suggests that regulatory bodies of different countries should tighten regulations on food labelling to curb greenwashing practices. More transparent and standardised labels can empower consumers to make informed choices, promoting trust in the food industry.

Furthermore, regarding Sugar Addiction, public health campaigns should raise awareness about the health risks of excessive sugar consumption. The food industry should explore reformulation strategies to reduce sugar content in products, addressing consumer health concerns and potential addiction issues.

Again, on food processing levels, policymakers and health organisations should advocate for policies encouraging the reduction of ultra-processed foods in the market. The food industry should explore innovative ways to produce and market minimally processed options, promoting healthier choices.

It is imperative that policymakers give consumers enough education on choices to make informed selection in their buying. Educational programs should target consumers, informing them about the impact of processing levels on nutritional quality. Encouraging a shift towards whole, minimally processed foods through incentives or subsidies can help reshape consumer preferences.

6.5 Policy Implications:

Regulatory bodies should consider comprehensive reforms in food labelling, ensuring that Nutri Scores reflect both nutritional content and processing levels. Stricter guidelines can deter deceptive marketing practices and promote a healthier food environment.

In conclusion, the researcher advocates for the implementation of the following recommendations.

1. Regulatory Measures:

- The findings underscore the need for more robust regulations to combat greenwashing and ensure accurate food labelling. Clearer information on processing levels and a more comprehensive grading system may better guide consumer choices.

2. Public Awareness Campaigns:

- Public awareness campaigns are essential to inform consumers about the potential pitfalls of excessive sugar consumption and the health risks associated with ultra-processed foods. Empowering consumers with knowledge can drive more informed choices.

3. Industry Responsibility:

- The food industry plays a pivotal role in shaping consumer behaviour. Encouraging the industry to prioritise healthier ingredients, reduce sugar content, and limit processing in their products can significantly improve the nutritional landscape.

4. Healthier Alternatives:

- Promoting the availability and accessibility of healthier alternatives, especially within popular food groups like snacks and beverages, can encourage consumers to make choices that align with their well-being.

6.6 General Implications:

Consumer Trust and Brand Perception: The collective findings highlight the potential contradictions in athlete endorsements and their impact on portraying a healthy lifestyle. Future research should delve into the long-term effects of such contradictions on consumer trust and brand perception. Understanding how discrepancies between an athlete's lifestyle and endorsed products influence consumer attitudes can guide corporations in aligning endorsements with genuine, health-conscious messaging.

Regulatory Impact on Athlete Endorsements: The examination of athlete endorsements suggests a need to explore the impact of potential regulations on these endorsements. Future research could investigate the effectiveness and implications of regulatory measures in the evolving sports marketing landscape. This includes understanding how regulations might shape the endorsement choices of athletes and corporations and contributing to responsible marketing practices.

Psychological Mechanisms and Testimonial Effect: LeBron James' success underscores the multifaceted approach in marketing but concerns about the testimonial effect prompt further exploration. Future research should delve into the psychological mechanisms influencing consumer behaviour in response to athlete endorsements. Understanding the cognitive processes contributing to the testimonial effect can provide insights into how consumers interpret and respond to endorsements, aiding athletes and corporations in making informed choices.

Social Proof, Group Influence, and Social Media Presence: Neymar Jr.'s endorsement of McDonald's highlights the impact of group influence, mainly through social media. Future research could explore the dynamics of social proof and group influence in the context of athlete endorsements. Investigating the correlation between athletes' social media presence and influence on consumer perceptions can offer valuable insights into the effectiveness of different promotional strategies.

Ethical Considerations and Societal Impact: Concerns raised about Serena Williams' endorsements suggest the need for ethical considerations in athlete endorsements. Future research should investigate the potential societal impact of athlete endorsements on shaping norms and influencing health behaviours. Understanding the moral dimensions of strategic shifts in endorsement choices, as seen with Ronda Rousey, can contribute to responsible marketing practices and maintain consumer trust.

Ultimately, the researcher suggests that the following recommendations be implemented.

Long-Term Effects of Athlete Endorsements: Future research should focus on understanding the long-term effects of athlete endorsements on consumer behaviour, trust, and brand perception. This can involve longitudinal studies tracking consumer attitudes over time and assessing the enduring impact of endorsements on purchasing decisions.

In-Depth Analysis of Endorsement Content: Researchers should conduct more in-depth analyses of the specific content of athlete endorsements. Examining the messages conveyed, especially in terms of health-conscious messaging, can provide a nuanced understanding of athletes' role in influencing consumer perceptions.

Exploration of Responsible Endorsement Choices: Research should explore consumer attitudes toward endorsements that align with health-conscious messaging. This exploration can guide athletes and corporations in making responsible choices that resonate with consumer expectations and contribute positively to public health perceptions.

Impact of Regulations on Endorsement Choices: Investigating the impact of potential regulations on athlete endorsements is crucial. Research can explore how regulatory measures may influence the endorsement decisions of both athletes and corporations, contributing to responsible and transparent marketing practices.

Communication Strategies and Transparency: Future research should examine the effectiveness of communication strategies and transparency in athlete endorsements. Exploring how public figures communicate their endorsement choices and align them with their values can provide insights into maintaining credibility and consumer trust.

In conclusion, the general implications and recommendations for future research underscore the importance of understanding the multifaceted impact of athlete endorsements on consumer behaviour, trust, and societal norms. Future research in this domain could benefit from exploring the long-term effects of athlete endorsements, investigating psychological mechanisms influencing consumer behaviour, examining the dynamics of social influence, and delving into the ethical dimensions of strategic shifts in endorsement choices. These insights can contribute to developing guidelines, policies, and responsible marketing practices in the realm of athlete endorsements.

6.7 Conclusion

The research has provided a comprehensive understanding of consumer behaviours related to the utilisation of nutrition information, the interconnectedness of greenwashing, sugar addiction, and processing levels in the food industry, and the use of athletic and public figures in product endorsements. Regarding consumer behaviour, the findings reveal a nuanced relationship between demographic factors, attitudes, and external influences, emphasising the importance of transparent and consumer-friendly food labelling practices.

The study underscores the need for improved communication strategies to overcome obstacles in conveying essential information, especially in the context of online shopping habits. Regarding greenwashing and processing levels, the research highlights the imperative for collaborative efforts from regulators, the industry, and consumers to create a more transparent and health-conscious food environment. Lastly, the investigation into athlete endorsements exposes complexities in consumer perceptions, ethical considerations, and the broader landscape of sports marketing, providing valuable insights into the potential impact of such endorsements.

Moving forward, the implications and recommendations for future research are substantial. For Research Question 1, further studies should delve into demographic variations and cultural influences on food label perceptions, exploring innovative communication strategies and assessing the long-term impact of clear labelling on consumer loyalty. In Research Question 2, policymakers are urged to refine and expand nutritional labelling systems, reduce ultra-processed ingredients, and promote healthier alternatives. At the same time, the industry is encouraged to prioritise whole, minimally processed foods. Research on the impact of regulations, public awareness campaigns, and industry responsibility is crucial. For Research Question 3, future investigations should focus on long-term effects, in-depth analysis of endorsement content, responsible

endorsement choices, and the impact of regulations on athlete endorsements. Understanding psychological mechanisms, social media dynamics, and ethical considerations will contribute to developing guidelines and responsible marketing practices in athlete endorsements. These recommendations aim to enhance our understanding of these complex issues and inform practical strategies for creating a healthier and more transparent food and marketing landscape.

APPENDIX A: INFORMED CONSENT FORM

INFORMED CONSENT FOR INTERVIEW

GREENWASHING IN THE FOOD AND SOFT DRINKS INDUSTRY:

IMPLICATIONS ON WELLBEING- A CRITICAL PERSPECTIVE.

I, **……agree to be interviewed for the research which will be conducted by ……...a doctorate student** 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** interviews 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 Interviewee **Date**

APPENDIX B:

ONLINE QUESTIONNAIRE

Introduction

Before we start, please note that your responses will be kept confidential and used solely for research purposes. Your insights are valuable and will contribute to our research on consumer behaviour. Thank you for participating in this survey!

Section 1: Demographics

1.1. Gender:

- Male
- Female
- Non-binary
- Prefer not to say

1.2. Age:

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 or older

1.3. Educational Background:

- High School or Less
- Some College
- Bachelor's Degree
- Postgraduate Degree

1.4. Household Income:

- Under 25,000 €
- 25,000 - 50,000 €
- 50,001 - 75,000 €
- 75,001 € - $100,000 €
- Over 100,000 €
- Prefer not to say

1.5. Location:

- Europe
- Asia
- US
- Australia
- Canada
- Africa
- The North America

Section 2: Consumer Behaviour

2.1. How often do you read ingredient lists on food or beverage products?

- Always
- Often
- Sometimes
- Rarely
- Never

2.2. Reasons for Reading or Not Reading Labels:

What factors influence your decision to read ingredient lists or not? (Select all that apply)

- Health Concerns
- Dietary Restrictions
- Allergies
- Packaging Claims (e.g., "Natural," "Organic")
- Product Brand
- Convenience
- Checking for expected ingredients.

2.3 When reading ingredient lists, what specific information are you most concerned about? (Select all that apply)

- Allergens
- Additives/Preservatives

- Sugar Content
- Fat Content
- Artificial Ingredients
- Nutritional Value
- Organic Ingredients
- None, I don't read ingredient lists

2.4 If you do not read the ingredients list, what are the primary reasons?

- Lack of time
- Trust in the brand
- Lack of awareness about the importance

2. What challenges do you encounter when reading ingredient lists, if any? (Select all that apply)

- Confusing or unfamiliar ingredient names
- Lengthy or hard-to-read lists (e.g. too small fonts)
- Lack of knowledge about the meaning of certain ingredients
- Limited availability of product information
- Time constraints
- I don’t encounter any challenges when reading ingredient list

4. Would you find it helpful if food products had simplified, user-friendly formats for displaying ingredient information?

- Yes, definitely
- Yes, to some extent
- No, it's not necessary
- Not sure

4. Are you more likely to purchase a food product if it has clear and easy-to-understand ingredient information?

- Yes, always
- Yes, sometimes
- No, it doesn't influence my purchasing decision
- Not sure

7. How often do you find the information you're looking for on ingredient lists?

- Always
- Often
- Sometimes
- Rarely
- Never

4. Understanding and Awareness:

4.1 How well do you understand the information provided on food labels related to the ingredients list?

- Very well
- Moderately well
- Not well
- Not at all

4.2 Are you aware of the potential health or dietary implications of the ingredients listed on food labels?

- Yes
- No

5. Behavioural Changes:

5.1 Have you made any changes in your purchasing decisions based on the information you find in food labels?

- Frequently

- Sometimes
- Rarely
- Never

6. Influencing Factors:

6.1 Do factors such as packaging design or certification logos influence your decision to read food labels?

- Yes
- No

6.2 Are there any specific nutritional concerns or allergens that influence your decision to read food labels?

- Yes
- No

Section 3: Online Shopping Habits

3.1 Do you shop for food or beverages online?

- Yes
- No

3.2. If you shop online, how does the availability of ingredient information influence your purchasing decisions?

- A lot
- Somewhat
- Not much
- Not at all
- I don't shop for food/beverages online

Section 4: Additional Comments

4.1. Is there anything else you would like to share about your behaviour regarding reading ingredient lists or your experiences with online shopping for food/beverages?

4.2 Optional: If you would like to participate in further research on this topic, please provide your email address:

Thank you for your participation in this survey. Your feedback is invaluable in understanding consumer reading habits and behaviour regarding food labels.

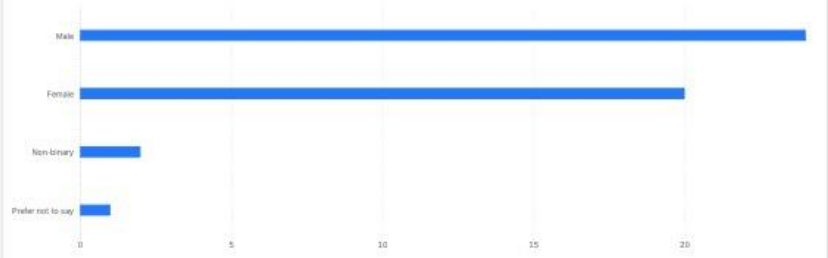
APPENDIX C:

ONLINE QUESTIONNAIRE RESULTS

Online Questionnaire Questions / Page 1

Responses: 53

1: Demographics 1.1 Gender:



1: Demographics 1.1 Gender:

1: Demographics 1.1 Gender:	Percentage	Count
Male	51%	24
Female	43%	20
Non-binary	4%	2
Prefer not to say	2%	1

1: Demographics 1.1 Gender:

1: Demographics 1.1 Gender:	Average	Minimum	Maximum	Count
Male	1.00	1.00	1.00	24
Female	2.00	2.00	2.00	20
Non-binary	3.00	3.00	3.00	2
Prefer not to say	4.00	4.00	4.00	1

APPENDIX D:

CODING ANALYSIS GUIDE

A researcher explains all the crucial steps (Saldaña, 2021) in the research process, from formulating a clear research question to developing a coding scheme based on the Social Influence Theory. It delineates data collection, organisation, and coding tasks, emphasising identifying themes like the "Use of Athlete" and "Endorsement Tactics."

The guide ensures consistency in the coding process and provides guidelines for data analysis, interpretation, and reporting of findings, ultimately contributing to a methodologically sound and rigorous qualitative research endeavour.

1. Research Question: A clearly defined research question is paramount. The researcher is interested in whether corporations employ athletic, public figures to mislead consumers into thinking that the products they purchase are healthy, even when they might not be in reality and thereof leads to greenwashing.

2. Data Collection: The online content is to be assessed. This includes documents, interviews, articles, social media posts, videos, or other textual or visual data.

3. Preparing the Data: Data for analysis will be organised and prepared. This involves transcribing interviews, selecting relevant text sections, or converting data into a format suitable for analysis. The research creates a straightforward dataset ready for coding.

4. Coding Scheme Development: A coding framework and scheme will be developed. This will involve creating a set of codes or categories that represent themes to

be explored. The coding scheme is based on the research question and relevant theories or concepts, such as social influence theory (Appendix B)

5. Pilot Testing: Before conducting a complete analysis, the research will pilot test the coding scheme on a small portion of data. This helps refine coding categories, ensuring inter-coder reliability (if multiple coders are involved) and making necessary adjustments to the coding process.

6. Coding Process: The coding process will begin systematically. This involves applying the codes to the data. Software tools like NVivo, Dedoose, or ATLAS.ti may help manage and organise the coding process. Yet, the researcher will code manually using highlighting, annotating, and creating a coding matrix.

7. Maintain Consistency: The researcher will ensure consistency in the coding process.

8. Analyse Coded Data: The analysis process will commence once the data is coded. This involves looking for patterns, trends, or themes from the coded data. If necessary, the data will be quantified to identify the frequency of specific codes.

9. Interpretation: The interpretation phase involves making sense of the patterns and identified themes. How do these patterns relate to the research question or objectives? What insights or conclusions can be drawn from the data?

10. Report Findings: The proceeding part comprehensively relates to the findings. This may include writing research chapters, creating visual representations or presenting the findings in a structured format.

11. Validation: The researcher will consider strategies for ensuring the validity and reliability of the content analysis. This would involve triangulation, which applies to assessing different webs of scientific sources.

APPENDIX E:

CODING SCHEME FOR CONTENT ANALYSIS

The coding scheme is based on structural and descriptive coding (Saldaña, 2021) and incorporates essential elements and themes central to the study. Below is a systematic guide for constructing the coding scheme:

1. **Identifying Relevant Themes:**

The researcher identifies themes or elements related to the research question and the Social Influence Theory. In this case, the researcher considered the following themes a focus of the research: “Use of Athletes," "Endorsement Tactics," and “Social Influence Theory”.

2. Defining Codes for Each Theme:

- The specific codes representing different aspects or attributes were created for each identified theme.

- "Use of Athlete":

Code - Use of Athlete’s Image, Athlete’s Statements and Product Context

- "Endorsement Tactics":

Code – Endorsement Strategy (testimonial, social proof, and expertise).

- "Social Influence Theory Aspects":

Code – Reference Groups and Group Influence

8. Included Subcodes:

Within each code, the researcher further defined subcodes to capture nuanced information. These generated subcodes enable the researcher to find the information required for the study. Below is a simplified structured coding developed:

Code 1: Use of Athlete image

Subcode 1.1: Athlete’s image in advertisements

Subcode 1.2: Athlete’s image in product packaging

Code 2: Athlete’s Statements

Subcode 2.1: Athlete’s endorsements

Code 3: Product Context

Subcode 3.1: Athlete using the product.

Code 4: Endorsement Strategy

Subcode 4.1: Social Proof (e.g., "Most trusted by athletes")

Subcode 4.2: Expertise (e.g., "Endorsed by professional athletes ")

Code 5: Reference Groups

Subcode 5.1: Identification with athletes

Subcode 5.1: Conformity to athlete-endorsed products

Code 6: Group Influence

Subcode 6.1: Social norm influence

Subcode 6.2: Peer and social media effects

	A T H L E T E S					
CODING SCHEME	1	2	3	4	5	6
1.Theme: Use of Athlete						
Code1: Use of Athlete's Image						
Subcode 1.1: Athlete's image in advertisements						
Subcode 1.2: Athlete's image in product packaging						
Code 2: Athlete's Statements						
Subcode 2.1: Athlete's endorsements						
Code 3: Product Context						
Subcode 3.1: Athlete using the product.						
2.Theme: Endorsement Tactics						
Code 4: Endorsement Strategy						
Subcode 4.2: Social Proof (e.g., "Most trusted by athletes")						
Subcode 4.3: Expertise (e.g., "Endorsed by professional athletes ")						
3.Theme: Social Influence Theory Aspects						
Code 5: Reference Groups						
Subcode 5.1: Identification with athletes						
Subcode 5.1: Conformity to athlete-endorsed products						
Code 6: Group Influence						
Subcode 6.1: Social norm influence						
Subcode 6.2: Peer and social media effects						

4. **Code Definitions**

The researcher also developed clear definitions for each code and subcode to guide the coding process. These definitions describe what is encompassed under each code and what should be excluded.

Code 1: Use of Athlete Image

Subcode 1.1: Athlete's Image in Advertisements

Definition: This code refers to instances where the athlete's image is featured in promotional materials or advertisements.

Subcode 1.2: Athlete's Image in Product Packaging

Definition: This code pertains to situations where the athlete's image is incorporated into the packaging of the endorsed product.

Code 2: Athlete's Statements

Subcode 2.1: Athlete's Endorsements

Definition: This code encompasses statements the athlete makes explicitly endorsing or recommending the product.

Code 3: Product Context

Subcode 3.1: Athlete Using the Product

Definition: This code relates to instances where the athlete is shown actively using or consuming the endorsed product.

Code 4: Endorsement Strategy

Subcode 4.1: Social Proof (e.g., "Most Trusted by Athletes")

Definition: This code pertains to endorsements that leverage social proof, emphasising the product's popularity or trustworthiness among athletes.

Subcode 4.2: Expertise (e.g., "Endorsed by Professional Athletes")

Definition: This code encompasses endorsements highlighting the athlete's expertise or professional status to promote the endorsed product.

Code 5: Reference Groups

Subcode 5.1: Identification with Athletes

Definition: This code involves instances where consumers are encouraged to identify with the endorsed product through their admiration or connection with the athlete.

Subcode 5.2: Conformity to Athlete-Endorsed Products

Definition: This code refers to situations where consumers are influenced to conform to the choice of the endorsed product based on the athlete's association.

Code 6: Group Influence

Subcode 6.1: Social Norm Influence

Definition: This code involves the impact of social norms on consumer behaviour, mainly influenced by the athlete's endorsement.

Subcode 6.2: Peer and Social Media Effects

Definition: This code encompasses the influence of peers and social media in shaping consumer perceptions and choices related to the athlete-endorsed product.

5. Guidelines:

To ensure consistency in coding, the researcher developed guidelines for effectively applying the developed codes and subcodes in the context of qualitative research and online data content analysis. Following these guidelines, the researcher will use the developed codes and subcodes to analyse and interpret the online data for qualitative analysis.

Guidelines for Applying Codes:

Code 1: Use of Athlete Image

Adherence to Visual Elements:

The study looks for visual elements such as images or graphics featuring the athlete in advertisements. It identifies instances where the athlete's image is integrated into the packaging of the endorsed product.

Code 2: Athlete's Statements

Explicit Endorsements:

The researcher captures explicit endorsements made by the athlete, clearly stating support for the product. Again, the study documents the athlete's testimonials, expressing personal opinions or experiences with the product.

Code 3: Product Context

Active Usage:

- Identify scenes where the athlete is actively using or consuming the endorsed product, and document instances where the athlete discusses the positive attributes or benefits of the endorsed product.

Code 4: Endorsement Strategy

Testimonial Evaluation:

The study evaluates and categorises endorsements that take the form of testimonials by the athlete. It looks for endorsements employing social proof, emphasising the popularity or trustworthiness among athletes. Lastly, identify instances where the athlete's expertise or professional status is highlighted to endorse the product.

Code 5: Reference Groups

Consumer Identification:

The study identifies content encouraging consumers to identify with the product through their connection with the athlete. Moreover, it captures instances where consumers are influenced to conform to the choice of the endorsed product based on the athlete's association.

Code 6: Group Influence

Observing Social Norms:

The researcher observes and categorises instances where social norms play a role in influencing consumer behaviour. It explores the influence of peer and social media on consumer perceptions and choices related to athlete-endorsed products.

General Guidelines:

Thorough Review:

The researcher conducts a comprehensive review of online content to capture relevant information, including advertisements, product descriptions, and social media posts.

Contextual Understanding:

The study considers the context in which the athlete is portrayed and the product is endorsed, ensuring a holistic understanding of the content.

Consistent Application:

Apply the codes consistently across all relevant data, maintaining uniformity in the coding process.

Documentation:

The researcher documented specific examples and instances supporting each code to provide clarity and evidence for the analysis, and through constant refinement, the study periodically revisits and refines the coding scheme based on emerging patterns and insights from the data.

6. Coding Manual (Appendix F)

The research developed a coding manual based on the coding schemes, code and subcode definitions, guidelines for applying codes and general guidelines, which provides a quick reference for each stage of the content analysis, from research question formulation to reporting findings.

7. Pilot Testing:

Before the complete analysis, the researcher conducted a pilot test with a small portion of the data. This assisted in refining the coding scheme, ensuring consistency among coders, and making any necessary adjustments.

APPENDIX F:

CODING MANUAL FOR CONTENT ANALYSIS

1. Research Question

Objective: Investigate if corporations use athletic, public figures to mislead consumers into thinking their products are healthy, potentially leading to greenwashing.

2. Online Data Collection

Data Types: Documents, interviews, articles, social media posts, videos, textual or visual data.

3. Preparing the Data

Tasks: Organize data, transcribe interviews, select relevant sections, and convert data into a suitable format for analysis.

4. Coding Scheme Development

Themes:

- Use of Athlete
    - Endorsement Tactics
    - Social Influence Theory Aspects

Codes:

- Use of Athlete:
    - Athlete's Image
    - Product Context

Endorsement Tactics:

-Social Proof

- Expertise

Social Influence Theory Aspects:

- Reference Groups

- Group Influence

5. Pilot Testing

Purpose: Refine coding categories, ensure inter-coder reliability (if applicable), and make necessary adjustments.

6. Coding Process

Tools: Utilize software tools (NVivo, Dedoose, ATLAS.ti) or code manually using highlighting, annotating, and creating a coding matrix.

7. Maintain Consistency

Key Focus: Ensure consistent application of codes throughout the analysis.

8. Analyse Coded Data

Tasks: Look for patterns, trends, or themes. Quantify data if necessary to identify code frequencies.

9. Interpretation

Objective: Make sense of patterns and identified themes. Relate findings to the research question and draw insights or conclusions.

10. Report Findings

Approach: Present findings comprehensively, possibly through research chapters, visual representations, or structured formats.

11. Validation

Strategy: Use triangulation by assessing different web of science sources to enhance validity and reliability.

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