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Concepts and forms of greenwashing: a systematic review

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Abstract

Background: The aggravation of environmental problems has led companies to seek the development and commercialization of green products. Some companies mislead their stakeholders through a phenomenon called greenwashing.

Results: This paper aims to explore the phenomenon of greenwashing through a systematic literature review in search of its main concepts and typologies in the past 10 years. This research has followed the proceedings of a systematic review of the literature, based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). We identified a major classification of greenwashing: firm-level executional, firm-level claim, product-level executional, and product-level claim.

Conclusion: It was possible to highlight and catalog the types of the phenomenon. A structure based on such type has been observed in the literature.

Keywords: Green marketing, Greenwashing, Systematic review

Background

Since the aggravation of environmental pollution, many companies around the world have been paying more attention to environmental issues [20, 41, 53]. In China, environmental problems such as haze and water pollution have become increasingly prominent [21].

India is facing environmental issues such as rising air pollution, loss of food security and e-waste disposal pollution [16]. They have a 1.2 billion population and have generated 2.3 k MtCO2 emissions into the atmosphere in 2017 [18], classifying themselves as the third most polluter country only behind China and the US, long-time polluter ace.

Due to increasing of environmental problems, and consequently in public awareness, many stakeholders are more aware of environmental consideration [7]. Over the past decade, stakeholders like investors, consumers, governments, and corporate customers are increasing the pressure on companies to disclose information about their environmental performance [25, 30] and for environmental-friendly products [21].

According to Vollero et al. [49], companies from the energy sector experiences increasing pressure from stakeholders to produce sustainable products and clean energy. Environmental awareness has grown on society [1, 39, 52], and especially on consumers [1], they are eager for environmental-friendly products [6, 9].

The Nielsen Media Research [33] presented that 66% of global consumers are willing to pay more for environmentally friendly products. When these customers perceive firms as socially responsible, they may be more willing to buy the products from these firms at a higher price [19, 21].

In order to respond to these issues, Corporate Social Responsibility (CSR) is gaining importance among business leaders [39]. CSR is defined as "a concept whereby

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companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" [13].

To reach the integration of social and environmental concerns in business operations companies must be sustainable and socially responsible [1], not only economically. They have to aim the three bottom lines: economic, environmental and social performance or people, planet and profit [12].

Sustainable development is defined by "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" [51]. The growing demand "drives firms to develop green marketing strategies to show consumers their good corporate image and social responsibility" ([53], p. 740).

Since reported by Delmas and Burbano [11], the green market is proliferating. Consumer, capital markets, products, services, and firms have been expanding. As there is an increase in green markets, it is followed by the phenomenon of greenwashing [28]. The phenomenon is defined as "the intersection of two firm behaviours: poor environmental performance and positive communication about environmental performance" ([11], p. 65).

There are many different definitions of greenwashing, in various perspectives. This review attends to search the recent literature to identify the different definitions of greenwashing and its forms. The primary purpose of this article is to analyze the different typologies and characteristics of greenwashing. In order to achieve the objective, we sought to systematically review the last 10 years in the literature. A systematic literature review has been conducted in search of the phenomenon definitions and related concepts; and its characteristics and typologies.

Stakeholders and society in general, demands transparency in disclosing information about the environmental impact of companies activities, this communication must be dynamic, through different channels and with the purpose of educating awareness [1]. The Federal Trade Commission ([14], p. 62122) instructs to "use clear and prominent qualifying language to convey that a general environmental claim refers only to a specific and limited environmental benefit(s)".

The advent of Web 2.0 brings new social media tools, and stakeholders can exercise new forms of interacting and sharing information through the Internet. Online corporate pages or blogs, wiki and petitions websites, and particularly social networks like Twitter and Facebook are redefining the interactions and communications between companies and their stakeholders [17].

Some companies invest in green marketing communications, to be perceived as eco-friendly and socially engaged. They advertise and CSR to achieve better purchase intentions and brand attitudes [34]. However, the reality behind corporate environmentalism can be disappointing, TerraChoice [48] reported that 95% of products claiming to be green in Canada and the USA committed at least one of the "sins of greenwashing", from the sin of the hidden trade-off to the sin of worshiping false labels.

Greenwashing was first accused in 1986 by activist Jay Westerveld, when hotels begin asking guests to reuse towels, claiming that it was a company water conservation strategy, although, did not have any environmental actions with more significant environmental impact issues [38].

According to advertising firm Ogilvy and Mather, greenwashing practices are growing in the last decades to epidemic proportions [24]. With the increase of green markets, followed by greenwashing, a trust problem has emerged since customers have difficulties in identifying a true green claim [34].

Green skepticism has grown with greenwashing, and it would obstruct green marketing [8]. Real green claims would suffer from greater skepticism since it is hard for customers to differentiate the reliability of green marketing initiatives. TerraChoice [48] has released a study to help customers identify greenwashing practices by companies with the seven sins of greenwashing.

In developed countries that have more significant environmental awareness, the regulation from the authorities is in a higher level of development compared to developing countries, in the US regulation of greenwashing is extremely limited with uncertain regulation enforcement [11]. In response to such non-binding regulatory guidelines, scholars, activists and environmentalists have argued that it inadequately protects consumers from the harmful effects of the phenomenon of greenwashing [15].

There are none or poor green regulation in developing countries governments even though the mass population does have any or poor concerns about environmental care. The practice of recycling by waste sorting and collection that seems to be a regular thing to do by the millennials in developed countries [35], on the other side in emerging countries, it is a privilege to have it.

This paper is structured as follows, in Methods we describe the methodological procedures, research questions, and search strategy. The next topic was presented the results followed by the discussion. The last topic is the conclusions.

Methods

This research has followed the proceedings of a systematic review of the literature, based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). PRISMA is not a quality assessment mechanism, although it may be useful for critical appraisal by reviewers and editors. Its objective is to help

authors to improve the reporting of systematic reviews and meta-analyses [40].

A protocol has been developed to specify the carefully planning proceedings and eligibility criteria, to select and identify the data of documents. According to Shamseer et al. [44], a protocol is an essential component of a systematic review, in the protocol are specified the predefined eligibility criteria and methodological approach, which ensures the consistency by the review team, accountability, research integrity and transparency.

Research questions

- RQ 1: Which are the main definitions of Greenwashing and their evolution over the past 10 years?
- RQ 2: Which are the characteristics and forms of Greenwashing?

Search strategy

All content and papers selected for each phase of the review were available for all the researchers in the cloud, the data sheets were created using a document cloud base application that enables collaboration from different persons remotely located. This strategy enabled better control and enhanced standardization of the process of the systematic review.

With the purpose of identifying and recovering the smallest possible number of publications, the research incorporates a search strategy. The resources used to searches are Web of Science (http://www.webofscience.com); and Scopus (http://www.scopus.com).

Scopus search engine offers a better tool in terms of detailed string than Web of Science. The search string from Scopus can be developed with a much-specified search query. When the search strings were applied, 84 publications were identified from Scopus and 179 from Web of Science, representing a total of 263 publications considering both engines.

The keywords applied in the search engines were: "greenwashing", "greenwash" and "greenwasher". Table 1 shows the specific search filters used on both Scopus and Web of Science databases.

Data selection

The data selection was performed in two steps: the first stage involved a Title and Abstract analyses; and the second stage involved an Introduction and Conclusion analyses.

In the first stage, an initial selection was performed on documents that reasonably satisfied the selection criteria based on the titles and abstracts reading. The process was handled in pairs to reduce possible bias and the researchers worked individually on the inclusion or exclusion of the documents and then compared the spreadsheets. When a divergence occurred and a consensus was not possible a third researcher was consulted. If the divergence still remained, the document was included in the list.

Table 1 Databases and search filters

Database	Search filters
Scopus	* Search in: Article Title, Abstract, Keywords
	* Document type: Article
	* Source type: Journal
	* Data range: 2009 to 2018
	* Language: All
Web of Science (WoS)	* Search in: Topic
	* Document type: Article
	* Data range: 2009 to 2018
	* Language: All

In the second stage, the selection was performed on documents that fairly satisfied selection criteria based on the introductions and conclusions reading. Similar to the first stage, the process was also managed in pairs with the same strategy in case of divergencies described in the first stage.

Data extraction and quality assessment

In the extraction stage, all the selected documents were assessed concerning the methodological quality, yet the results were not used to limit the selection.

Results

We extracted 263 articles from Scopus and Web of Science, which eliminated all those present in both bases. Then, the title and abstract were read, resulting in 149 articles. Finally, the introduction and conclusion were read, leaving 67 documents. After the complete reading, 42 articles completely met the review protocol as presented in Fig. 1.

Table 2 reports the publication names of the journals that were included in the review. The journal that published most of the studies is "Journal of Business Ethics", followed by "BioTechnology: An Indian Journal", "Journal of Advertising", "Journal of Business and Technical Communication", and "Journal of Cleaner Production".

The 67 documents included in the review were published in 50 different journals. There is a strong presence of publications from "Journal of Business Ethics" with 11 selected documents. This journal is devoted to a wide variety of methodological and disciplinary perspectives related to ethical issues in business.

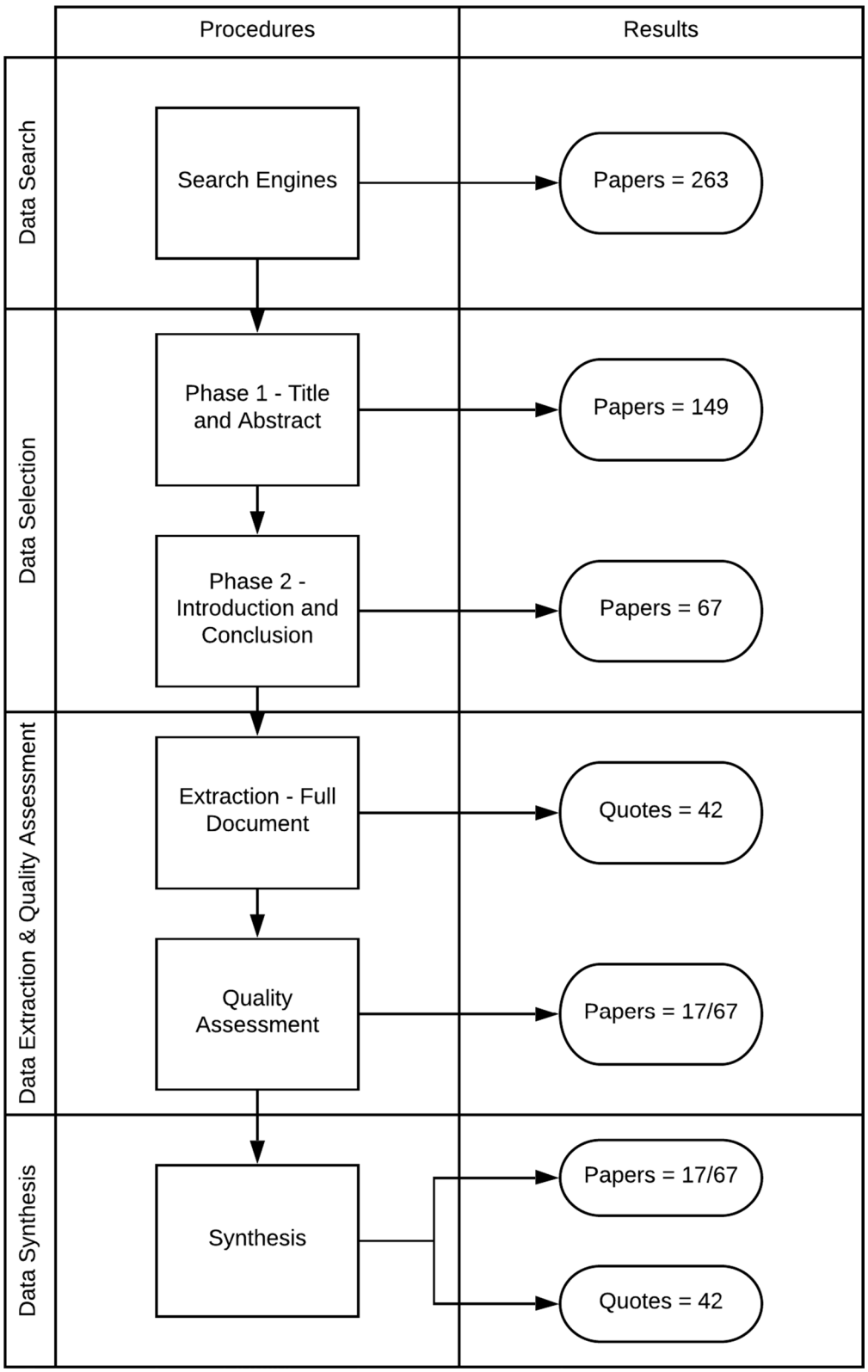

Fig. 1 Results achieved on each stage at the systematic review process

Table 2 Number of articles included in the review per each journal

Publication name	Number of documents	Area of interest
Journal of Business Ethics	11	Ethics
Biotechnology: An Indian Journal	3	Biotechnology
Journal of Advertising	2	Communication
Journal of Business and Technical Communication	2	Business
Journal of Cleaner Production	2	Engineering, Environmental
Marketing Intelligence & Planning	2	Business
Organization & Environment	2	Management
Others (one document per journal)	43	
Total	67	

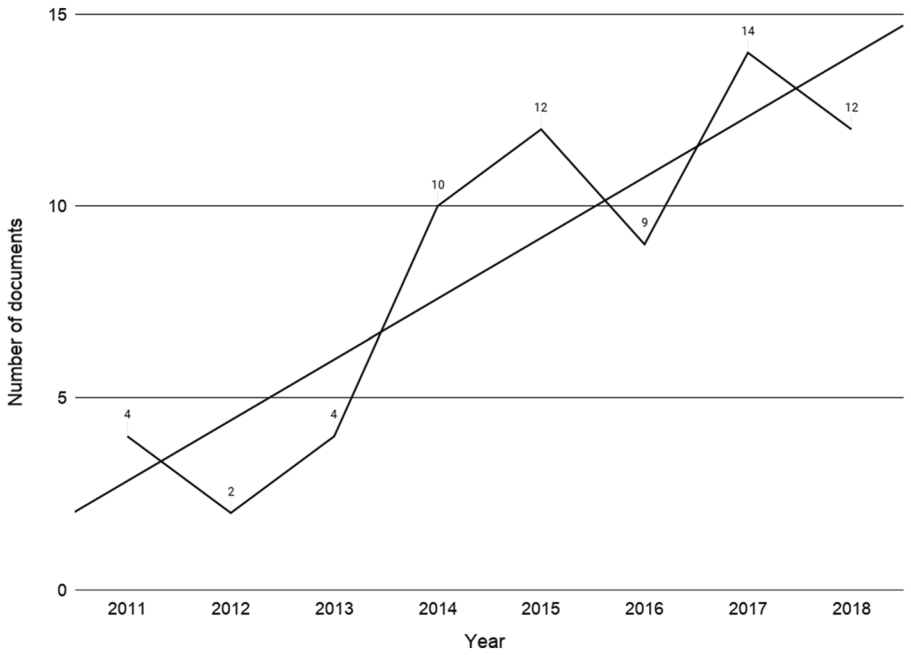

Fig. 2 Evolution of the number of reviewed documents over time

There is a majority of Business and Management journals related to Environment and Sustainability issues in the selected papers. Others journals brought the greenwashing phenomenon in the fields of Advertising and Communications, Economics, Sociology and Ethics, Production Engineering, Marketing, Accounting, Tourism, Education and others. These results show the multidisciplinary characteristic of the phenomenon.

The selection included only papers in the period of 2009–2018, but no documents from 2009 and 2010 were included in this research. Observing Fig. 2 there is a relevant increase in the number of studies over time, with a peak in 2017. This trend suggests that there is an increasing interest for the phenomenon of greenwashing in the literature.

Due to the objective of this paper, documents included in the review have been examined with precise attention to two main topics: definitions of greenwashing and related concepts; and the phenomenon characteristics and typology. 67 documents provided insights on definitions of greenwashing and related concepts. From the 67 selected documents, 17 also provided insights on the phenomenon characteristics and typology.

Discussion

The term Greenwashing was coined first in 1986, by an environmentalist Jay Westervelt. He published an essay on the hospitality industry about their practices to promote towel reuse [20, 52].

Several dictionaries define the phenomenon of greenwashing, Webster's New Millennium Dictionary of English [31] defines greenwash as "practice of promoting environmentally friendly programs to deflect attention from an organization's environmentally unfriendly or less savoury activities". In 1999 the term was added to the Concise Oxford English Dictionary [36], that defines it as: "Disinformation disseminated by an organization so as to present an environmentally responsible public image; a public image of environmental responsibility promulgated by or for an organization, etc., but perceived as being unfounded or intentionally misleading".

According to Lyon and Montgomery [27], there is no rigid definition of greenwashing due to its multifaceted nature. Above we describe the different main approaches we found in defining the phenomenon of greenwashing.

Greenwashing as selective disclosure

TerraChoice [48] defines greenwashing as "the act of misleading consumers regarding the environmental practices of a company or the environmental performance and positive communication about environmental performance".

Delmas and Burbano ([11], p. 67) define as "poor environmental performance and positive communication about environmental performance". Baum ([2], p. 424) considers greenwashing "the act of disseminating disinformation to consumers regarding the environmental practices of a company or the environmental benefits of a product or service".

Tateishi ([47], p. 3) summarizes greenwashing as "communication that misleads people regarding environmental performance/benefits by disclosing negative information and disseminating positive information about an organization, service, or product".

All of these authors describe the phenomenon as two main behaviors simultaneously: retain the disclosure of negative information related to the company's environmental performance and expose positive information regarding its environmental performance. This two-folded behavior can be named as selective disclosure.

We found several articles considering greenwashing a type of selective disclosure. Lyon and Maxwell [26] presented the first economic analysis of greenwash, with specific persuasion game approach from Milgrom and Roberts [32]. Lyon and Maxwell ([26], p. 9) consider selective disclosure a form of greenwashing and define the phenomenon as "selective disclosure of positive information about a company's environmental or social performance, without full disclosure of negative information on these dimensions, so as to create an overly positive corporate image".

Lyon and Maxwell [26] assume social and environmental dimensions on their work, others consider only the environmental dimension, considering the social dimension a different phenomenon.

Marquis et al. ([30], p. 483) define selective disclosure as "a symbolic strategy whereby firms seek to gain or maintain legitimacy by disproportionately revealing beneficial or relatively benign performance indicators to obscure their less impressive overall performance".

Greenwashing as decoupling

Some authors associate greenwashing to a decoupling behavior. Siano et al. ([45], p. 27) relate greenwashing with symbolic actions, "which tend to deflect attention to minor issues or lead to create 'green talk' through statements aimed at satisfying stakeholder requirements in terms of sustainability but without any concrete action".

Walker and Wan [50] defines greenwashing as the gap between "symbolic" and "substantive" corporate social actions (CSA). Companies that have a negative CSR performance and at the same time apply a positive communication about their CSR performance.

As defined by Guo et al. ([22], p. 1828) greenwashing is essentially decoupling behaviours that are symbolic environmental protection behaviours with no environmental protection behaviour or failure to fulfil environmental protection commitments, to alleviate the external public pressures and uncertainties and to avoid the conflict with external constituents. The authors reinforce that these decoupling behaviors of greenwashing brands are to maintain corporate legitimacy.

Signaling and corporate legitimacy theory

The phenomenon of greenwashing was also related to corporate legitimacy theory in the literature. It can be distinguished in three types of corporate legitimacy: cognitive legitimacy, pragmatic legitimacy and moral legitimacy. According to Seele and Gatti [43], greenwashing occurs in the light of pragmatic legitimacy.

"Cognitive legitimacy is based on the shared taken-for-granted assumptions of an organization's societal environment. Moral legitimacy relies on moral judgments about the organization and its behaviour…" ([43], p. 242). And pragmatic legitimacy is "the result of self-interested calculations of the organization's key stakeholders, and it is based on stakeholder's perceptions of their personal benefit deriving from corporate activities and communication." ([43], p. 242).

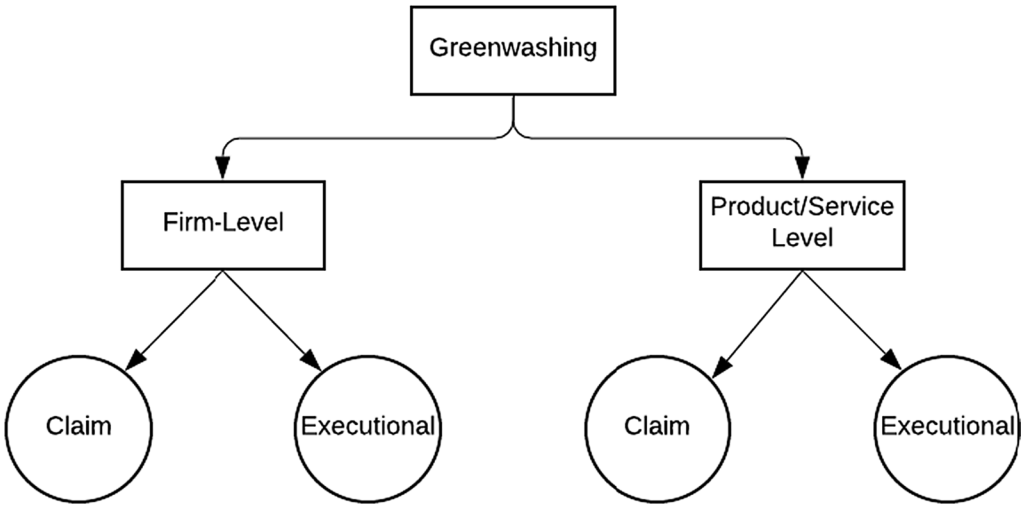

Fig. 3 Major classifications of greenwashing

Guo et al. [22] explain that when companies fail to reach their green goals, the decoupling behaviors can reduce cognitive legitimacy (take-for grandness of constituents), moral legitimacy (positive green evaluation), and pragmatic legitimacy (benefiting constituents).

Which are the characteristics and forms of greenwashing?

According to Delmas and Burbano [11] greenwashing is the act of misleading consumers regarding the environmental practices of an organization (firm-level) or the environmental benefits of a product or service (product/service-level). An example of firm-level greenwashing is the "Ecomagination" campaign from General Electric which advertised the organization's environmental practices while at the same time lobbied to fight new clean air EPA requirements [11]. An example of product/service-level greenwashing is the Energy Star mis-certified refrigerators from LG, an eco-label of energy efficiency, which was found that 10 models of LG's refrigerators were not energy efficient to be certified [11].

We found two different major classifications of greenwashing: Claim greenwashing and Executional greenwashing. The studies on the literature concentrate on product/service-level claim greenwashing, while executional greenwashing was found only on two articles in this revision. Figure 3 shows the main classifications in the phenomenon of greenwashing.

Claim greenwashing

The majority of research to date has focused on product/service-level claim greenwashing, which uses textual arguments that explicitly or implicitly refer to the ecological benefits of a product or service to create a misleading environmental claim.

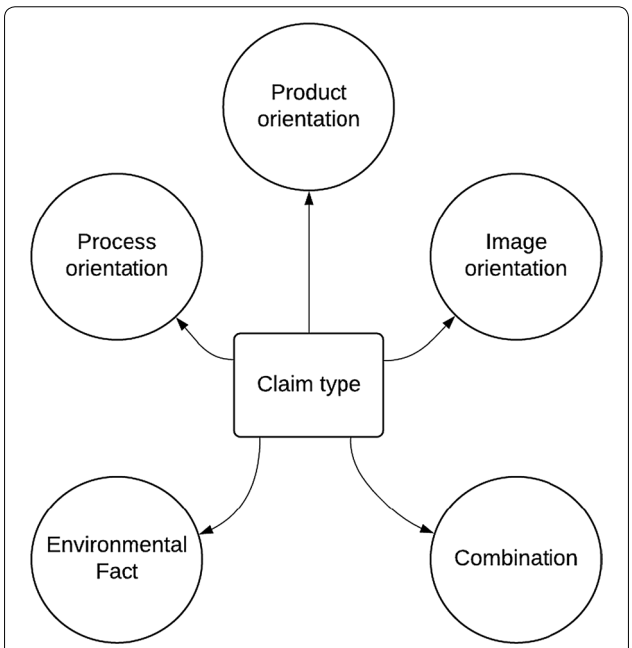

Fig. 4 Types of claims [5]

Parguel et al. [37], cited a study from 1991 in which Kangun, Carlson and Grove distinguished three categories of greenwashed advertising: (1) those employing false claims; (2) those omitting important information that could help evaluate the claim sincerity, and (3) those employing vague or ambiguous term, which

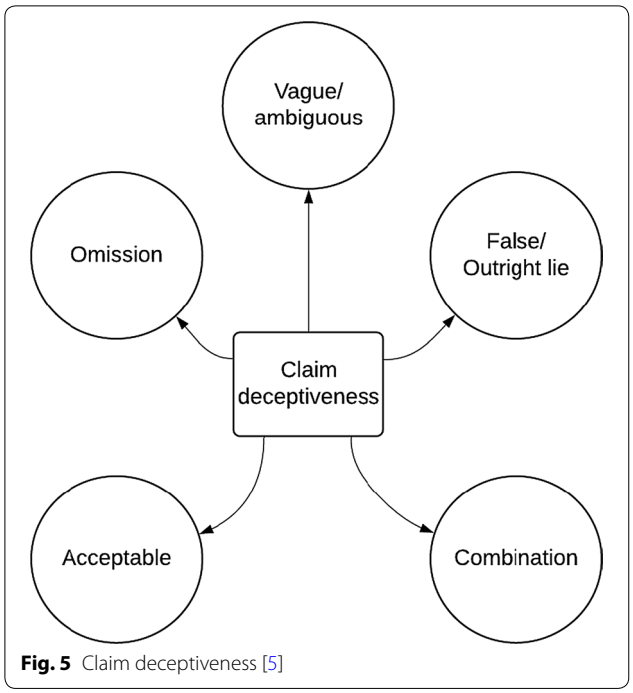

Fig. 5 Claim deceptiveness [5]

could be summed up as lying, lying by omission or lying through lack of clarity.

From Tateishi [47] and Baum [2] we found cited a study conducted by Carlson et al. [5] that developed two typologies of green claims: (1) claim type; and (2) claim deceptiveness. Claim type involves five typological categories: (a) product orientation—claims centring on the ecological attribute of a product; (b) process orientation—claims centring on the ecological high performance of a production process technique, and/or an ecological disposal method; (c) image orientation—claims centring on enhancing the eco-friendly image of an organization, like claims that associates an organization with an environmental cause or activity which there is elevated public support; (d) environmental fact—claims that involves an independent statement that is ostensibly factual in nature from an organization about the environment at large, or its condition; and (e) combination—claims having two or more of the categories above [2, 47]. The types of claims are presented in Fig. 4.

These claim types presented above can be classified in a second typology, claim deceptiveness, that also involves five typological categories: (a) vague/ambiguous—claims that are overly vague, ambiguous, too broad, and/or lacking a clear definition; (b) omission—claims missing the necessary information to evaluate its validity; (c) false/outright lie—claims that are inaccurate or a fabrication; (d) combination—claims having two or more of the categories above; and (e) acceptable—claims that do not contain a deceptive feature [47]. The claims are presented in Fig. 5.

An environmental marketing firm called TerraChoice [48] has created a classification called "the seven sins of greenwashing". The classification has been cited in several articles, Scanlan [42] cited that it includes various fibs, half-truths, vagueness and other forms of trickery. Markham et al. [29] described that the seven sins assist more precisely in detecting instances of firm-based or product-based greenwashing.

Baum [2] cited that the seven sins of greenwashing can indicate the main ways in which a company can mislead consumers with environmental claims and uses these seven sins as a framework for their advertising analysis. According to Antunes et al. [1], the objective of the seven sins is to discourage companies to apply these green marketing strategies by giving the consumers information they need to be cautious in their purchase decisions.

Delmas and Burbano [11] explain that the TerraChoice Group's seven sins are all product-level greenwashing. We have found quotes on 10 articles outlining the seven sins of greenwashing that are described below [48]:

1. The sin of the hidden trade-off: a claim suggesting that a product is 'green' based on a narrow set of attributes without attention to other important environmental issues. Paper, for example, is not necessarily environmentally preferable just because it comes from a sustainably harvested forest. Other important environmental issues in the paper-making process, such as greenhouse gas emissions, or chlorine use in bleaching may be equally important [48]. Other examples are energy, utilities and gasoline corporations that advertise about the benefits of new sources of energy while some are drilling into unexplored areas to source oil and thus destroying natural habitats and losing biodiversity, disguising the imbued hidden tradeoff [2].
2. The sin of no proof: an environmental claim that cannot be substantiated by easily accessible supporting information or by a reliable third-party certification. Common examples are facial tissues or toilet tissue products that claim various percentages of post-consumer recycled content without providing evidence [48]. In short terms, if a corporation makes a claim that includes some kind of percentage or statistics info that are not verified with something that could prove it, like a fine-print text or a URL to lead to more information, the claim is considered as no proof [2].

3. The sin of vagueness: a claim that is poorly defined or too broad, a claim lacking in specifics that its real meaning is inclined to be misunderstood by the consumer. 'All-natural' is an example of this sin. Arsenic, uranium, mercury, and formaldehyde are all naturally occurring, and poisonous. 'All natural' isn't necessarily 'green' [48]. Other examples are "Non-toxic" because everything is toxic in certain dosages; "Green", "Environmentally friendly", "Eco-friendly", and "Eco-conscious" are also vague because without elaboration they are meaningless [2].
4. The sin of worshipping false labels: a product that, through a false suggestion or certification-like image, mislead consumers into thinking that it has been through a legitimate green certification process. An example is a paper towel whose packaging has a certification-like image that makes a claim that the product "fights global warming" [48]. Other examples include green jargon such as "eco-safe" and "eco-preferred" [2].
5. The sin of irrelevance: an environmental claim that may be truthful but is unimportant or unhelpful for consumers seeking environmentally preferable products. 'CFC-free' is a common example, since it is a frequent claim despite the fact that CFCs are banned by law [48].
6. The sin of lesser of two evils: a claim that may be true within the product category, but that risks distracting the consumer from the greater environmental impacts of the category as a whole. Organic cigarettes could be an example of this Sin, as might the fuel-efficient sport-utility vehicle [48].
7. The sin of fibbing: environmental claims that are simply false. The most common examples were products falsely claiming to be Energy Star certified or registered [48].

Scanlan [42] conducted a research in the oil gas industry (OGI) communication on hydraulic fracking and proposed new sins related to the conceptualization of greenwashing. The OGI masks harm done and other risks with greenwashing in the form of new sins he elaborated build on TerraChoice [48]: (8) false hopes; (9) fearmongering; (10) broken promises; (11) injustice; (12) hazardous consequences; and (13) profits over people and the environment [42].

8. The sin of false hopes: a claim that reinforces a false hope. The OGI hydraulic fracking method has an enormous negative impact on the environment, critics argue that ecological modernization is not possible and believing otherwise is harmful to the environment [42].
9. The sin of fearmongering: claims that fabricate insecurity related to not "buying in" on an organization practice, like OGI hydraulic fracking [42]. Scanlan ([42], p. 16) explains that "shifting the scale of fear and seizing opportunities from instability and uncertainty borne out of wars in Afghanistan and Iraq, the global war on terror, and volatile fuel costs, alter the public perception of risk".
10. The sin of broken promises: claims promising that fracking will lift up poor, rural communities with riches from mineral rights and economic development, but when evidence shows the contrary, communities are left with irreversible impacts ([46] apud [42]). Scanlan [42] describes that greenwashing obscures who loses regarding the negative impacts of fracking and OGI profits from exploiting the hopes and trust of the citizenry.
11. The sin of injustice: according to Scanlan [42] the environmental communication examined in his research does not speak directly to communities most affected by fracking, it focuses on a segment of the population that benefits from fracking but do not suffer its consequences.
12. The sin of hazardous consequences: greenwashing hides the reality of inequality and distracts the public from the dangers of risk other experience, Scanlan [42] includes another sin in reference to harm done from hazardous consequences.
13. The sin of profits over people and the environment: to profit over people and the environment is what Scanlan [42] describes as potentially the greatest greenwashing sin of all.

"The delivery of false hopes and resulting broken promises, fearmongering that reorients public understanding of risk and the hazardous consequences of fracking, environmental injustice, and the pursuit of profits over people and the environment have serious impacts on the planet" ([42], p. 20).

Contreras-Pacheco and Claasen [10] brought five firm-level greenwashing: (1) dirty business; (2) ad bluster; (3) political spin; (4) it is the law, stupid! [4]. Fifth firm-level greenwashing form: (5) fuzzy reporting [3].

- Dirty business: belonging to an inherently unsustainable business, but promoting sustainable practices or products that are not representative either for the business or the society.
- Ad bluster: diverting attention from sustainable issues, through the use of advertising. It is used to exaggerate achievements or present alternative programs that are not related to the main sustainability concern.

- Political spin: influencing regulations or governments in order to obtain benefits that affect sustainability. It is common to notice that these spins are "justified" due to companies character of large taxpayers or employers.
- It's the law, stupid!: proclaiming sustainability accomplishments or commitments that are already required by existing laws or regulations.
- Fuzzy reporting: taking advantage of sustainability reports and their nature of one-way communication channel, in order to twist the truth or project a positive image in terms of CSR corporate practices.

Executional greenwashing

Parguel et al. [37] described a new form of greenwashing that the authors called 'Executional Greenwashing'. This strategy of greenwashing does not use any type of claim that was described before, but it suggests nature-evoking elements such as images using colors (e.g., green, blue) or sounds (e.g., sea, birds). Backgrounds representing natural landscapes (e.g., mountains, forests, oceans) or pictures of endangered animal species (e.g., pandas, dolphins) or renewable sources of energy (e.g., wind, waterfalls) are examples of executional nature-evoking elements [37]. The research addressed to this gap in the literature by documenting the executional greenwashing effect based on advertising execution knowledge.

These nature-evoking elements, intentionally or not, may induce false perceptions of the brand's greenness. According to Hartmann and Apaolaza-Ibáñez ([23], apud Parguel et al. [37], p. 2) these elements can "trigger ecological inferences subtly by activating implicit references to nature through nature imagery".

Parguel et al. [37] conducted a research that presented empirical evidence of the misleading effect of these nature-evoking elements named 'executional greenwashing effect' and moderator factors that may reduce its impact. The research consisted of a web survey considering two types of consumers: (a) non-expert consumers and (b) expert consumers.

The empirical results showed that the presence of advertising executional elements evoking-nature only generates higher perceptions of the brand's greenness among non-expert consumers, expert consumers were not significantly affected.

Conclusion

In this paper, we have discussed the main concepts of greenwashing and its main types that we found present in the literature. Due to its multidisciplinary characteristic, no general definition of greenwashing is accepted to recent day. The phenomenon has been discussed by researchers from several areas such as Business, Communication, Economy, Production Engineering, Social Sciences, Environmental Management and Law.

Some scholars consider only environmental issues when talking about greenwashing, distinguishing it with the term bluewashing, which stands for social issues. Others researchers do not distinguish and consider greenwashing a social and environmental phenomenon.

We can see that greenwashing can be perceived and accused by the observer in several different ways. From product-level claims with environmental labeling to firm-level nature-evoked executional elements in sustainability reports, the phenomenon may be classified in a complex variety of options.

This multifaceted amount of forms in which greenwashing has been observed offers difficulty for consumers to identify the phenomenon manifestations. Even among consumers considered expert consumers, well informed about greenwashing and the market in question, it is a challenge to identify greenwashing. In consumers considered regular, who do not know or have limited information about the phenomenon, the accusation process is even more complicated.

The main definitions of greenwashing were explored in the literature. Most researchers are based on the definitions of the Oxford English Dictionary [36] and TerraChoice [48]. In these definitions, the phenomenon is seen as a deliberate corporate action with the presence of misleading elements, focused on the deception of stakeholders.

As greenwashing was first accused in 1986 by Jay Westerveld [38], an activist who noticed an organizational communication with a misleading trait, the element of accusation is key in the process. Seele and Gatti [43] were the only researchers who observed the phenomenon by adding the accusation as a key element in the process, a charge or claim from a third party that someone has done something illegal or wrong. Without the accusation element, the definition of the phenomenon is incomplete.

Aiming to reach the first objective, this review exposed the main definitions of greenwashing present in the literature. These definitions were presented in different conceptual perspectives, due to the multidisciplinary characteristic of the object of study. A limitation of the work found in its development was the keywords used in the search strings. Terms like 'CSR-Wash', 'Decoupling' and 'Selective Disclosure' may contribute to the number of articles selected in the systematic review.

To achieve the second objective, a categorization of the phenomenon was developed. This classification of greenwashing is the main academic contribution of

the study, which can provide a theoretical basis for the accusatory element of the phenomenon.

In this emerging and growing green market, there are also organizations that are really green, the developed classification of greenwashing can also help to avoid unsubstantiated accusations and protect these genuine green companies.

For future research, we recommend developing procedures to measure the greenwashing in companies. The multicriteria modeling may be adequate by addressing the sorting or portfolio approach.

Abbreviations

PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; US: United States of America; WoS: Web of Science Database; CSA: Corporate social actions; CSR: Corporate social responsibility.

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Authors' contributions

SVDFN, GRDLS: design, data analysis. MFFS, ARBR: design, supervision. All authors read and approved the final manuscript.

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Competing interests

The authors declare that they have no competing interests.

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