

Greenwashing in the Era of Sustainability and Its Implications for Food Security

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Abstract

Introduction: Greenwashing is the practice of companies that are practising the promotion of false or exaggerated images of environmental responsibility, thus affecting consumer trust and purchasing decisions. The food industry is a sector particularly susceptible to this phenomenon, due to the emphasis on “eco” products and aggressive green marketing.

Aim: The study aims to analyze the concept of greenwashing, identify its types and strategies, and highlight its impact in the food industry.

Method: The research included a literature review, a classification of greenwashing types, and an assessment of its role in the company-consumer relationship.

Findings: The study reveals the main forms of greenwashing, such as exaggerating environmental benefits, misleading packaging, and omitting relevant information. The food industry is notable for an increased incidence of these practices, which can lead to consumer confusion and damage brand credibility.

Conclusion: The results highlight the importance of strict regulations, consumer education and transparency in promoting sustainable products, contributing to reducing the phenomenon and supporting a more responsible economy.

Originality and value: This study is original in linking greenwashing with food security, an underexplored dimension in the literature, and by applying legitimacy, stakeholder, and signaling theories to the agri-food sector. It contributes value by highlighting how misleading sustainability claims undermine consumer trust and eco-label credibility, while offering policy-relevant insights for aligning Moldova’s regulatory framework with European Union standards.

Key words: greenwashing, sustainability, food security, consumer trust, green marketing, circular economy, economy in transition.

Jel Codes: Q56, Q18

1.Introduction

Greenwashing represents a deceptive marketing practice that involves presenting companies or products as more environmentally responsible than they actually are. This term involves exaggerating or misrepresenting sustainability efforts to mislead consumers into believing that they are supporting significant environmental progress. In particular, greenwashing can create a false impression on consumers, leading them to choose food products that are not actually environmentally friendly. The lack of transparency promoted by greenwashing reduces the chances of the end consumer perceiving harmless and safe products. Greenwashing is not only a marketing problem, but also a food and environmental security problem, as greenwashing practices can undermine efforts to achieve food safety, especially in the Republic of Moldova. Greenwashing allows companies to present a deceptively positive product image, masking their real impacts that may be negative. Currently, consumers, including those in the Republic of Moldova, are increasingly becoming more aware of the impact that environmental issues, including food products, have on their health, and are becoming more willing to pay more for products they consider ecological. Thus, there is a growing demand for “green”, “eco” and “bio” products, and greenwashing exploits this availability, offering products that only superficially appear ecological. Greenwashing acts as a significant impediment to achieving food security in the world, including the Republic of Moldova, creating a false sense of ecological progress and undermining the effectiveness of genuine sustainability efforts.

The official website of the European Parliament states the following statement: “Natural, eco, environmentally friendly... Many products carry these labels, but very often these claims are not proven”. (EU Parliament, 2024). Thus, 86% of European consumers want to be better informed about the sustainability of products (European Commission, 2022).

In January 2024, the European Parliament approved a new directive on greenwashing, which requires member states to introduce stricter rules regarding the use of environmental claims by companies. Even though in 2023 Moldova transposed EU Regulation No. 66/2010 on eco-labeling, establishing a unified eco-labeling system, including the European Ecolabel, it does not include the new European rules that focus on the phenomenon of greenwashing. Thus, the Republic of Moldova must update its existing regulatory framework, in such a way as to correspond to European initiatives and to specifically address greenwashing and hold companies accountable for false environmental claims.

In this context, there is a need for a detailed conceptual analysis and understanding of this phenomenon of greenwashing, especially for agri-food products, as the agri-food sector represents a significant share in the specialization of the Republic of Moldova's economy.

The main purpose of the research was to analyze the concept of greenwashing, identify its types and strategies and highlight its impact in the food industry.

This research was carried out within the framework of the project 25.80012.5107.10SE The phenomenon of greenwashing in the context of food security in the Republic of Moldova: best practices and alignment with the European Union, funded by the National Agency for Research and Development.

2. Literature review

Greenwashing is one of the most complex and problematic phenomena in contemporary marketing, manifesting itself as “a pervasive phenomenon whereby companies promote themselves with misleading claims about their environmental practices, intending to appear more eco-friendly than they actually are” (Netto et al., 2020). Although the term was introduced in 1986 by the environmentalist Jay Westervelt, who criticized hotels for promoting seemingly sustainable programs while hiding less sustainable practices (Netto et al., 2020), the phenomenon has evolved dramatically over the past four decades, becoming a systemic challenge to the credibility of corporate sustainability initiatives, with particularly serious implications for the food sector and global food security.

The food industry is at the heart of this issue, as claims about the sustainability of food production directly influence consumers’ perceptions of the safety, quality and environmental impact of food. In the current context, manifestations of greenwashing range from “exaggerating the environmental benefits of specific products to more systematic selective disclosures about their general practices” (Xia et al., 2023; Marquis et al., 2016), creating a complex landscape in which consumers, investors and civil society face increasing difficulties in identifying genuine sustainability initiatives. This reality is amplified by the pressures that companies feel from “external regulators, market forces and societal expectations regarding sustainability” (Rejikumar, 2016), pressures that are particularly intense in the food sector, where consumers associate sustainability with product safety and quality.

The need for an in-depth analysis of greenwashing is justified by several critical dimensions that affect the entire economic and social ecosystem, with particular importance for the food sector where consumer trust in product sustainability is closely linked to perceptions of food safety. The psychological dimension of consumers reveals fundamental contradictions in the perception of sustainability, with research highlighting that “individual consumers may experience a ‘greenwashing effect’, whereby they may have contradictory beliefs about sustainability that facilitate the acceptance of weak green claims” (Jansen et al., 2021). This psychological dynamic creates a vicious cycle in which deceptive practices are not only tolerated but even facilitated by consumers’ cognitive mechanisms, a phenomenon with particularly serious implications in the

food industry where consumption decisions are influenced by both sustainability considerations and concerns about food safety and quality.

The impact on trust and purchasing behavior is documented by studies that demonstrate that “consumers’ awareness and scrutiny of green marketing claims have increased, with many expressing skepticism about sustainability narratives presented by companies” (Kim & Lyon, 2015). More critically for the food sector, “a substantial number of green claims are misleading, leading to diminished consumer trust and purchase intentions when greenwashing is suspected” (Valendia & Purwanegara, 2022), with this decline in trust affecting not only the purchase of green products but also overall perceptions of the safety of sustainable food systems.

Critical analysis of the literature reveals that greenwashing cannot be treated as a unidimensional phenomenon, its manifestations including environmental misrepresentation which “generally refers to any form of distortion related to a company's actual environmental impact and practices” (Majeed & Kim, 2022), creating “confusion or disinformation to improve its public image while maintaining unsustainable operations” (Lopes et al., 2023). In the food industry, this misrepresentation can have serious consequences on consumers' perceptions of the safety and sustainability of food systems. Systemic eco-deception manifests itself through “superficial environmentalism and symbolic environmentalism, where the emphasis is more on public relations efforts than on implementing genuine environmental practices” (Ko & Jeon, 2024; Kommuri & Arumugam, 2024), and eco-labeling fraud allows “eco-labels to be misused by companies that engage in greenwashing - labeling their products as sustainable without substantial evidence of eco-friendliness” (Speckemeier & Tsivrikos, 2022; Li & Sun, 2022), with direct implications for consumer confidence in the safety of food products labeled as sustainable.

This research proposes a critical perspective that treats greenwashing as a manifestation of tensions between economic imperatives and sustainability commitments, exploring how these pressures could compromise real food security objectives by promoting seemingly sustainable practices with potentially limited impact. The analysis aims to identify the main typologies of the phenomenon and assess its impact on consumer trust in sustainable food security initiatives, contextualizing the findings for the Moldovan economy in the process of European integration.

3. Materials and Method

The study adopts a mixed methodological approach, combining such methods as critical analysis, synthesis, deduction, induction, content analysis, comparative analysis, graphics. The study database consists of a diverse corpus of scientific articles and specialized studies. Emphasis was placed on articles published in reputable academic journals, indexed in databases such as Scopus, Web of Science and Google Scholar. These provided us with a clearer understanding of the term greenwashing and the existing theories that explain the phenomenon of greenwashing and its manifestation, identifying the typologies of greenwashing. In the research, we also used data from specialized studies and analysis reports from international organizations (European Commission, European Parliament).

4. Results and discussions

4.1. Theories of greenwashing concept and its evolution

The concept of greenwashing has undergone a fascinating evolution from the initial critical observations of an environmentalist to the complex and pervasive phenomenon in contemporary marketing (Figure 1). The term was first introduced in 1986 by environmentalist Jay Westerveld in an essay criticizing the hotel industry’s marketing strategy that promoted towel reuse as an eco-friendly initiative (Løhre et al., 2024; Pizzetti et al., 2019). Westerveld argued that this marketing tactic was primarily aimed at reducing laundry costs, rather than making a real contribution to environmental sustainability, thus establishing the conceptual foundation for understanding the discrepancy between corporate claims and actual environmental performance.

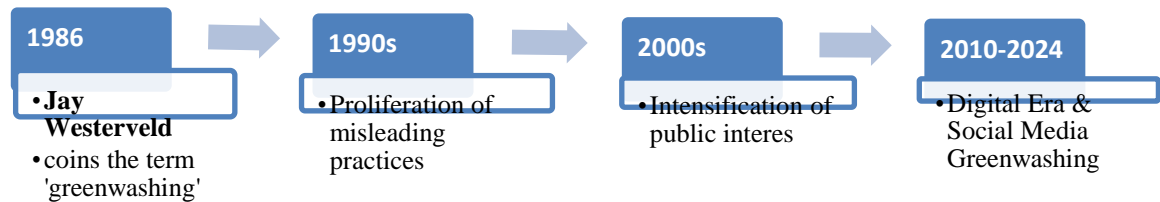


Figure 1. Timeline of the conceptual development of greenwashing (1986-2024)
Source: Elaborated by authors

In the 1980s, greenwashing began to take shape as corporations recognized the potential for marketing products in an apparently eco-friendly manner, often without substantial support (Wang et al., 2022). This period was characterized by a lack of regulation in the field, allowing businesses considerable freedom to market their products as 'green' without substantial responsibility. Companies began to adopt eco-friendly messages, but very often without the necessary sustainable policies or practices to support their claims, creating a fragile foundation for what would become a widespread phenomenon.

Westerveld's observations captured a fundamental contradiction that would define the next four decades: the tendency of organizations to prioritize short-term economic benefits under the guise of environmental responsibility. This dynamic reflects a mismatch between an organization's actual commitments and its marketing narrative, ultimately leading to cynicism and distrust on the part of consumers (Pizzetti et al., 2019; Qayyum et al., 2022).

The following decade marked a significant intensification of the phenomenon as environmental awareness began to grow among consumers. Companies continued to use vague language, use sustainability symbols and nature imagery or green colors in their branding, despite the fact that the actual environmental impact of their products was negligible or harmful (Okbagaber, 2022). This period was marked by the emergence of the first monitoring organizations such as TerraChoice and Greenpeace, which began to publicly address and document misleading environmental claims (Jones, 2019).

A critical aspect of this period was the finding that many green advertisements included at least one misleading claim, highlighting a disconnect between marketing promises and actual eco-friendly practices (Sio et al., 2022). The Federal Trade Commission (FTC) also became involved, emphasizing the need for more transparent advertising standards around green claims, which laid the groundwork for future regulations (Wang et al., 2022).

The 2000s witnessed an intensification of the greenwashing phenomenon, correlated with a significant increase in consumer interest in sustainability and environmental responsibility. As public environmental awareness broadened, business responses included an increase in green marketing claims, leading to growing consumer skepticism (Szabo & Webster, 2020). Researchers have begun to highlight greenwashing as a significant problem, documenting its prevalence and potentially damaging effects on consumer trust and corporate reputation (Yang et al., 2020).

This period also witnessed the emergence of social media, providing a platform for activists and consumers to challenge and expose greenwashing practices more effectively, contributing to a culture of accountability and a deeper scrutiny of corporate claims (Andreoli & Minciotti, 2023). Definitions of greenwashing have begun to capture its insidious nature, emphasizing that it often involves not only the misrepresentation of environmental actions, but also the installation of

misleading narratives that distract from more significant environmental malpractices (Zych et al., 2021).

The transition to the digital age has brought with it the phenomenon of digital greenwashing, using online platforms for marketing that can lack authenticity. Companies have begun to leverage social media and digital marketing strategies to promote their sustainability narratives, but often without concrete engagement with sustainable practices (Lyon & Montgomery, 2015). This included using Instagram, Twitter, and other platforms to convey eco-friendly messages that were superficial at best.

The modern definition of greenwashing has evolved to encompass a broader spectrum of misleading claims that prioritize marketing gimmicks over real environmental benefits (Yang et al., 2020). Researchers highlight the increasingly sophisticated nature of greenwashing, which now includes tactics such as misleading labels, vague language, and the presentation of weak environmental initiatives as substantial commitments (Lyon & Montgomery, 2015).

As environmental issues have become more prominent in public discourse, the strategies used by companies have evolved, leading to more nuanced forms of greenwashing that are harder for consumers to detect (Wang et al., 2023). The interaction between green marketing, misleading environmental practices, and greenwashing reflects an ongoing evolutionary process through which companies' messages and public perceptions influence each other.

The historical evolution reveals not only the evolution of greenwashing tactics, but also the maturation of the societal response to them. From Westerveld's pioneering observations in the 1980s to contemporary digital monitoring, the trajectory of greenwashing illustrates the ongoing tension between commercial imperatives and genuine environmental responsibility. Westerveld's lessons from 1986 remain relevant today, serving as a wake-up call for companies trying to appear green without being, but also as a compass for those who want to practice sustainability in the true sense (Løhre et al., 2024; Pizzetti et al., 2019; Qayyum et al., 2022).

The increasing complexity of the greenwashing phenomenon, highlighted by its historical evolution, however, requires a solid theoretical foundation for a systematic understanding of the organizational motivations, stakeholder dynamics, and communication strategies that facilitate contemporary greenwashing.

Among the multitude of organizational and economic theories available, three theoretical frameworks prove particularly relevant for explaining greenwashing: organizational legitimacy theory addresses the motivations of corporate behavior in relation to social expectations, stakeholder theory explains the dynamics of multiple external pressures, and signaling theory clarifies communication processes under conditions of information asymmetry. These theories complementarily cover the essential dimensions of the phenomenon - from internal motivation to external implementation.

Greenwashing can best be understood through an integrated theoretical framework that combines organizational legitimacy theory, stakeholder theory, and signaling theory. **Legitimacy theory** explains the underlying motivation—organizations seek to align their operations with societal values to gain acceptance and avoid sanctions (Deephouse & Zhang, 2018; Mousa, 2015), but greenwashing occurs when they exaggerate environmental efforts to appear more legitimate than they actually are.

Stakeholder theory clarifies the context of pressures—companies face conflicting expectations from consumers, investors, and regulators, leading them to resort to greenwashing to please all parties without substantial investment in genuine sustainability (Zahid et al., 2023; Mu & Lee, 2023).

Signaling theory reveals the mechanisms of implementation - firms transmit signals about sustainability to reduce information asymmetry, but when these signals are misleading, they risk damaging trust and brand image (Ha et al., 2022; Speckemeier & Tsivrikos, 2022).

The interplay of these theories reveals that greenwashing is not an isolated tactic, but the result of a complex dynamic between the need for legitimacy (motivation), stakeholder pressures (context), and the limitations of authentic communication (implementation). Organizations that understand this theoretical integration can develop real sustainability strategies through transparent engagement with stakeholders (Manetti & Bellucci, 2016), quality disclosure that serves as a credible signal (Ching & Gerab, 2017; Bae et al., 2018), and authentic alignment between practices and communication to maintain long-term legitimacy (Zahller et al., 2015). This integrated framework provides the conceptual tools for understanding and combating greenwashing by promoting transparency, accountability, and authenticity in environmental communication.

4.2. Typology and manifestations of greenwashing

The theoretical understanding of the motivations and mechanisms underlying greenwashing constitutes the necessary foundation for identifying and classifying the concrete manifestations of this phenomenon. Moving from the conceptual framework to typological analysis allows not only to recognize the forms that greenwashing takes in practice, but also to develop tools for critically evaluating corporate sustainability claims.

Table 1. General typology of Greenwashing

Greenwashing type	Main characteristics	Techniques used	Impact on consumers
Misrepresentation	<i>Strategic distortions and omissions</i>	<i>Selective disclosure, exaggeration of benefits</i>	<i>Confusion, inaccurate assessment</i>
Symbolic environmentalism	<i>Appearance without substance</i>	<i>Cosmetic initiatives, vague language</i>	<i>Increased skepticism, loss of trust</i>
Eco-labeling fraud	<i>Handling certifications</i>	<i>Fake labels, unregulated certifications</i>	<i>Frustration, difficulty in choosing</i>

Source: Elaborated by authors based on the analyzed literature

The first major category, **environmental misrepresentation**, is the most widespread form of greenwashing, manifesting itself in “false environmental claims” and “environmental misrepresentations” that allow companies to create a favorable image without substantial changes in operations (Marquis et al., 2016). A prevalent manifestation is selective disclosure, whereby firms highlight positive environmental actions while minimizing or completely omitting adverse impacts, thereby creating a deceptively favorable image of their overall environmental performance, thus differing from product-level greenwashing, which involves exaggerating the environmental benefits of specific products to attract buyers (Marquis et al., 2016; Kim & Lyon, 2015).

The executive aspect of this form involves the use of nature-based imagery and vague claims in advertising that can mislead consumers about a brand's environmental impact, tactics that often exploit consumer biases, especially among those with limited environmental awareness, leading to an inaccurate assessment of a brand's sustainability efforts (Parguel et al., 2015; Schmuck et al., 2018). Research indicates that a significant percentage of corporate environmental claims are misleading, identifying greenwashing as not only widespread but also escalating, with some sources indicating that it has reached "epidemic proportions" in the corporate environment, with considerable financial implications for the firms involved (Kim & Lyon, 2015).

The second major dimension, **symbolic environmentalism**, is critically manifested through initiatives that resemble sincere environmental practices but lack substantial action towards sustainability, reflecting the tendency of companies to adopt practices that serve to support

reputational legitimacy rather than effect real environmental change (Haque & Ntim, 2017). Compliance with regulatory frameworks often manifests itself in activities “oriented towards good environmental performance processes”, such as carbon reduction planning, but may not lead to real emission reductions, highlighting a disconnect between symbolic commitments and real environmental outcomes.

The concept of "shallow environmentalism" and "cosmetic environmentalism" prioritizes appearance over effectiveness, manifesting itself in green initiatives that are performative rather than substantive, such as adopting vague sustainability claims or making minor cosmetic changes to products. Using environmental-themed marketing without genuine product innovation can mislead consumers into believing that a company is making significant contributions to sustainability when it is not, and research indicates that consumers can discern between substantial and symbolic environmental actions, with firms that operate primarily at a symbolic level often facing negative consumer perceptions once the facade of environmentalism is revealed (Zhang & Sun, 2021; Lyon & Montgomery, 2015).

The third fundamental category, **eco-label fraud**, is a particularly problematic manifestation involving the use of misleading labels that either exaggerate the environmental benefits of a product or inaccurately represent it as sustainable, undermining the trust of consumers who rely on eco-labels to differentiate between truly sustainable products and those merely dressed up in “green” marketing (Simion, 2024). Deceptive strategies are characterized by hidden trade-offs and a lack of verifiable evidence, complicating the landscape for consumers seeking truly environmentally responsible choices.

This fraud occurs when companies use fake eco-labels or manipulate environmental standards to appear more sustainable than they actually are, taking advantage of the increased demand for eco-friendly products. For example, a clothing company may create a “100% Eco-Friendly” label without clear criteria or independent verification, applying it to products made from conventional materials with a high environmental impact. Although the clothes are produced under standard conditions, the green label leads consumers to believe that they are purchasing sustainable products, even paying a higher price for this false environmental promise. The misuse of “eco-labeling” extends beyond fraudulent eco-labels to include vague claims and exaggerated benefits that misrepresent the actual environmental impact of the products (Saroja, 2025).

Developing a comprehensive classification requires recognizing the complex nature of this phenomenon and the multitude of deceptive practices that can occur. Seele and Gatti proposed four categories of intensity of greenwashing, which include "greenwashing", "false greenwashing", "potential greenwashing" and cases where there is no greenwashing, reflecting the varying degrees of deceptive practices that can occur depending on the nature of the claims made by companies (Seele & Gatti, 2015). This classification highlights that the assessment of greenwashing depends on the perception of stakeholders on the sincerity of the company, not only on the actual facts (Bernini & Rosa, 2023). For example, if an oil company invests 1% of its budget in renewable energy, but focuses its entire advertising campaign on this minor initiative, it is in the area of "potential greenwashing" - it is not lying outright, but significantly exaggerating its environmental commitment.

This integrated classification highlights that greenwashing **cannot be reduced to just** "true" or "false", but is a **spectrum of practices** with varying intensities - from minor exaggerations to blatant lies. Understanding these nuances is crucial to effectively combatting the phenomenon and promoting authentic sustainability (Figure 2).

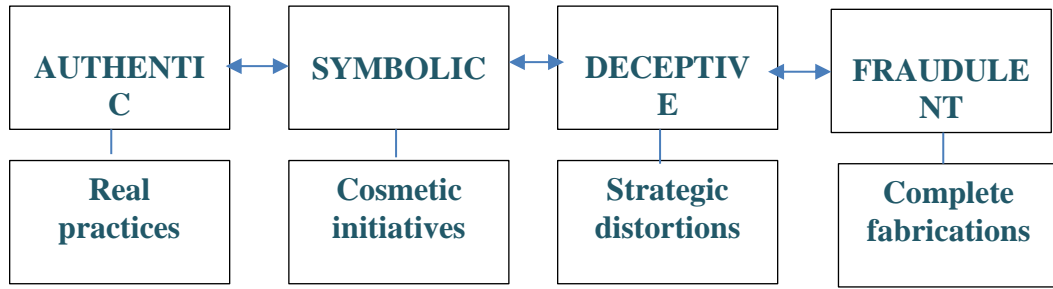


Figure 2. Greenwashing intensity spectrum
 Source: Adapted according to Seele & Gatti (2015) and Bernini & Rosa (2023)

At the same time, greenwashing generates complex psychological processes among consumers, mechanisms that fundamentally influence how they perceive, process, and respond to corporate sustainability claims. These psychological dimensions are crucial for fully understanding the impact of greenwashing on consumer behavior and trust in genuine sustainability initiatives (Table 2).

Table 2. The psychological mechanisms of greenwashing

Psychological mechanism	Manifestation	Results	Countermeasures
Cognitive dissonance	Conflict between values and buying actions	Frustration, paradoxical behavior	Education, transparency
Increased skepticism	Skepticism toward green claims	Avoiding sustainable products	Concrete evidence, certifications
Erosion of trust	Generalization of distrust	Abandoning green marketing	Authentic communication

Source: Elaborated by authors based on Wu (2025), Sun & Shi (2022), Wang & Walker (2023)

Greenwashing is a critical sustainability challenge with significant psychological impacts on consumers, manifesting when companies mislead consumers about their environmental practices, leading to erosion of trust and skepticism about corporate claims (Sun & Shi, 2022; Lehr et al., 2021). The psychological effects of greenwashing on consumers are multifaceted, involving perceptions, emotional responses, and behavioral intentions that extend beyond the immediate impact on purchasing decisions.

Research shows that consumer perceptions of greenwashing lead to substantial distrust of corporate sustainability claims, and when consumers become aware of greenwashing practices, their skepticism increases, creating a ripple effect in which they question the validity of environmental claims across the industry. This phenomenon not only affects the company involved in greenwashing, but also tarnishes the reputation of truly sustainable businesses, promoting a general cynicism towards green marketing (Wu, 2025, Janz et al., 2024), given that the psychological contract between consumers and companies significantly influences how greenwashing is perceived.

The phenomenon of greenwashing, whereby companies misrepresent their environmental practices, creates psychological tensions among consumers, leading to cognitive dissonance and discomfort when their beliefs and actions are misaligned, leading them to engage in various strategies to alleviate this unease (Wu, 2025). Thus, as consumers strive to uphold their environmental values but are increasingly confronted with misleading claims made by corporations through greenwashing, consumer trust is undermined and creates skepticism towards all marketing claims related to environmental sustainability.

This skepticism can lead to a paradox in which consumers who hold strong environmental beliefs may

still purchase from companies they suspect of greenwashing, thus struggling with their principles versus their purchasing choices (Wu, 2025). This phenomenon illustrates the consumer environmental paradox (Figure 3), in which favorable attitudes toward sustainable products do not necessarily translate into congruent behaviors, leading to what is commonly called the attitude–behavior gap, while the cognitive dissonance induced by greenwashing can foster a cycle of negative consumer behavior, as consumers become aware of greenwashing, their trust in not only the brand involved but also in the broader green product market diminishes (Wang & Walker, 2023).

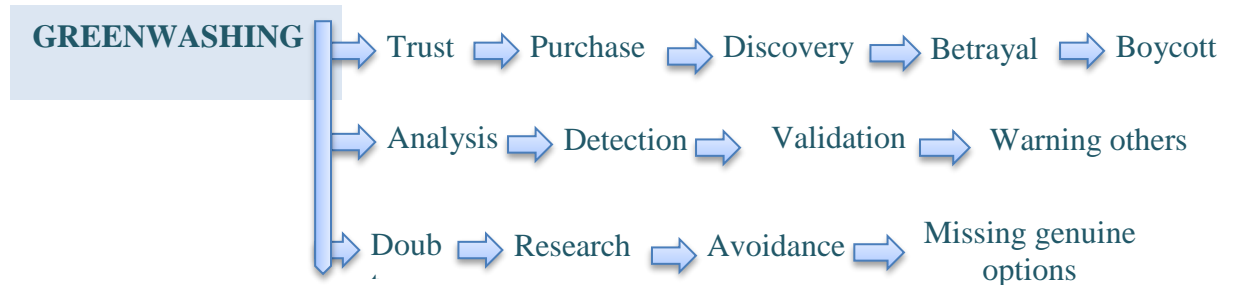


Figure 3. The psychological cycle of greenwashing impact
Source: Adapted from Wu (2025) and Wang & Walker (2023)

In this way, it is observed that consumers process information about green products in a complex way, influenced by their knowledge about the environment and their level of skepticism. The most informed analyze green claims more carefully, asking for concrete evidence and specific details about sustainability. Consumers want to know exactly what companies are doing for the environment. When they encounter vague or exaggerated claims, they become skeptical and stop buying. The prevalence of greenwashing has created a general climate of distrust, making consumers more critical of any green promise.

Trust is built only when consumers see consistency between promises and actual actions. Companies that communicate transparently and demonstrate a genuine commitment to the environment manage to gain credibility, while those that practice greenwashing destroy trust in the long term.

Thus, greenwashing can be defined as the strategy by which organizations exaggerate or falsify their environmental commitment to appear more sustainable than they actually are. This practice creates an information asymmetry that prevents consumers from correctly assessing the real environmental impact, thus compromising the market for truly sustainable products.

5. Why is the agri-food sector a fertile ground for greenwashing?

The agri-food sector possesses specific characteristics that make it particularly vulnerable to greenwashing practices. In contrast to industrial pollution, which is often concentrated and easy to monitor, surface agricultural pollution, such as that caused by pesticide use and animal waste, is “dispersed, random and very difficult to monitor” (Taidi, 2024). This diffuse nature allows companies to more easily engage in greenwashing through “selective disclosure” of information, for example reporting on water-saving technologies but hiding the misuse of pesticides. (Kim and Lyon, 2015). Another mechanism specific to this industry is the “legitimacy arbitrage trap”. This concept describes the situation where there is a systemic gap between the intensity of environmental regulations and market pressure for environmental protection. Companies take advantage of this gap to gain short-term legitimacy through greenwashing, but this practice ultimately leads to reputational capital depletion and systemic financial risks (Zhao and Lee, 2024; Das et al., 2023).

Moreover, greenwashing in the agri-food sector can be a system-wide effort, not just a simple corporate practice. The analysis reveals a common form of greenwashing, carried out through government-subsidized advertising, targeting both consumers and public policies. An experimental study examined such a campaign in Switzerland, aimed at promoting Swiss meat,

which featured an environmentally friendly but highly atypical animal feeding system. The results showed that the ads misled consumers, who significantly overestimated the percentage of farms using the system. This example illustrates that misleading messages can be designed to influence not only purchasing decisions, but also public opinions and policies. (Schläpfer et al., 2025; Markoni et al., 2023). In the context of the climate emergency, a specific and particularly widespread tactic in the agri-food sector is the use of climate-related claims, such as “carbon neutral”, “climate positive” and “net zero”. (Mirzabaev et al., 2022). Corporations are intensifying their greenwashing efforts to counter any attempt to reduce their greenhouse gas emissions. Food and agri-food corporations are the main actors in this deception. (GRAIN, 2021).

A detailed analysis showed that over 80% of the environmental claims assessed in the food and beverage sector referred to climate impact, and more than half of these were explicitly based on offsetting (Clim-Eat, 2022; Kaupa, 2022).

A central problem is the proliferation of private and “self-referential” certifications. Companies can obtain certifications by meeting minimum requirements without guaranteeing a reduced environmental impact. This situation creates confusion for consumers, giving the illusion of higher sustainability without providing real control over the entire production chain. In many cases, certifications become a mere marketing tool, losing their value as a guarantee of transparency and quality. A recent study found that half of the “green labels” offer poor or no verification. There are 230 sustainability labels and 100 green energy labels in the EU, with very different levels of transparency. (European Commission, 2023; Dreist et al., 2024). Although the national legislation of the Republic of Moldova has already transposed some of the European regulations, such as Regulation (EU) 2018/848 on organic production and labelling of organic products, there are still gaps in effectively combating greenwashing. The legislation of the Republic of Moldova establishes the principles of organic production and establishes the rules on organic production, related certification and the use of indications referring to organic production in labelling and advertising, as well as the rules on additional controls related to the production and labelling of organic products. (Parliament of the Republic of Moldova, 2023). There is also a Regulation on the import and export of organic products, which regulates the rules for the verification of transport, the issuance of inspection certificates, and official controls for organic products and those in conversion, both upon import and export. It is intended to harmonize national legislation with that of the European Union, facilitating trade in organic products and diversifying sales markets. (Government of the Republic of Moldova, 2024). According to the aforementioned legislation, we conclude that in fact the certification system, although designed to guarantee quality and sustainability, has become another vulnerability exploited by greenwashing. Thus, in the Republic of Moldova, as in other countries, the phenomenon of greenwashing has become increasingly visible, especially in the context of increasing consumer demand for “green” and “ecological” products. In the agri-food sector, this practice manifests itself through various marketing strategies aimed at creating an image of sustainability, without a solid factual basis.

6. Limitations and future research directions

The present analysis focused on the substantiation of the concept of greenwashing, on the classification of the main types identified in the specialized literature and on highlighting the particularities of this phenomenon in the agri-food sector.

However, the study has certain limitations, as it did not include an empirical investigation of consumer perceptions or concrete communication strategies used by companies from the Republic of Moldova and other countries in the region. Also, the economic dimension of greenwashing practices and their impact on market competitiveness were not explored in detail. Future research could focus on:

- analysis of real consumer behavior and their level of resilience to misleading environmental messages;
- comparative studies between economic sectors (agri-food, textiles, energy), to identify

differences in the manifestation of greenwashing;

- evaluation of the costs and benefits for companies that adopt authentic sustainable practices in relation to those that resort to greenwashing;
- analysis of the role of public policies and sanctioning mechanisms in reducing the phenomenon;
- integrating quantitative (surveys, experiments, econometric models) and qualitative (interviews, case studies) methods for a more complete understanding of social and economic implications.

Thus, future research directions can contribute to a better understanding of the dynamics of greenwashing and to the formulation of more effective consumer regulation and education policies.

7. Conclusions

The article explores the concept of greenwashing, highlighting how companies create the impression of environmental responsibility without implementing genuine sustainable practices. Based on the analysis of the specialized literature, the main types and strategies of this phenomenon were identified, as well as its impact on consumer perception and trust in the organic market. The study pays special attention to the agri-food industry, a sector characterized by a high vulnerability to greenwashing due to the emphasis on “eco” products and aggressive green marketing. The results emphasize the need for strict regulations, consumer education and transparency in the promotion of sustainable products to prevent the phenomenon.

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