



A Review of the Factors Influencing the Relationship Between Greenwashing and Green Brand Equity: A Research Agenda*

Revisión de los factores que inciden entre el greenwashing y el green brand equity: una agenda investigativa

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Abstract

Purpose: To identify the elements or factors that influence the relationship between greenwashing and green brand equity.

Design/methodology: To carry out this study, we adopted an exploratory methodology with a qualitative approach, conducting a concept search that identified key authors and a documentary analysis that established associated factors.

* This article is derived from a research project entitled *La relación del greenwashing y el green brand equity mediado por green perceived risk, green loyalty, green brand image, green satisfaction, green concern, green trust en la compra de champú de marcas verdes en Bogotá* (The Relationship between Greenwashing and Green Brand Equity Mediated by Green Perceived Risk, Green Loyalty, Green Brand Image, Green Satisfaction, Green Concern, and Green Trust in the Purchase of Green Shampoo Brands in Bogotá). The project is undertaken as part of the Management and Marketing Research Group at the Universidad Nacional de Colombia, and the article was self-funded.



Findings: This study revealed that the factors linked to this relationship include *green trust*, *green brand image*, *brand credibility*, *green satisfaction*, *green brand association*, *green concern*, *green confusion*, *green brand attitude*, *word of mouth*, *brand avoidance*, *green perceived risk*, *green brand perceived value*, *green loyalty*, and *green brand legitimacy*. These have been studied in the literature and have different roles in this relationship depending on the context.

Conclusions: It is concluded that this relationship is an underexplored area of research. However, it presents an opportunity to deepen our understanding of the effects of greenwashing on different brands, mediated by the factors mentioned above.

Originality: This study expands the analysis of the impacts of greenwashing on green brand equity by identifying the factors that influence or may mediate this relationship. It also suggests possible future research directions, establishing the factors that can be studied in different contexts.

Keywords: greenwashing, green brand equity, influential factors, brand image, literature review.

JEL classification: M14, M31, M32, Q56

Highlights

- Greenwashing erodes green trust and green brand image.
- Marketing transparency reduces consumer skepticism.
- Authentic green marketing practices build brand loyalty.
- Clear communication regarding environmental commitments has become a key strategy to mitigate the negative effects of greenwashing.

Resumen

Objetivo: identificar los elementos o factores que influyen en la relación entre el *greenwashing* y el *green brand equity*.

Diseño/metodología: para llevar a cabo este estudio se optó por una metodología de tipo exploratorio con un enfoque cualitativo, destacando la búsqueda conceptual que delineó a los autores clave y los factores asociados a través del análisis documental.

Resultados: la indagación reveló que los factores vinculados en esta relación incluyen el *green trust*, *green brand image*, *brand credibility*, *green satisfaction*, *green brand association*, *green concern*, *green confusion*, *green brand attitude*, *word of mouth*, *brand avoidance*, *green perceived risk*, *green brand perceived value*, *green loyalty* y *green brand legitimacy*, los cuales son estudiados en la literatura y, dependiendo del contexto, tienen diferentes roles en esta relación.

Conclusiones: se concluye que esta relación constituye un área de investigación subexplorada; sin embargo, se presenta como una oportunidad para profundizar en la comprensión de los efectos generados por el *greenwashing* en diversas marcas a través de los factores mencionados anteriormente.

Originalidad: este estudio amplía el análisis de los impactos del *greenwashing* en el *green brand equity* al identificar los factores que inciden o pueden mediar en esta relación, señalando también las posibles direcciones futuras de investigación, brindando los factores que se pueden estudiar en diferentes contextos.

Palabras clave: *greenwashing*, *green brand equity*, factores influyentes, imagen de marca, revisión de literatura.

Clasificación JEL: M14, M31, M32, Q56

Highlights

- El *greenwashing* erosiona el *green trust* y el *green brand image*.
- La transparencia en el *marketing* verde reduce el escepticismo del consumidor.
- Prácticas auténticas de *marketing* verde vitalizan la lealtad a la marca.
- La comunicación clara de los compromisos ambientales emerge como estrategias clave para mitigar los efectos negativos del *greenwashing*.

1. INTRODUCTION

Due to global concerns about the effects of global warming and environmental challenges, consumers are increasingly aware of the importance of environmental protection (Chen & Chang, 2012; Cao et al., 2017; Shi et al., 2022). This growing awareness has driven companies to adopt more sustainable and socially responsible practices (Zhu et al., 2021; Sujanska & Nadanyiova, 2023). In response, many have decided to incorporate environmental practices and green marketing strategies into their operations (Berrone et al., 2017). In this search for a more ethical and sustainable business model, there has been a particular interest in integrating practices that not only mitigate negative environmental impacts but also contribute to social welfare. This shift towards corporate responsibility has been supported by recent research highlighting the importance of business strategies that embrace both environmental sustainability and social responsibility (Ha et al., 2022).

As environmental awareness among consumers increases and the demand for eco-friendly products grows, it becomes crucial for organizations to adapt their brand management strategies (Khandelwal et al., 2019). This adaptation not only allows them to meet changing consumer preferences but also offers a strategic opportunity to differentiate themselves and capitalize on the value associated with sustainability and environmental respect. In this context, green marketing has emerged as a strategy aimed at fostering sustainable development (Huang et al., 2024; Deshmukh & Tare, 2023), enabling companies to construct a strong brand image (Jiménez Sánchez et al., 2023). This strategy involves various initiatives that include adjustments and improvements in product design, production, packaging, and promotion (Rahman & Haque, 2011).

Despite the potential advantages of green marketing, some organizations resort to misleading practices known as greenwashing (Henao-Rodríguez et al., 2024). These practices, driven by economic interests, seek to capitalize on emerging consumer concerns. Greenwashing involves misleading stakeholders by presenting positive information about environmental performance or benefits while hiding or minimizing negative aspects (Testa et al., 2018). As noted by Tateishi (2017), this practice entails the selective dissemination of information to create a false impression of an organization's, service's, or product's sustainability. Consequently, greenwashing may yield short-term gains for deceitful companies, but in the long term, it damages the entire green market, harming truly sustainable companies (Polonsky et al., 2010).

In a thorough analysis of over a thousand products claiming to be "green" or eco-friendly, all but one exhibited some degree of greenwashing (Terrachoice, 2010). This raises serious concerns about the

authenticity and environmental responsibility of products labeled as environmentally friendly. Also, the prevalence of greenwashing among most of the examined products underscores the need for increased transparency and a stricter evaluation of environmental claims, as well as more effective measures to counteract these misleading practices.

According to recent studies into the impacts of greenwashing on stakeholders, these tactics have negative consequences for consumers, brands, and organizations (Santos et al., 2023a). The effect of greenwashing on the perception of green brands, however, has not been sufficiently explored (Akturan, 2018). As environmental concerns escalate and consumer awareness continues to grow, there is considerable interest in investigating brands, products, and companies that adopt environmentally responsible practices across nearly all economic sectors (Sdrolia & Zarotiadis, 2019).

Recently, research in the field has markedly shifted towards the ecological domain. A clear example of this shift is the concept of “brand equity.” The term “green brand equity” was first introduced by Chen in 2010, who defined it as “a set of brand assets and liabilities about green commitments and environmental concerns linked to a brand” (Chen, 2010, p. 310). Green brand equity is a recent trend attracting attention from both researchers and practitioners (Qayyum et al., 2022). This concept includes elements such as the brand’s name and symbol, which can either enhance or diminish consumers’ perception of the quality of a product or service depending on its environmental practices and commitments (Chen, 2010). Furthermore, in their systematic literature review on green brand equity, Górska-Warsewicz et al. (2021) asserted that there has been an increased emphasis on factors such as corporate and social responsibility, green social value, pro-environmental attitude, green perceived risk, green brand perceived value, and green brand credibility.

Studies into greenwashing and green brand equity have been limited (Ha et al., 2022; Ha, 2022). In particular, as Akturan (2018) points out, the impact of greenwashing on green brand equity has mostly gone unnoticed in the literature. Hence, there is a clear need to broaden research endeavors in this area to gain a deeper comprehension of the relationship between greenwashing and green brand equity, as suggested by Pimonenko et al. (2020). Although the terminology associated with these concepts is relatively recent, the relationship between the two has theoretical and practical implications that have not been thoroughly investigated. Despite this, a more recent systematic review of the literature on greenwashing conducted by Santos et al. (2023a) highlighted a promising avenue for research. This avenue is centered on understanding the impacts of greenwashing on brands (green brand equity) and how these impacts are perceived. Such an approach can shed light on important points and contribute to the development of a more thorough knowledge of this emerging topic.

It is important to note that, up until now, research has concentrated on green practices that strengthen green brand equity rather than thoroughly exploring the types of practices—like greenwashing—that undermine green brand equity (Qayyum et al., 2022). According to the studies by Ha et al. (2022) and Ha (2022), although a direct correlation between greenwashing and green brand equity remains unproven, certain mediating factors have been identified in this relationship. This may not only elucidate critical issues but also foster the development of more robust knowledge in this dynamically changing field.

In light of the above and given the notable dearth of research on the relationship between greenwashing and green brand equity, this study aims to identify the factors influencing it. For a comprehensive analysis of this relationship, it is crucial to fully understand the factors that could influence or modify it, both positively and negatively. Consequently, this study will provide valuable insights into the dynamics between greenwashing and green brand equity. To that end, employing an exploratory methodology with a qualitative approach and emphasis on a conceptual search, the primary authors and associated factors contributing to the context under study will be identified and examined. This method facilitates a profound and detailed comprehension of the subject matter, emphasizing the relevance of key authors and the precise identification of influential factors in this research area.

The rest of this paper is divided into six sections. Section 2 extensively discusses the employed methodology, highlighting the four phases implemented in the process. Section 3 meticulously analyzes the obtained results after reviewing relevant documents. Section 4 reviews the most significant research conducted to date in this field. Section 5 outlines the main conclusions drawn from the study. Finally, Section 6 delineates future research avenues proposed by the authors.

2. METHODOLOGY

The analysis followed the methodology proposed by Castellanos Domínguez et al. (2011), which was chosen for its systematic approach to examining trends by gathering data from multiple scholarly sources. This methodology stands out for its flexibility and adaptability, enabling a comprehensive examination of the current knowledge landscape through four essential phases. In the first phase, research needs are identified, and key search objectives are defined. The second phase involves searching for and downloading information, followed by thorough data cleaning. During this stage, the most relevant documents are carefully evaluated. In the third phase, themes and analytical concepts are reviewed in detail to consolidate the conceptual framework. Finally, in the fourth phase, the most significant findings obtained throughout the research are presented.

The selection of papers for this research required careful consideration of specific inclusion and exclusion criteria. Specifically, scholarly materials were identified employing relevant keywords and titles. In examining the impact of greenwashing on brand perceptions, studies that used terms like *brand** (applying the Boolean operator to encompass various term variations) and *greenwashing* were included in the analysis. Special consideration was given to articles that explicitly studied greenwashing, green brand equity, or the relationship between these two concepts. Additionally, papers written in English or Spanish were included to ensure significant representativeness and depth of coverage of the topic.

To guarantee accuracy and comprehensiveness in the literature review, a three-phase exclusion protocol was implemented. Records with inappropriate or incorrect indexing were removed, which contributed to database consistency and precision. Also, based on their titles and abstracts, studies that did not align with the specific research questions were excluded from the analysis. This included studies that only mentioned greenwashing superficially without thoroughly examining its impact or relationship with brands.

Following this process, the appropriate databases for data collection were selected. The chosen platforms were Web of Science and Scopus, known for their ability to perform highly detailed and specific search queries (Pranckutė, 2021). The selected keywords were (i) *greenwashing* and (ii) *branding (brand*)*. The search equation for Scopus was (TITLE-ABS-KEY (brand*) AND TITLE-ABS-KEY (greenwashing)), and for Web of Science, it was greenwashing (All Fields) AND brand* (All Fields). A crucial aspect was the year of publication of the papers to review, especially since the concept of green brand equity was first introduced in 2010. Therefore, this study focused exclusively on literature published from that year onward.

The initial search yielded 130 documents in Scopus and 102 in Web of Science. To optimize the analysis, documents were selected using the AI web platform Rayyan.ai, which simplifies the review by identifying duplicates and facilitating efficient data cleaning. As a result, 78 duplicates were identified, leaving 153 documents for analysis. During the initial screening, documents meeting the criteria were preliminarily selected by reviewing titles and abstracts, resulting in 51 documents for further analysis. In the second screening phase, a complete analysis of the selected papers revealed that five explicitly addressed the dynamics between greenwashing and green brand equity. These studies focused on understanding how various factors, whether mediating or moderating, directly or indirectly influence this relationship. For their part, 35 papers investigated this relationship indirectly, exploring how greenwashing impacts brands from multiple perspectives and through different factors, potentially leading to negative consequences for their reputation or image. This could ultimately translate into detrimental effects on green brand equity. The remaining 11 documents, although they addressed issues related to greenwashing, did not directly examine its impact on brands but rather discussed the various problems associated with this phenomenon. Accordingly, only 40 papers were included for the literature review.

3. RESULTS

Descriptive bibliometric analysis

The upward trend in scholarly production, as revealed by the search formula, indicates that there is significant interest in this research area. With a coefficient of determination of 0.6962, a quadratic polynomial growth trend was observed, suggesting a rapid increase in the number of published papers over time. The years 2021, 2022, and 2023 stood out for a prolific production of articles, as illustrated in Figure 1. Such increase reached its peak in 2023, marking a milestone in the history of publications and highlighting a peak in attention and importance during that period.

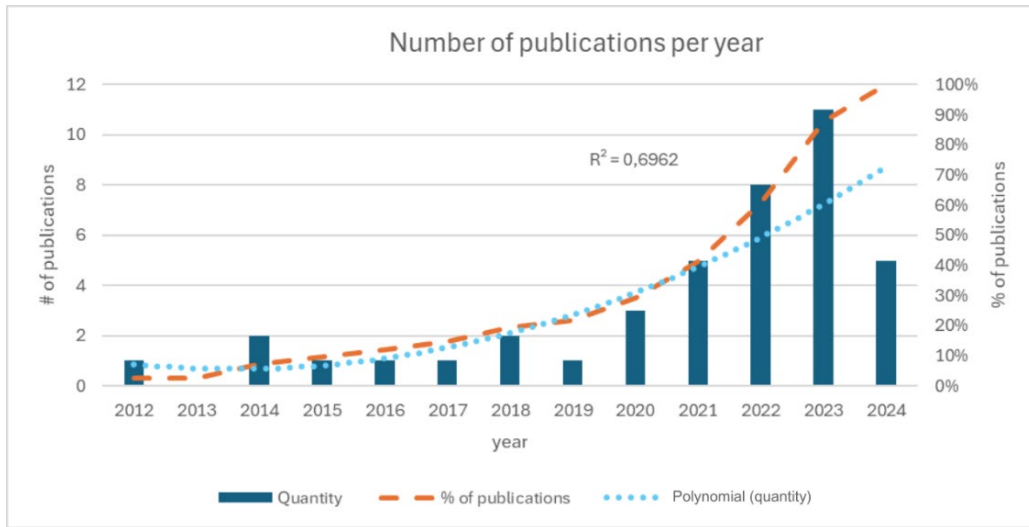


Figure 1. Number of publications per year

Figura 1. Número de publicaciones por año

Source: Own work based on data obtained from Scopus and Web of Science.

Regarding key authors in the field, three different groups were identified, as depicted in Figure 2. The first group includes scholars such as Angadharbatla H, Nyilasy G, and Paladino A, recognized for their high productivity and significant scholarly impact. The second group, for its part, comprises authors such as Benoit-Moreau F, Parguel B, and Russell CA, who, despite having fewer publications, exert a notable impact in the field. Lastly, a third cluster, led by Guo R, Tao L, Coelho A, Ha M-T, Li CB, Marques A, Santos C, and Wang T, is characterized by a high publication rate but lower citation impact when compared to the first group. This reveals the heterogeneity in author profiles in the field of greenwashing and its influence on brands and emphasizes the importance of evaluating both productivity and impact when assessing scholars' contributions in this domain.

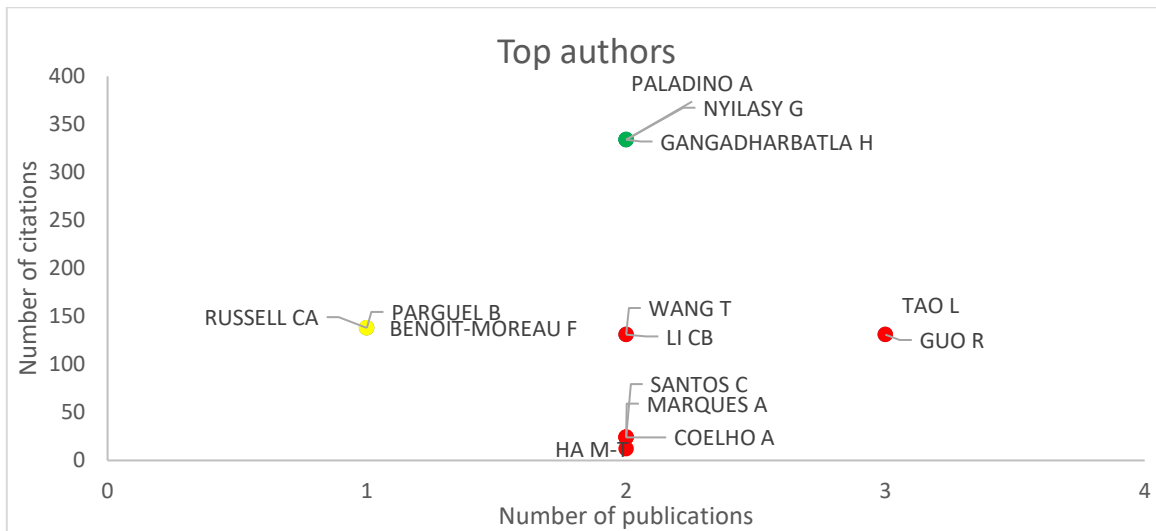


Figure 2. Top authors

Figura 2. Principales autores

Source: Own work based on data obtained from Scopus and Web of Science.

In examining the top journals in the field, three distinct groups were identified, as shown in Figure 3. The first group includes publications such as the *Journal of Business Ethics*, known for their high productivity and significant scientific impact. The second group, which comprises journals like the *International Journal of Advertising*, *Industrial Marketing Management*, *Marketing Intelligence and Planning*, and *Business Strategy and the Environment*, is characterized mainly for its scientific impact despite having a lower volume of articles. Lastly, the third group, with *Sustainability (Switzerland)* as a prominent example, stands out for its considerable research productivity, although having fewer citations. This demonstrates the diversity of publications that contribute to the study of greenwashing and its influence on brands. It also highlights the need to evaluate both journals' productivity and impact to determine their significance in this field of study.

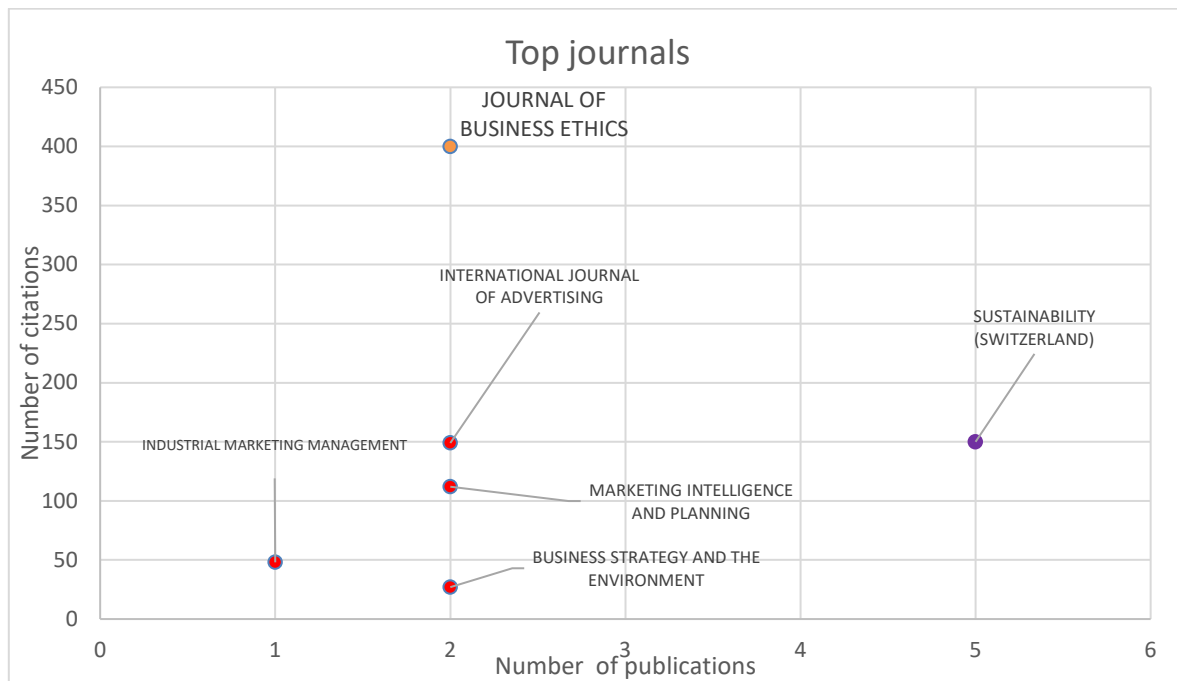


Figure 3. Top journals

Figura 3. Principales revistas

Source: Own work based on data obtained from Scopus and Web of Science.

In relation to the key countries in the study of greenwashing and its influence on brands, three different groups were identified, as illustrated in Figure 4. The first group encompasses nations like China, which are notable for their significant productivity and substantial scientific impact. The second group includes countries such as France, Poland, and Turkey, which are acknowledged for their considerable research impact, despite having a relatively low volume of publications. Lastly, the third group, led by countries such as the United States, Australia, Portugal, and India, is marked by its high scientific productivity, despite registering lower citation rates. This finding demonstrates the varied contributions of diverse nations to the study of greenwashing and its implications for brands, highlighting the need to assess both research productivity and global impact.

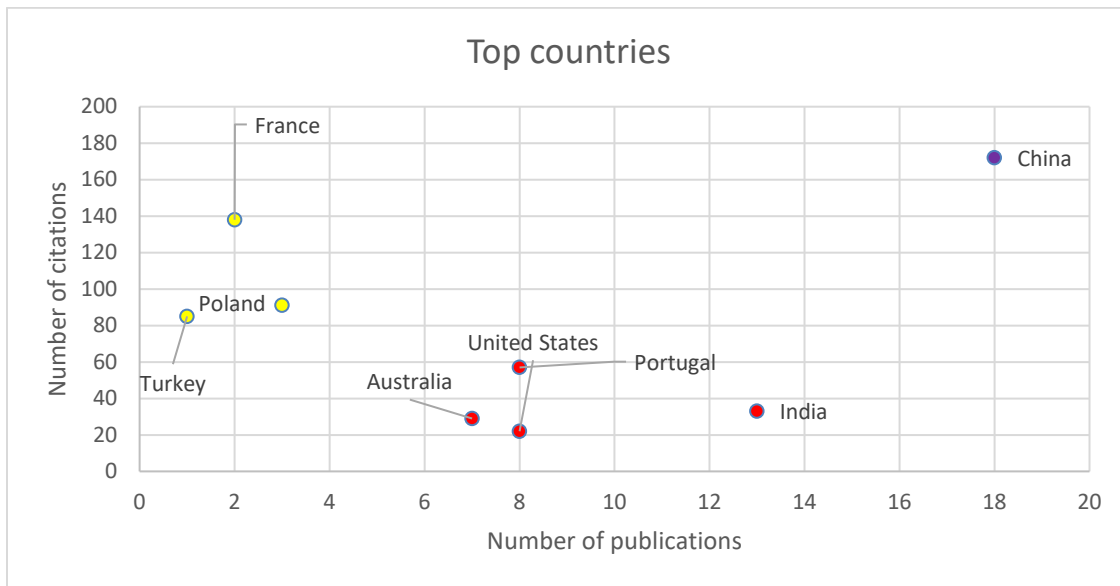


Figure 4. Top countries

Figura 4. Principales países

Source: Own work based on data obtained from Scopus and Web of Science.

As for keyword co-occurrence, the analysis revealed a main network divided into four thematic clusters, as depicted in Figure 5. The red cluster stands out, encompassing terms such as greenwashing, brand equity, branding, brand avoidance, brand hate, brand credibility, purchase intention, green brand image, green brand trust, green marketing, sustainability, and corporate social responsibility. The other three thematic clusters (purple, green, and blue) represent other conceptual interconnections in the study of greenwashing and its impact on brands. This analysis provides a structured perspective on how keywords and topics of interest are conceptually interrelated in the scholarly literature on this subject.

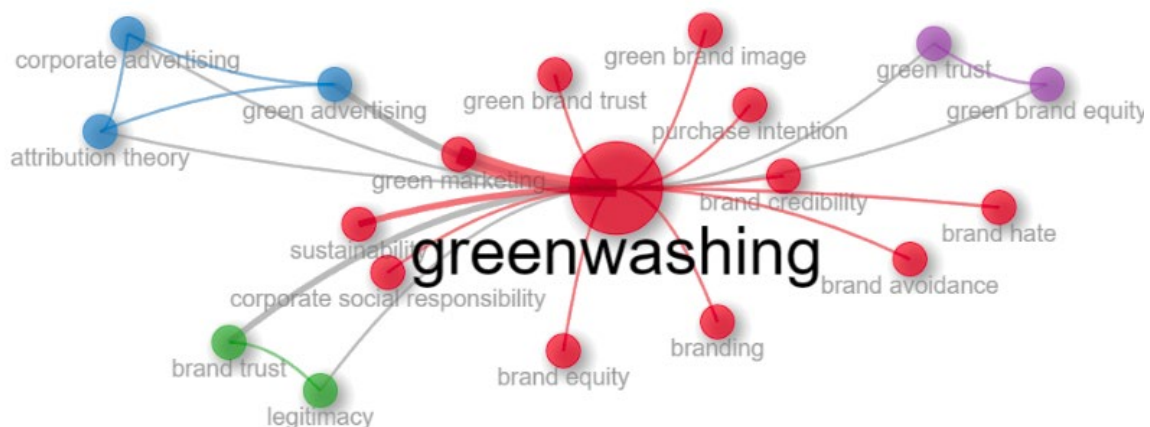


Figure 5. Term co-occurrence map

Figura 5. Red principal de concurrencia

Source: Own work using Bibliometrix and based on data obtained from Scopus and Web of Science.

Literature review

This step of the methodology emphasizes the key findings from the research synthesis. Table 1 below was created based on five papers that directly investigate the interaction between greenwashing and green brand equity. This table presents the influential factors identified in the analysis, which may exert either a direct or indirect impact, as well as the authors (cited in this study) who provided a definition for each of them. The studies are arranged according to the number of investigations conducted for each factor.

Table 1. Factors that have been studied in the relationship between greenwashing and green brand equity

Tabla 1. Factores que se han estudiado en la relación entre el *greenwashing* y el *green brand equity*

Factor	Author	Definition
Green trust	Chen (2010)	"A willingness to depend on a product, service, or brand based on the belief or expectation resulting from its credibility, benevolence, and ability about its environmental performance."
Green brand image	Chen (2010)	"A set of perceptions of a brand in a consumer's mind that is linked to environmental commitments and environmental concern."
Brand credibility	Erdem et al. (2006)	"The believability of the product information contained in a brand, which requires that consumers perceive the brand as having the ability (i.e., expertise) and willingness (i.e., trustworthiness) to deliver continuously what has been promised."
Green satisfaction	Chen (2010)	"A pleasurable level of consumption-related fulfillment to satisfy a customer's environmental desires, sustainable expectations, and green needs."
Green brand association	Chen y Chang (2016)	"The extent to which consumers know about a green brand and how they feel and evaluate the green brand."
Green concern	Akehurst et al. (2012)	"The individual's awareness of the environmental problems and their willingness to be part of the problem solution."
Green confusion	Chen y Chang (2013)	"A consumer failure to develop a correct interpretation of environmental features of a product or service during the information processing procedure."

Source: Own work.

The authors who developed these key concepts are different from those who examined their influence on the relationship between greenwashing and green brand equity, as they adopted previous definitions. Only two of the five studies that were analyzed reported that greenwashing had a direct negative impact on green brand equity (Gutiérrez Gutiérrez, 2021; Qayyum et al., 2022). The other three studies, for their part, suggested an indirect relationship (through mediating factors) rather than a direct one (Akturan, 2018; Ha et al., 2022; Ha, 2022).

In analyzing the 35 selected documents, multiple factors were identified that demonstrate the impact of greenwashing, not only in terms of its relationship with such specific factors but also how it significantly affects brands. This impact is primarily seen as harm to corporate reputation, which diminishes brand value due to adverse effects. To illustrate these findings, Table 2 details the factors identified in these documents that directly affect brands, even though they do not influence green

brand equity in the same way. According to the analysis, greenwashing can have direct and detrimental effects on green brand equity through these factors.

Table 2. Factors influencing the relationship between greenwashing and green brand equity

Tabla 2. Factores estudiados en la relación entre el *greenwashing* y el *green brand equity*

Factor	Author	Definition
Green brand attitude	Chen et al. (2017)	“Consumer’s eco attitude, which leads to one’s entire judgment of green brand.”
Word of mouth	Chen et al. (2014)	“The extent of to which a customer would infer friends, relatives, and colleagues about positive environmental messages of a product or a brand.”
Brand avoidance	Lee et al. (2009)	“The incidents in which consumers deliberately choose to reject a brand.”
Green perceived risk	Chen y Chang (2012)	“The expectation of negative environmental consequences associated with purchase behavior.”
Green brand perceived value	Chen y Chang (2012, 2013)	“A consumer’s overall appraisal of the net benefit of a product or service between what is received and what is given based on the consumer’s environmental desires, sustainable expectations, and green needs.”
Green loyalty	Chen (2013)	“The level of repurchase intentions prompted by a strong environmental attitude and sustainable commitment towards an object, such as a product, a service, a company, a brand, a group, or so on.”
Green brand legitimacy	Suchman (1995)	It refers to meeting the environmental requirements of current stakeholders through all transactions between an organization or brand and its stakeholders.

Source: Own work.

4. DISCUSSION

This section presents an assessment of the findings—from the identification of trends and patterns to the analysis of connections in the data. Additionally, it discusses the practical and theoretical implications of these findings. It includes a critical assessment of the validity and applicability of the obtained results. This section is important because it places the results in a larger academic and practical framework, especially regarding the phenomenon of greenwashing and its impact on brands.

Analysis of factors

Authenticity has become more important in green marketing tactics, as highlighted by Chamorro-Mera (2019) in the case of Volkswagen, which is a clear example of the negative consequences of greenwashing—a problem that goes beyond the environmental sphere to become a social dilemma as well because it can deteriorate public perception. This case also illustrates the urgent need for thorough research on the impact of these practices on green brand equity. According to Chamorro-Mera (2019), efforts should be devoted to study in detail how greenwashing can undermine the

perceived authenticity of brands that have an environmental commitment—revealing a research gap in that area.

Ha (2022) showed that scarce attention has been devoted to the relationship between greenwashing and green brand equity, stressing that it is a fertile field for future research. This is significant because greenwashing can have a negative impact on the trust and perception of green brands. A deeper exploration in this regard would result in an initial understanding of the complexity of how brands can balance environmental commitments and consumer expectations. His paper examined the main factors directly related to this relationship, as well as those that (studied indirectly) could have a negative influence on green brand equity.

Main factors involved in this relationship

In the context of corporate sustainability and green marketing, green brand equity emerges as a key concept that reflects the added value that consumers associate with brands that are committed to sustainable environmental practices. This equity is significantly influenced by two main factors: green trust and green brand image.

Green trust is essential to develop and maintain green brand equity. Recent studies, e.g., Ha et al. (2022) and Ha (2022), have found a positive relationship between green trust and green brand equity, stressing that consumers' green trust in the green credentials of a brand improves their perception of and loyalty toward it. Green trust acts as a pillar of consumers' positive perception of green brands and as a basis for their willingness to support and defend these companies.

However, the literature has revealed that greenwashing—a significant environmental but also social challenge—can severely deteriorate green trust. A group of studies has shown that greenwashing accusations and practices erode green trust, thus emphasizing the importance of authentic and transparent strategies for green brands (Bekk et al., 2016; de Alencar Caldas et al., 2021; Guerreiro & Pacheco, 2021; Guo et al., 2018; Isac et al., 2024; Li & Sun, 2022; Malik et al., 2022; Munaier et al., 2022; Pimonenko et al., 2020; Rahman & Nguyen-Viet, 2023; Seberíni et al., 2024; Ulusoy & Barretta, 2016; Xiao et al., 2022). The evidence suggests that, far from an effective marketing strategy, greenwashing poses a significant risk for green brand equity, potentially triggering a vicious cycle of mistrust and negative perceptions.

The greenwashing phenomenon—characterized by using marketing strategies that exaggerate or falsify a brand's green credentials—is a serious threat to the integrity of green brand image. Significant contributions by Ha et al. (2022), Ha (2022), Bekk et al. (2016), Beriain Bañares et al. (2021), Dragomir (2020), Lin et al. (2017), Neureiter & Matthes (2023), Parguel et al. (2015), Rahman & Nguyen-Viet (2023), and Seberíni et al. (2024) have shown a negative correlation between greenwashing and consumer brand perception. Their studies have found that misleading advertising practices erode the trust in and loyalty toward brands that show themselves as environmentally responsible, triggering skepticism in consumers, which can be profoundly damaging for green brand equity.

It has never been more critical for brands to keep their communications authentic and accurate. In a market growingly saturated with claims of sustainability, consumers look for brands that not only

preach sustainability but also practice it genuinely. The distortion of green brand image by greenwashing compromises a brand's capacity to differentiate itself positively in this regard, which indicates that there is a need for greater transparency and honesty in marketing communications. Therefore, the current challenge for brands is not only to implement genuine sustainable practices but also to communicate them accurately, reflecting their efforts without falling into the greenwashing trap (Ha et al., 2022).

Factors in this relationship that have been studied directly

Consumers' perceptions and assessments of brands have been deeply transformed in the modern era and are increasingly influenced by criteria beyond quality or price. The construction of brand credibility is a meticulous process that requires considerable financial investments and a coherent, well-articulated marketing strategy. These investments are indicators of a company's long-term commitment to its brands and the promises it makes to its consumers. According to Akturan (2018), Qayyum et al. (2022), and Seberíni et al. (2024), this commitment is essential not only for the long-term success of a brand but also for increasing its equity significantly. Transparency and honesty in sustainable practices are essential to maintain that credibility, especially in an ever more saturated and competitive market.

Regarding sustainability, green satisfaction is critical for consumer perceptions of equity. This satisfaction is the result of comparing expectations before consumption with the real experience with the product or service. It acts as a vital bridge between greenwashing and green brand equity, as found in studies by Bekk et al. (2016), Ha et al. (2022), and Ha (2022). A discrepancy between expectations and reality can undermine consumers' trust in and loyalty toward a brand, which shows that marketing statements should be accurately aligned with real business practices.

Additionally, green brand associations play a crucial role in strengthening green brand equity. They provide valuable information about the characteristics of sustainable products and foster emotional bonds with consumers, who derive satisfaction and happiness from contributing to the collective well-being and interacting with the natural environment. Akturan (2018) stressed the importance of these associations to create a brand image that is positive and coherent with environmental values. As their awareness of green concerns increases, consumers are more inclined to consider environmental aspects in their purchase decisions, preferring products that resonate with their ethical and environmental values (Ha, 2022).

Nevertheless, this situation has also led to an increase in green confusion among consumers, caused by similarity in product appearance, excess of information, or deficient understanding of these two. Qayyum et al. (2022) hold that green marketing initiatives must include clear and accurate communication to mitigate this confusion and make sure that consumers can make informed, conscious decisions.

Factors in this relationship that have been studied indirectly

As previously noted, greenwashing can have different negative repercussions for both organizations and brands. Although the literature has not directly studied some factors that could mediate the relationship between greenwashing and green brand equity, it has indeed investigated how

greenwashing has a negative effect on brands. This suggests that said factors have a negative impact on green brand equity. Therefore, the different factors that can influence this dynamic should be explored more in depth.

Current research indicates that well-supported green marketing practices—as opposed to shallow environmental approaches—minimize consumer skepticism and promote green brand attitude toward green brands. Authors like Bladt et al. (2024), Jiménez Sánchez et al. (2023), Nyilasy et al. (2014), and Wang et al. (2020) claim that diversity in green communications has a significant influence on consumer perception. This positive impact is reinforced by high customer participation, which not only consolidates brand loyalty but also encourages them to share experiences by word of mouth, which is vital for consumer decision-making, according to Guerreiro and Pacheco (2021), Ramtiyal et al. (2024), and Sajid et al. (2024). However, positive perceptions can be seriously compromised by greenwashing practices. Not fulfilling environmental commitments raises serious doubts about the authenticity of green initiatives, which could lead to brand avoidance (Sajid et al., 2024; Xiao et al., 2022). This produces green perceived risk, a significant challenge in this area that should be mitigated by implementing effective strategies that preserve brand trust (Li & Sun, 2022; Santos et al., 2023b).

The literature suggests several critical factors that influence the way brands navigate the challenge of greenwashing. Green brand perceived value (especially during a brand crisis) and brand loyalty are critical factors that affect the general assessment of a product and the trust in it (Leckie et al., 2021; Li & Sun, 2022; Ramtiyal et al., 2024). Finally, brand legitimacy is essential for consumer trust in green products and requires strategies that demonstrate an ethical commitment and adequate cultural awareness, thus contributing to an efficient management of green brands (Guo et al., 2018).

Note that this study did not include an emerging factor called *green experiential values* (Gupta et al., 2019) because it was still at an early stage of conceptualization. This innovative concept in the field of green brands has received limited attention in previous literature. These values can be classified into two groups: self-oriented (which encompass utilitarian and hedonic facets) and other-oriented values (which include social and altruistic elements). The findings by Gupta et al. (2019) reveal that only self-oriented values play an essential role as catalysts that strengthen trust in green brands, which in turn increases their equity. Although these values are very important factors, they have been minimally explored in previous studies, placing them at an early stage of conceptualization.

Theoretical implications

In the theoretical sphere, this study reveals the need for a deeper understanding of perceived value and how it influences the general perception of a brand. The notion of green brand legitimacy encourages a more thorough exploration of how brands can effectively meet stakeholders' environmental expectations, thus establishing a more significant connection between their practices and consumer perceptions. These theoretical implications suggest a wide range of possibilities for future research and valuable findings on the efficient management of green brand equity.

According to Santos et al. (2023a), there are aspects of greenwashing that have not been investigated in depth, such as trust, awareness, brand image, and loyalty. Some studies (e.g., Parguel et al., 2015)

have shown that greenwashing affects a brand through green brand image, but they are not sufficient to determine this relationship.

In other papers (e.g., Santos et al. 2023b), it has been observed that consumers' perceptions on greenwashing can damage brands and corporate reputation through green perceived risk. Additionally, greenwashing practices have significantly reduced trust among stakeholders as they call into question the authenticity of the attributes of green services. Furthermore, perceived value and perceived risk are key mediators (Diaz-Soloaga, 2021; Li & Sun, 2022; Malik et al., 2022; Polonsky et al., 2010). Brand familiarity emerges as an essential component in this dynamic, highlighting the need to address greenwashing and reinforce the authenticity of green initiatives to preserve stakeholders' trust and green brand image (Guo et al., 2014).

Therefore, credibility, skepticism, and awareness are interconnected with the phenomenon of greenwashing and have different effects on brands, as pointed out by Javed et al. (2023). The analysis of this relationship should be broadened to focus on the different effects that greenwashing can have on brands because there is not enough information available to determine the real consequences of this practice.

These findings emphasize the importance of authentic, well-implemented green marketing strategies; customer participation and commitment; and effective management of perceived risk and perceived value. All of them are crucial to build and maintain the loyalty and authenticity of a green brand in the current market.

Practical implications

From a practical perspective, to make a significant impact on green brand perception, businesses must adopt a comprehensive approach that emphasizes authenticity and transparency in environmental practices. First, companies should make a genuine environmental commitment that goes beyond simple statements and make sure that these efforts are clearly and accurately communicated to consumers. This step is essential to avoid skepticism and minimize confusion in the public, which is a common challenge in the area of sustainability.

After an authentic commitment has been made, brands must establish and maintain a solid credibility, perceived by consumers as an indicator of competence and reliability, especially in terms of environmental performance. This aspect is fundamental for developing solid and enduring green brand equity—which is reinforced by transparent, honest communication about environmental impacts of goods and services, while avoiding exaggerations regarding green credentials.

Also, to strengthen the association between brands and sustainability, companies should make an effort to fulfill or exceed consumer expectations in terms of sustainable practices. This implies not only ensuring that green initiatives are communicated in an effective manner but also educating consumers on the environmental impact of their purchase decisions, thus aligning expectations and actual consumer experience.

These efforts must be complemented with strategies that promote high customer participation, such as loyalty programs, online communities, and events. These initiatives not only promote brand loyalty

and encourage customers to share positive experiences, but they can also mitigate the perceived risk associated with unfulfilled green promises, thus demonstrating a genuine commitment to responsible environmental practices.

Green experiential values—a term still being conceptualized—represent an opportunity for brands to differentiate themselves by connecting individual and collective values with green experiences to strengthen the trust in and perceived value of green brands. Brands can design consumption experiences that not only satisfy utilitarian and hedonic needs but also promote emotional bonds through altruism and the contribution to the collective well-being.

5. CONCLUSIONS

Greenwashing is an obstacle to green marketing because it makes consumers more skeptical of green claims. This study addressed the complex relationship between greenwashing and green brand equity, revealing critical aspects that influence this dynamic. The existing literature in this field was reviewed and analyzed to identify and summarize key factors that could mediate or moderate the relationship between these two variables. The findings reveal a growing academic and practical interest in this topic, especially in the last four years, with a record number of publications on this matter in 2023.

The results also highlight the importance of certain elements in the relationship between greenwashing and green brand equity: green trust, green brand image, brand credibility, green satisfaction, green brand association, green concern, green confusion, green brand attitude, word of mouth, brand avoidance, green perceived risk, green brand perceived value, green loyalty, and green brand legitimacy. Some studies highlight the direct negative impact of greenwashing on green brand equity, while others suggest an indirect influence via mediating factors. This mixed landscape demonstrates the need for more clarity and depth in future research.

From a practical perspective, the findings suggest that brands should focus on fostering green trust using authentic and transparent practices, thus establishing a solid and credible green brand image. Investing in brand credibility and clear communications of environmental commitments is a key strategy to mitigate the negative effects of greenwashing and improve green brand equity.

In theoretical terms, this study sheds light on areas that have been little explored so far (e.g., green experiential values) and poses crucial questions on the perception of green brand equity and its influence on the general perception of a brand. In addition, it argues that the notion of green brand legitimacy and its impact on consumers' perceptions and attitudes should be better understood.

6. FUTURE RESEARCH AGENDA

Most studies in this area have focused on the relationship between greenwashing and consumer reactions, business performance, and market value (Akturan, 2018; Santos et al., 2023a). However, the effects of greenwashing should be studied more in depth to expand the knowledge of sustainable marketing practices and their impact on consumer perception. This includes its long-term influence

on critical aspects, such as the loyalty, satisfaction, and trust (Pimonenko et al., 2020) of brands that promote environmental initiatives (Ha et al., 2022). Green communication strategies should be analyzed in detail to reduce consumer confusion, thus ensuring a clear and accurate communication of the environmental efforts made by businesses (Ha, 2022). Furthermore, future studies should explore the phenomenon of brand aversion, especially in situations where negative environmental perceptions can have a negative impact on brand equity (Xiao et al., 2022). This comprehensive approach will enable not only a better understanding of the interaction between brands' sustainability policies and consumer perceptions but also the development of more effective strategies to promote an authentic commitment to sustainability.

In addition, future research should investigate different product categories because they could moderate the interactions (Akturan, 2018; Santos et al., 2023a). Other moderating factors, e.g., environmental knowledge and green concerns, may also influence the results (Qayyum et al., 2022). Consequently, future studies could focus on how customers analyze and formulate their responses to corporate social responsibility and corporate environmental policies (Gutiérrez Gutiérrez, 2021).

This analysis of greenwashing and its influence on consumer perception stresses the urgency of researching beyond its immediate effects, exploring its long-term impact on brand loyalty, satisfaction, and trust. Likewise, these phenomena should be studied in different product categories, taking into consideration factors such as consumer environmental knowledge. In sum, marketing and communication strategies should promote an authentic commitment to sustainability, thus contributing to a more positive and transparent interaction between brands and consumers.

CONFLICTS OF INTEREST

The authors declare no conflict of financial, professional, or personal interests that may inappropriately influence the results that were obtained or the interpretations that are proposed here.

AUTHOR CONTRIBUTIONS

To carry out this study, all the authors made a significant contribution, as follows:

Sergio Andrés Suárez Gutiérrez: literature review, conclusion, and writing - original draft.

Javier Alirio Sánchez Torres: research design, data analysis and processing, literature review, discussion, and figures.

Luz Alexandra Montoya Restrepo: supervision, literature review, conceptualization, discussion, and figures.

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