MASTER'S THESIS

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Green or Elaborate Scheme? A Content Analysis of Greenwashing in Norwegian Magazines

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Abstract

Greenwashing is a phenomenon stretching back to the end of the 80s. Since then, greenwashing as a concept has magnetized attention from academia, media and environmentalists in line with the growing use of green advertisement. Previous research suggests that there are some industries with a higher frequency of greenwashing, and some types of greenwashing are more common than others. This study builds on earlier research on greenwashing, analyse it in a Norwegian context, and offer new insight of who is greenwashing, where they are greenwashing and how greenwashing is taking place. This paper explores new territory with investigating greenwashing and industries related to magazine categories. A content analysis is conducted to illuminate potential differences in the content across magazines, and if so, how it differs. This study analyses 333 unique ads from 168 Norwegian magazine issues from 2021. Out of 333 advertisements, 108 contains greenwashing. The findings evidence that even with strict regulation, greenwashing is still occurring.

Keywords: green advertisement, greenwashing, magazines, industry categories

Preface

This master thesis is written as the final part of my Master of Science at Nord University Business School (HHN) with a specialization in International Business and Marketing. Instead of writing a traditional master thesis I have chosen to write my thesis as a scientific article with an introductory chapter. The purpose of this thesis is to examine how greenwashing differs between magazines and industries in Norway. The process has been demanding, but at the same time an interesting challenge. I have chosen to publish the article in journal of marketing management. This thesis follows the guidelines of the journal.[1]

I would like to thank my supervisor, Frank Lindberg, for his thoughtful and wise guidance. His feedback and vision have helped shape this thesis into the final result. Writing a thesis alone can be a challenge in itself, but the guidance of Frank has helped immensely in the process. I also would like to thank my family and friends for their support throughout the process.

Nord universitet, 18.05.2022

Andreas Vestvann Johnsen

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Introductory chapter

Theoretical Framework

This chapter will consist of the theoretical framework used in the article. The research question of the article is: *How does greenwashing through advertising differ between industries in Norwegian magazines?* Thus, a review of relevant theories and literature will be conducted, scrutinized, and presented to cast light illuminating concepts regarding green advertisement, greenwashing, frameworks detecting greenwashing.

Green advertising

As a result of increased environmental awareness amongst consumers (Antunes et al., 2015), the demand for environmentally friendly products has increased (Chang & Chen, 2013). Globally, 66% of customers willingly pay more for products that are considered to be friendly to the planet (Nielsen Media Research, 2015). Customers perception of a company as green increases their willingness to pay more for their products (Grimmer & Bingham, 2013). Thus, communicating having green products and being a responsible environmentally friendly organization may open doors towards new customers (Chang & Chen, 2013). Market communication with such an ambition is called green advertising, and is by Zinkhan and Carlson (1995, p.1) defined as "promotional messages that may appeal to the needs and desires of environmentally concerned consumers". This type of advertisement has numerous names and comes in variations like sustainability marketing (Peattie, 2015), eco-marketing (Tjärnemo, 2001) and environmental marketing (Shil, 2012). The goal of all these approaches is to convey customers about a strong green performance, a reason being the pressure from the market (Baum, 2012) and stakeholders (Kim & Lyon, 2014) to be green and environmental focused. This pressure has made companies introduce new green products into their portfolio, modify existing products, and sponsor or partner up with environmental organizations (Carlson et al., 1996). Many companies have implemented change with an intention to reduce their own emissions and through advertisement communicated their efforts. At the same time, other companies have executed a strategy communicating environmental performance without any measures implemented (Carlson et al. 1993). This is called greenwashing, and is by Baum (2012, p.425) defined as "the act of disseminating

disinformation (false information intended to obscure the truth) to consumers regarding the environmental practices of a company or the environmental benefits of a product or service".

Greenwashing

When an organization communicates their environmental performance as greener or better than what it is in reality, the action is called greenwashing (Baum, 2012). Advertising firm Ogilvy and Mather, an advocate for more accurate green marketing, alarms that greenwashing is at "epidemic proportions" because of its prevalence in marketing (Hsu, 2011). Greenwashing is a growing phenomenon because the increased frequency of green advertisements (Tateishi, 2018). More green advertisements equal more greenwashing. Szabo and Webster (2021), identified three different greenwashers in a total of seven types of green advertisers. The three greenwashers are the intentional greenwasher, the unintentional greenwasher, and the bluewasher. The intentional greenwasher, or the «evil greener» as Szabo and Webster (2021) call it, are the ones that are intentionally lying about their environmental performance. The unintentional greenwasher greenwashes unknowingly. Often through not knowing emission and practises from their supply chain (Szabo & Webster, 2021). The bluewasher uses social issues and UN-programs to promote their business, while not performing well on either ethics nor social responsibility (Davies, 2022; Szabo & Webster, 2021). The truthful non-greener is not green, and does not claim otherwise. The honest truthful greener is when an organization has a high degree of green marketing and the same time have a high degree of sustainability. The last category is the "green muters". These companies are either a green blusher or a brownwasher. A green blusher is a company that is sustainable and green, but does not use it in their organizational marketing. A brownwasher does the opposite of greenwashing which is underreport environmental performance (Szabo & Webster, 2021) The last two advertisers are a result of being uncertain about the ethical side of the advertising (Szabo & Webster, 2021), lacking scientific knowledge about environmental performance (Simula et al., 2009), or are afraid of an investor backlash (Kim & Lyon, 2014).
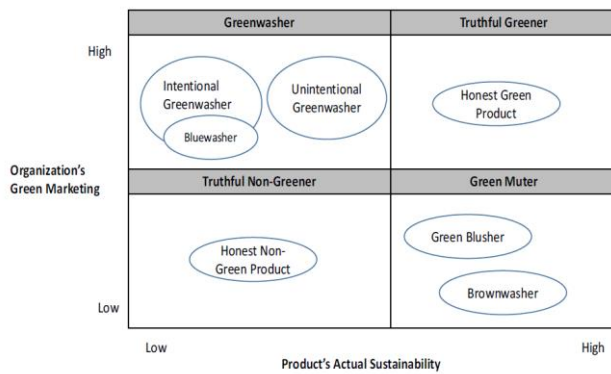
Figure 1: Shades of greenwashing (Szabo & Webster, 2021, p. 734)

Drivers of Greenwashing

Delmas and Burbano (2011) argues that there are four categories of drivers that make companies greenwash. As external non-market drivers, weak and uncertain regulation with little to no consequences makes companies greenwash. When there is high potential for growth and increased market shares in combination with weak regulation there is good conditions for greenwashing. Misleading claims can be communicated without any ramification, but with a high potential gain (Delmas & Burbano, 2011; Baum 2012). An external factor that may interfere with greenwashing is activists, NGOs, and Media Pressure. The fear of being exposed as greenwashers, and the following public backlash, is one of the reasons some companies refrain from greenwashing (Delmas & Burbano, 2011).

In the market there are three drivers affecting greenwashing. Vos (2009) argues that increased pressure from consumers, investors and competitors increases the chance of companies greenwashing. If consumers and investors want greener and more sustainable products, and competitors are offering it, either through becoming greener or greenwashing, it puts non-green companies under the fear of losing customers and market shares (Delmas & Burbano, 2011; Kim & Lyon, 2014).

Delmas and Burbano (2011) argues that organizational drives include firm characteristics, incentive structure and ethical climate, effectiveness of intra-firm communication and organizational inertia. The size, industry and profitability are, among others, characteristics of a firm that can contribute to greenwashing. A large company that produces goods have greater expectations to be green because of more customers and thus, external pressure. A company in the service sector or non-customers products industries may have less pressure to become green because of a different customer relation (Delmas & Burbano, 2011). The incentive structure and ethical climate of a firm also works as a driver according to Delmas and

Burbano (2011). How success and failure are awarded, and how the ethical climate is within a firm will affect the ethical behaviour of a firm in the market (Wimbush et a., 1997). Hosmer (1987) argues that incentive arrangements rewarding managers for reaching financial goals in many instances ends up in taking unethical choices. An example on such unethical behaviour is the Volkswagen scandal where several senior managers intentionally implemented measures to make the cars appear greener than what they were (Mansouri, 2016). The pressure to make low-emission cars and gain market shares led to one of the biggest greenwashing scandals in history (Mansouri, 2016) Today, this incidence stands as an example on big scale greenwashing being exposed with enormous consequences for the company and the industry as a whole (Siano et al., 2017; Colvin, 2020). The last two organizational drivers are effectiveness of intra-firm communication and organizational inertia. How well and fast knowledge is spread in an organization affects the performance of an organization. If there is suboptimal communication between departments in an organization, greenwashing may become a result (Delmas & Burbano, 2011). A common example is when the marketing department decides to market a product as green because of miscommunication with the R&D-department (Delmas & Burbano, 2011). Organizational inertia happens when the existing form of a company is so rooted that change takes a long time to implement (Rumelt, 1995). An implementation of new green strategy can become a slow process from the time of a board or manager decision to the rest of the organization is on board (Delmas & Burbano, 2011).
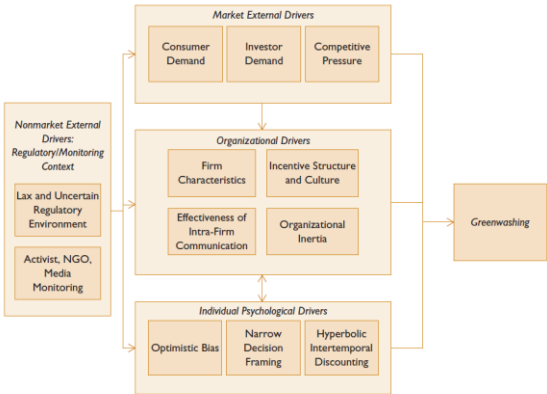

Figure 2: Drivers of greenwashing (Delmas & Burbano, 2011, p. 68)

The last driver is the psychological drivers on an individual level. Uncertainty, insecurity and little information will have an effect on the decisions in an organization (Kahneman, 2003). An individual focus on short-term profit through greenwashing instead of the long term

choice of implementing new strategies and restructure the organization. The easy route of pretending to be green is easier than actually taking the steps to become an environmentally friendly organization (Delmas & Burbano, 2011). Optimistic bias is when the believe on a positive outcome is overestimated, while negative outcomes are underestimated and affect the decision-making of managers (Kahneman & Lovallo, 1993). Exaggerated self-image, unrealistic believe in a positive future and a unrealistic look on what is controllable may contribute to poor decision making (Taylor & Brown, 1988).

Methodology

In this chapter I will account for the methodological choices I have made for my research. I will clarify and describe the thought-process behind all the steps made, and how I have ensured that the study follows research ethics.

Choice of quantitative content analysis as method

The purpose of my research is to cast light on greenwashing in Norway, who are greenwashing, what kind of greenwashing is happening, and where does the greenwashing take place. Based on results from earlier research, I chose to do a content analysis and more specified, a latent content analysis. There are two main ways to use content analysis in research. A qualitative content analysis is the most used approach when using a content analysis (Bengtsson, 2016; Potter & Levine-Donnerstein, 1999). The main difference between a qualitative and a quantitative content analysis is how the data is treated. According to Gørnmo (2004), in a qualitative content analysis the data is interpreted, descriptive and focusing on language while in a quantitative approach the data is based on numbers and thus, possible to count and measure. A quantitative content analysis emphasizes on a high frequency of data to analyse (Kracauer, 1952). This article is inspired by a quantitative content analysis by Baum (2012). In the study 247 green advertisements from the United States and the United Kingdom were analysed to identify frequency of greenwashing, which industries committed greenwashing, and what type of greenwashing occurred. For my research to be comparable with the study by Baum (2012) choosing a similar research strategy will be purposeful. It will be easier to compare the findings and find similarities and differences between the studies.

Quantitative content analysis procedures

White and Marsh (2006) have identified ten steps of a quantitative content analysis. To ensure a quality procedure I have followed the steps in order, but with a few modifications. The steps are as following (White & Marsh, 2006, p.30):

1. Establish hypothesis or hypotheses

2. Identify appropriate data (text or other communicative material)

3. Determine sampling method and sampling unit

4. Draw sample

5. Establish data collection unit and unit of analysis

6. Establish coding scheme that allows for testing hypothesis

7. Code data

8. Check for reliability of coding and adjust coding process if necessary

9. Analyze coded data, applying appropriate statistical test(s)

10. Write up results

I will go through steps 1-3, 4-7 and 8-10 grouped together. The first three steps are a part of the preparation phase. Step 4-7 is part of the data gathering and coding process. Step 8-10 is to make sure the data is reliable through tests, analyse the data and put them in a statistical context, and lastly transfer the data to the finished product.

Preparation phase

The preparation phase consists of three steps. First step is to establish a hypothesis or research question. According to White and Marsh (2006) quantitative content is a part of the positivist research tradition and thus is deductive in its approach. Johannessen et al. (2004) writes that the positivist research ideal is that all phenomena can and must be researched using the same scientific method. In this method, research should concentrate on phenomena and characteristics that can be measured (Johannessen et al., 2004). In contrast, the hermeneutic school of philosophy emphasizes interpretation to understand phenomena (Johannessen et al., 2004). Where the positivists believe there is a law of nature in social science, the hermeneutics reject this notion.

The research question of the article came to be after an extensive literature review of literature revolving green advertisement and greenwashing. After this process, I found the articles from Baum (2012) and Carlson et al., (1993) of high interest. Both being content analysis, sparked my interest in the research approach. Together with my supervisor we formulated a research

question based on a hypothesis that some industries have a higher frequency in some magazines. The research question is as following: *How does greenwashing through advertising differ between industries in Norwegian magazines?*

The second step according to White and Marsh (2006) is to identify appropriate data for the research. I wanted to base my research on exactly the same approach as Baum (2012), but quickly realized that the magazine flora in Norway is finite. To find magazines with advertisements, I contacted the local library, the university library and The National Library of Norway to see what magazines were available. I also used my network to get suggestions on magazines that may be of interest. After trial and error, I found six magazines in three categories that all contained advertisements, belonged to a magazine category, and was possible to get in either physical or digital copies. The magazines chosen for this study is:

News magazines
VG Helg: A weekly news magazine with over 287 000 readers (Schibsted for business, n.d.-a). Have since 2005 been an addendum to the newspaper released on Saturdays (Eide, 2021). The magazine contains interviews, and articles about food and drink, health, fashion, renovation, gardening, hunting and fishing, cars and travel (Schibsted for business, n.d.-a).

A-magasinet: The largest weekly magazine in Norway with 648000 readers weekly. The magazine is an addendum to the Friday issue of Aftenposten and contains articles about sustainability, food and drink, health, exercise, fashion, interior design, gardening and travel (Schibsted for business, n.d.-b).

Business magazines
Kapital: Is a Norwegian business magazine started in 1971.The magazine is released bi-weekly and has articles about business, the stock market and economic policy (Store norske leksikon, n.d.-b).

DN-magasinet: Magazine that comes as an addendum to the Saturday newspaper. Contains articles about business and feature articles (Eide, n.d.-c)

Lifestyle magazine

Tara: The biggest magazine for women and are segmented towards a female audience from the age of 40 and upwards. The magazine contains interviews and articles about fashion, cosmetics, and life in general (Lien, 2012). Released for the first time in 2005 (Store Norske leksikon, n.d)

Vi Menn: The biggest lifestyle magazine for men started in 1951. The magazine contains articles about hunting and fishing, popular science, IT, travel, automobiles and football (Neraal, u.d.)

The third step according to White and Marsh (2006) is to determine sampling method and sampling unit. Previous research has used the definition of green advertisements from Banerjee et al. (1995) (Baum, 2012; Schmuck et al., 2018; Saabar et al., 2011). An advertisement has to have one of the three following criteria to be defined as green: "explicitly or implicitly addresses the relationship between the product or service and the physical environment", "promotes a green lifestyle with or without highlighting a product/service", and "presents a corporate image of environmental responsibility" (Banerjee et al., 1995, p. 22)". All advertisements corresponding to one or more of the criteria above is relevant for further analysis.

Data gathering and coding phase

Doing a content analysis alone is regarded as a challenging task (Daymon & Holloway, 2011) and thus, the author recruited a research assistant to help do the analysis. The data gathering and analysis would take several days, so to save time step 4-7 was done in a loop. The fourth step in the quantitative content analysis process is to draw sample. The fifth is to establish data collection unit and unit of analysis. The sixth step is to establish coding scheme that allows for testing hypothesis and last step is to code the data.

First, a schema with 18 different types of greenwashing was made. There are three frameworks used in this study to identify greenwashing. The "7 sins of greenwashing" from Terrachoice (2009), the six additional "sins" by Scanlan (2017) and five firm-level greenwashing practises by Contreras-Pacheco and Claasen (2017). The research assistant and I went through magazine for magazine. We used the framework by Banerjee et al. (1995) to

identify green advertisements. When a green advertisement was found we extracted a picture of the ad, labelled it, and then went through the pre-designed schema labelling a "1" for yes and "0" for each of the 18 rubrics in the schema. In addition, the inclusion of an own check-box to mark if the advertisement contained nature-elements. This was to get information about potential executional greenwashing, a new type of greenwashing with little research done.

Analysis

The last three steps according to White and Marsh (2006) is first to check for reliability of coding and adjust coding process if necessary which wasn't needed as the coding, once started, went just as scheduled. The ninth step is to analyse and do statistical tests with the coded data. I tried different combinations to see the results with the data I had gathered. I used some days to analyse and see if there were some interesting numbers that could be used to answer my research question. After some days with analysing I had the statistics I needed for the last step of the content analysis, to write the results and thus, complete the research project.

Quality of the study

According to Lincoln & Guba (1985) there is four ways to assess the quality of quantitative research. Internal and external validity, reliability and objectivity.

Internal validity

Heffner (2017) argues that a study has internal validity if there is established a relationship between one or more independent variables, while there also is one or more dependent variables. An internally valid study contains as few disconcerting elements as possible. If the researcher doesn't manage to get rid of the disconcerting variables the whole research will be containing false correlations which ruins the study (Shuttleworth, 2008). Huitt et al. (1999) writes that internal validity is a measure to see how good quality a study has. Research design, how the study is operationalized and how variables, correctly and incorrectly, are used, is ways to test validity. There are, according to Campbell and Stanley (1966), eight threats to internal validity. History and maturation are two closely related threats. How long time a study takes may alter the result, and if the researcher becomes fatigued and demotivated after time, the result may suffer from the lack of motivation. The third threat is testing. By using pre-testing, it may alter the final result of the study and make it less realistic of the realities.

Instrumentation and statistical regression are the fifth and sixth threats. Instrumentation are when changing how the result are measured, and statistical regression is re-testing research when some of the data is not as wanted, and may alter the final result. The two last threats are selection interactions and experimental mortality. Selective interactions are when cherry-picking subjects with a goal to alter the research in one direction. Experimental mortality is when subjects withdraws from a comparison group study and by that alters the independent variable.

External validity
If you can take the study from where it was done, will the same results occur if you did it somewhere else? This is the main concern regarding external validity. If a study can be done somewhere else from where it was done, and the results would be the same, the study has a high degree of external validity (Trochim, 2006). To test a whole population is impossible, but it is possible having a sample that represents the whole population. If the quality of the sample is good the study may be used for a whole population (Landreneau, 2009).

Reliability
Reliability means if a study can be reproduced and still give the same results as the original study (Trochim, 2006). If there is low reliability, a new study would give a different result than if the analysing had been consistent.

Objectivity
Payne & Payne (2004) writes that researchers should detach themselves to such a degree that they study the nature of what is studied instead of their own beliefs and values.

My assessment on quality of the study
The goal of this thesis is to contribute with new research that can cast light on an academic field that's still growing with new discoveries by the year. Greenwashing as a concept will continue to attract interest and engagement, and I hope that my study can be a contribution to an ever-growing list of literature and research. In this study I have taken precautions to make sure that the study has a good quality. The importance of internal validity is self-evident. I have made sure that the statistics used are understandable and offer new insight on greenwashing in Norway. Regarding the eight treats of internal validity I have had a set timeframe of using 2021 so it is static. I did a pre-test in my study in form of reading through magazines to see if I could find green advertisements. This have altered the strategy I used in picking which magazines to analyse. My goal was to find magazines with advertisement because ad-less magazines would not contribute with the sample size and only work as a

time-consuming factor. I have not changed the way any content is measured since I have had the same strategy throughout the whole process. I have neither done any statistical regression in my study. I did change the selection from the start while doing pre-tests when looking for magazines with advertisements. I had considered using a popular science magazine, two gossip magazines, and maybe expanding using newspapers as well, but I decided to stay on track using six magazines from three magazine categories. I have used selection interactions since I have used a lot of time finding the "correct" magazines. Since I have based my study on Baum (2012) and her selection strategy with using newsmagazines and business magazines, the only difference is that I chose to use two lifestyle magazines, something not done by either Baum (2012) or Carlson (1993).

Regarding external validity, I have done some mistakes that alters the quality of the study. I did not check the ownership of the magazines, and I came to learn that VG and Aftenposten is owned by the same company, which is Schibsted. This may have altered the research in a way that the same advertisements have been in both magazines because of that. In retrospect, I should have used the newsmagazine from Dagbladet, Nationen, Klassekampen or another magazine outside the Schibsted Media Group. This shows how important it is to check ownership as a part of the pre-study phase. Another perspective is the choice of 2021 as the year of study. Since the whole year was affected by the Covid-19 pandemic, how this affected the amount of green advertisements and greenwashing is a question that may alter the results of my research.

Throughout the analysis I have stressed the importance of being consistent in the coding and analysis. Thus, I believe that I have managed to secure a high degree of reliability in this study.

Since I have been doing a latent content analysis, knowledge and experience are an important aspect of the coding and analysis. Both I and my research assistant had different views on some of the advertisements based on our knowledge and experience. My research assistant has a background in biology and thus having another perspective than the one I have. This have strengthened the coding and result.

Another critique of my research is debatable, but Krippendorf (2019) argues that a content analysis is not suitable for a qualitative study to the point that he writes "… I noted that quantification cannot be a defining criterion for content analysis. Text is always qualitative to

begin with, categorizing textual units is considered the most elementary form of measurement (Stevens, 1946)" (Krippendorf, 2019, p. 91). I Interprets this as a denunciation of quantitative content analysis as a research strategy, especially since Krippendorf is regarded as one of the most influential scholars on the subject of content analysis (Google Books, n.d). I still would like to argue the approach chosen was correct. A well-structured content analysis can illuminate information that regular quantitative and qualitative research can't. A traditional quantitative study would not have the depth to go behind the meaning behind the message. Greenwashing is often subtle and has to be viewed in a contextual setting. A qualitative study would give meaningful insight if the mission is to find the though-process from either the greenwasher or customer perspective. To get tangible statistics about greenwashing as a phenomenon, a latent quantitative content analysis is the way to go. This approach makes it possible to analyse the meaning behind the words, put them into categories and give an insight that can be used by both the public and the authorities to prevent future greenwashing.

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Scientific Article

Green or Elaborate Scheme? A Content Analysis of Greenwashing in Norwegian Magazines

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Abstract

Greenwashing is a phenomenon stretching back to the end of the 80s. Since then, greenwashing as a concept has magnetized attention from academia, media and environmentalists in line with the growing use of green advertisement. Previous research suggests that there are some industries with a higher frequency of greenwashing, and some types of greenwashing are more common than others. This study builds on earlier research on greenwashing, analyse it in a Norwegian context, and offer new insight of who is greenwashing, where they are greenwashing and how greenwashing is taking place. This paper explores new territory with investigating greenwashing and industries related to magazine categories. A content analysis is conducted to illuminate potential differences in the content across magazines, and if so, how it differs. This study analyses 333 unique ads from 168 Norwegian magazine issues from 2021. Out of 333 advertisements, 108 contains greenwashing. The findings evidence that even with strict regulation, greenwashing is still occurring.

Introduction

With the rise of public concern towards climate change and global warming in the industrialized countries, businesses and marketeers have to convey that they take responsibility with their product or service (Carlson et al., 1996; Banerjee et al., 1996). Customers willingness to pay more for environmentally friendly products (Carlson et al., 1996) and building a brand that radiate «greenness» can improve trust and customer satisfaction (Chen, 2010), thus, showing a green message through marketing can be a powerful way of reaching new and already existing customers (Chang & Chen, 2013).

A phenomenon that has appeared as a consequence of this new development in marketing is when there is a gap between the advertised environmental performance of a company and the actual performance. When there is an identifiable gap between what a company communicates as a better green performance than what it is in reality, the act of *greenwashing* is happening. Greenwashing is by Baum (2012, p.425) defined as "the act of disseminating disinformation (false information intended to obscure the truth) to consumers regarding the environmental practices of a company or the environmental benefits of a product or service". Increased frequency of greenwashing is a consequence of increased green marketing, which yet again is a consequence of customer demand for green sustainable products (Horiuchi, Shuchard, Shea, & Townsend, 2009).

In a 2012 study 75% of 152 analysed marketing campaigns for the US contained one or more instances of greenwashing, while in the same study, 51,5% of 95 campaigns from the UK contained misleading content of the same sort (Baum, 2012). This may be a result due to a lower degree of regulation of marketing in the US than in the UK (Baum, 2012). Delmas and Burbano (2011) stresses that the lack of sufficient regulation works as a driver for greenwashing.

The interpretation of Norwegian legislation is closely resembled to the legislation in UK regarding false environmental claims (Forbrukertilsynet, n.d; Competition and Markets Authority, 2021). While Greenwashing is a hot topic in business, academia and public sphere, extensive literature search shows little research on the phenomenon in Norway. Thus, a closer inspection of greenwashing through sustainable marketing in a Norwegian context is of both academic and public interest.

Previous research call attention to green advertisement among industries. Carlson et al. (1993) identified an increased frequency of green advertisement within the industries of energy,

forests, and household/office . In a report on greenwashing in North American consumer markets by Terrachoice (2009), kids-, cosmetics- and cleaning-products, all consumer products, are identified as more prone to greenwash because of the excessive use of environmental claims in advertisement. Baum (2012) identifies three major industries with a higher frequency of green advertisement. Consumer products, the automotive industry, and energy, utilities and gas joined together makes up 77,4% of all advertisements in the study. There is a lack of research on what type of magazines that contains green advertisements of what industries, and thus are in the risk of containing greenwashing.

The above knowledge gaps actualise the following research question: "How does greenwashing through advertising differ between industries in Norwegian magazines?". This article presents results from a content analysis where marketing and advertisement campaigns from Norway will be analysed, and in light of previous research, identify the frequency of greenwashing and which industries most frequently commit the "sin" of greenwashing in campaigns. The results show that there are two industries with a higher frequency of green advertisements than the rest. The automotive industry and the consumer product manufacturers together have over 50% of the identified green advertisements. The automotive industry has a low frequency of greenwashing while over a half of the consumer product manufacturers ads contain greenwashing. The study also evidences that half of the ads from the industries of energy/gas, environmental services and banking contains greenwashing.

Theory

Greenwashing – a multifaceted concept
The concept of greenwashing can be traced back to a 1986-essay written by the environmental activist Jay Westerveld. The essay revolves around the experience of Westerveld with misleading green marketing by a hotel that encouraged customers to reuse towels to reduce water-usage, when saving laundry-expenses was the primary objective (Cherry, 2014; Rawsthorn, 2010). Since then, studies have identified greenwashing in a variety of advertised products, committed by companies from a spectre of different industries.
In a systematic review by Netto et al. (2020), greenwashing as a concept is found in a variety of academic disciplines. The concept of greenwashing is found in technical subjects like engineering and biotechnology, through humanities and ethics, to business and marketing. Thus, with such a widespread use, a multitude of definitions can be found and used to cast

light on the concept. However, as Lyon and Montgomery (2005) stresses, the definitions of greenwashing cover a phenomenon that varies from addressing slight overcompensation to outright lying and constructing false impressions of environmental performance. A one-size-fits-all definition is, according to the authors, hard to come by, and as Lyon and Montgomery (2005) conclusively argues, greenwashing should be considered an umbrella term that covers all types of activities that works to communicate performance as greener than it really is. The goal of greenwashing is, according to Lyon and Montgomery (2005), to make the public have a more positive perception than the actual performance would create.

Cambridge Dictionary (n.d) defines greenwashing as "behaviour or activities that make people believe that a company is doing more to protect the environment than it really is". Oxford Advanced Learner's Dictionary (n.d) definition focus on "activities by a company or an organization that are intended to make people think that it is concerned about the environment, even if its real business actually harms the environment". While both can be utilized in a marketing context, both lacks the focus needed to accurately cover the traits needed to give an insightful understanding of the concept. While the definition of Cambridge dictionary is too wide, the definition found in the Oxford dictionary is to absolute and would not cover companies committing low-level or unintentional greenwashing. The same inadequacy can be found in Delmas and Burbano's (2011, p. 67) definition of greenwashing as they define it as "poor environmental performance and positive communication about environmental performance".

Terrachoice, a marketing firm specializing in environmental advertisements, defines greenwashing as "the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service." (Terrachoice, 2009, p.1) Tateishi (2018, p. 372-373) argues that greenwashing is "communication that misleads people regarding environmental performance/benefits by disclosing negative information and disseminating positive information about an organization, service, or product". While Baum (2012, p. 424) defines greenwashing as "the act of disseminating disinformation to consumers regarding the environmental practices of a company or the environmental benefits of a product or service".

The three definitions listed above serves as adequate definitions. The reason for this is that a fulfilling definition would need to describe what greenwashing is in an understandable way. The definition needs to present that there are two levels of greenwashing: greenwashing of the

overall performance of a company (firm-level) and greenwashing through service or product advertisement (product/service-level). The definition also needs to demonstrate that greenwashing can take the form in variations ranging from withholding information and selective use of facts to intentionally lying about environmental performance on a company or product/service level.

Netto et al. (2020) argues that greenwashing is a multi-layered concept that can take two forms, firm-level and product/service-level, with two sub categorical ways of committing greenwashing, namely claim-based and executional-based greenwashing. Claim-based greenwashing is when a company argues being green through text-based argumentation (Netto et al., 2020).

A new form of greenwashing identified by Parguel et al. (2015) is called executional greenwashing. Instead of using arguments explicitly through text, executional greenwashing is based on using sensory impressions to trigger a positive green perception of a company or product/service. Visual elements of untouched nature landscapes, endangered animals or sources of renewable energy (solar, wind, hydropower) are examples used. Sounds of running rivers, singing birds and ocean waves rolling ashore, in addition to using vibrantly colours schemes consisting of green or blue were also identified as tools to execute executional greenwashing (Parguel et al., 2015). Research shows that use of nature-evoking elements contributes positively to the perception of a brand and product/service (Parguel et al., 2015; Schmuck et al., 2018). And while many green companies use nature as a core element in their advertisement (Segev, Fernandes, & Hong, 2016), some lesser-green companies perform executional greenwashing, intentionally and unintentionally, and are thus perceived as greener than they really are (Netto et al., 2020). A study by Schmuck et al. (2018) analyses the effectiveness of using nature-evoking elements in green advertisement. The results show that using pictures of nature in advertisements triggers an affective persuasive mechanism, which makes consumers more positive towards both the ad and brand. A study by Hartmann et al. (2013), on usage of nature elements in advertisements, confirms this effect by detecting an increased positive emotional response when exposed to advertisements containing pictures of nature. Another perspective to consider is as Segev et al. (2016) argues, greenwashing is uncommonly a result of outright lying. And as an extension, Lyon and Maxwell (2011, p. 9) writes that "greenwashing is fundamentally about misleading consumers and investors by telling the truth, but not the whole truth".

Industries and green advertisement

An industry is defined as being "… a group of establishments engaged on the same, or similar, kinds of production activity… similar businesses are grouped into industries based on the primary product produced or sold " (Kenton, 2021). In a study by Baum (2012), 77,3% of all green advertisements were done by three industries, consumer product manufacturers, the automotive industry, and energy, utilities, and gasoline. Carlson et al. (1993) identify a higher frequency of advertisements containing environmental claims within the industries of energy, forest, and household/office. These studies show that the industries of consumer products and energy sector has a higher tendency to use environmental claims in their advertisement than other industries. While 25,1% of all environmental advertisement in Baum's (2012) study fell into the automotive category, only 5% did in the older study by Carlson et al. (1993). This can be tied to the rapid evolution of technology within the automotive industry. The evolution of both hybrid and electric technology offers a viable alternative to their fossil fuelled counterparts.

Previous research makes a strong argument for three main industries having a higher tendency of greenwashing (Baum, 2012; Carlson et al., 1993). As beforementioned, the industries of consumer product manufacturers, the automotive industry, and energy, utilities, and gasoline have a higher frequency of green advertisements. Baum (2012) identifies four types of greenwashing having a higher frequency than the others, in addition to which industry they occur in. In the industry of consumer product manufacturers being vague (85,4%), having a hidden tradeoff (19,5%), and offer no proof (12,2%) were the most often occurring types (Baum, 2012). Within the automotive industry advertisements most often being a lesser of two evils (64,9%), being vague (32.4%), and offer a hidden tradeoff (18.9%) (Baum, 2012). In the energy, utilities, and gasoline industry, the most frequently occurring types of greenwashing is vagueness (71.4%), offering a hidden tradeoff (42.9%) and being a lesser of two evils (40.8%) (Baum, 2012).

Research on individual industries shows that the categories of fast fashion (Blesserholt, 2021) and clothing and cosmetics (Heidenstrøm et al., 2021) have a high degree of greenwashing. In a report on greenwashing by Terrachoice (2009) kids-, cosmetics- and cleaning-products are identified having a higher risk of containing greenwashing because of high frequency of green claims and thus, green lies. While published studies analysing greenwashing offers great insight in frequency and what type of greenwashing is committed, there is a lack of updated

research analysing the frequency of greenwashing occurring in what type of magazines, and which industries are most prone to greenwash.

Greenwashing in Norway

The concept of greenwashing has attracted increasingly focus and attention from the public sphere in Norway. Actors within media, academia, and the industries themselves have instantiated greenwashing on the national agenda. Norway is considered to have one of the strictest laws of marketing regarding green advertisement (Doyle, 2007; Parguel et al., 2015). Cars are not allowed to being advertised as green or environmentally friendly unless all aspects are accounted for. This means that production and distribution and all the way to recycling, have to be environmentally friendly (Doyle, 2007). Forbrukertilsynet, the consumer authority of Norway, has released a guide on how to interpret the national legislation in regard of sustainable marketing (Forbrukertilsynet, n.d.), how to do it correctly, and thus avoid greenwashing.

In an article by the Norwegian newspaper Aftenposten, eleven excerpts from different marketing campaigns and home pages was analysed. Their mission was to see whether or not they could identify greenwashing in a Norwegian context. Six of the eleven analysed excerpts were considered to contain greenwashing, according to the expert panel (Hagesæther, 2021). One of the campaigns analysed was the Swedish hamburger restaurant chain Max and their "climate positive" menu. The conclusion of the expert panel was that communicating beef burgers as climate friendly on the basis of bought carbon credits had to be considered greenwashing (Hagesæther, 2021). Another campaign analysed was from the Finish Koskenkorva distillery. Their vodka, according to the producer, fights climate change because of the use of grain from regenerative agriculture. This campaign also got labelled as greenwashed because of the lack of proof and additional information on the production as a whole (Hagesæther, 2021).

The organisation Skift - Climate Business Leaders, and organization consisting of actors across several industries have, in cooperation with environmental organizations Zero, Future in our hands and WWF Norway, made a "guide against greenwash" (Skift Norge, n.d.-a). The guide consists of ten set of guidelines that, if followed, will reduce the chance of greenwashing. The guide includes points as "be honest and accountable (Skift Norge, n.d.-a)", "avoid buying a clean conscience through climate quotas or by letting others clean up ocean plastic (Skift Norge, n.d.-a)" and "be careful using terms such as "better for the climate,

nature, and the environment (Skift Norge, n.d.-a)". The guide is not a set of laws according to the initiative-takers, but tools to help avoid greenwashing (Skift Norge, n.d.-b).

In a study of Norwegians attitude towards green advertisement, only two of 41 participants mentioned greenwashing as a concept in their group focus interview, in addition, both being in the same focus group (Heidenstrøm et al., 2021). The study revealed a lack of understanding of greenwashing. The participants struggled with the distinction between whether or not an advertisement was being greenwashed or not (Heidenstrøm et al., 2021). This confusion made the participants doubt all green advertisements, not only the ones containing greenwashing. The participants of the study stressed the need for more regulation and that the authorities have to initiate measures to reduce greenwashing (Heidenstrøm et al., 2021).
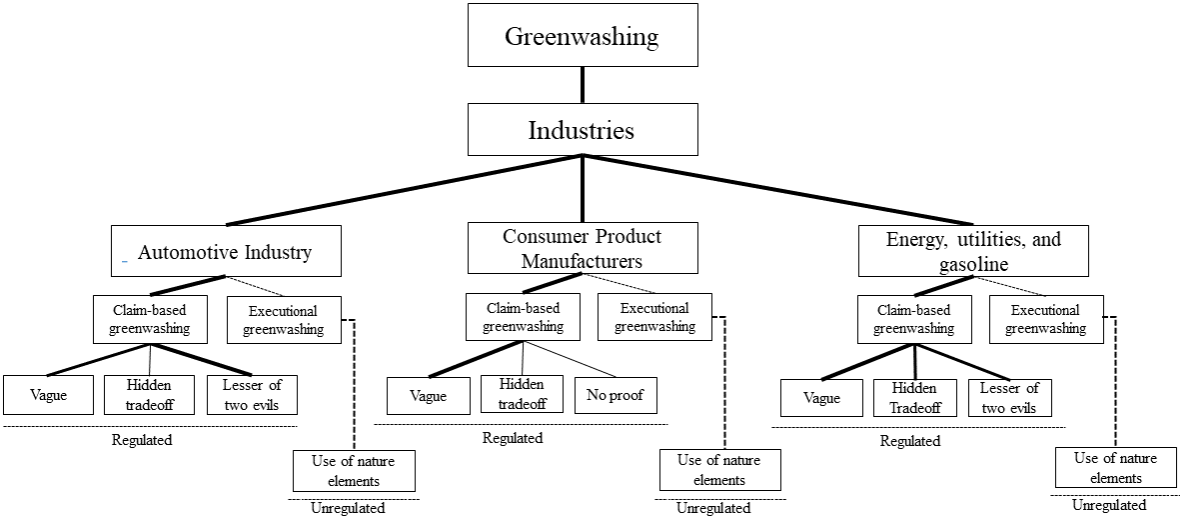
Figure 3: Theoretical model of greenwashing

Greenwashing is a highly relevant and important phenomenon. With increased need for sustainable and green options, the amount of green advertisements is only deemed to rise and thus, so are greenwashing (Tateishi, 2018). Figure 1 illustrates the relation between the different concepts discussed in the theory chapter and how they are related. Existing research suggest that there are three main industries responsible for most of the green advertisements found in magazines. Newer research contends that there are some main types of claim-based

greenwashing occurring within these industries. In addition, executional greenwashing as a new type of greenwashing identified, are a new way of looking on greenwashing, not only as communication through words, statistics and arguments, but also through visual tools. Norwegian law regulates what is allowed and what is not when it comes to claim-based argumentation. Executional greenwashing, on the other hand, is yet to have regulation to control what is deemed as correct use of these elements, and thus stands as unregulated.

Method

Sample collection

Baum (2012) and Carlson et al. (1993) acknowledge that certain magazines tend to attract advertising of various companies and brands. For example, Baum (2012) chose four magazine categories consisting of British and American magazines. Baum (2012) used two magazines from the ''business'',''environmental'', and "scientific'' category, while four magazines from the ''newsmagazine'' category. The study thus consisted of ten magazines and a total of 84 issues. Most green advertisements where found in the *Scientific American* with 47 advertisements, while the least where found in the British newsmagazine *New Statesman* with 12 green advertisements (Baum, 2012).

The Norwegian magazine flora is limited, and several relevant magazines did not contain advertisements at all. In the selection process of which magazines to collect data from, magazines across several magazine categories where collected and checked. With availability and finding a sufficient amount of green advertisements to analyse as criteria, six magazines where chosen in three magazine categories. This to make sure that advertisements focused on different segments of the population, an assumption being that different magazine types attract different types of green advertisements. All magazine editions are released between January 2021 and December 2021. In the "news magazine" category a weekly edition of *VG Helg* and *Aftenposten A-magasinet* where chosen. In the "business" category, the bi-weekly magazine *Kapital* and a bi-weekly edition of *Dagens Næringsliv Magasinet* were collected. Lastly, two "lifestyle" magazines, *Vi Menn* and *Tara* where chosen with one issue from each month. *Vi Menn* is the largest lifestyle magazine in Norway targeting males, while *Tara* is a lifestyle magazine primarily focuses on female readers. All in all, the sample size contained 100 news magazines issues, 44 business magazines issues, and 24 lifestyle magazines issues, which makes a total of 168 magazine issues have been sampled in this study.

All magazines were read through, and identifying green advertisements using the classification of green advertisements made by Banerjee et al. (1995). An advertisement is considered to be green if it contains one or more of three criteria identified. The first criteria is "explicitly or implicitly addresses the relationship between the product or service and the physical environment", the second criteria is "promotes a green lifestyle with or without highlighting a product/service", and the third criteria is "presents a corporate image of environmental responsibility" (Banerjee et al., 1995, p. 22).

Content analysis
Content analysis as a research form historically focused on manifest content (Potter & Levine-Donnerstein, 1999). The focus was geared towards the observable and surface meaning of the written text and expressed behaviour, exemplified by Berelson (1952, p. 18) defining content analysis as "a research technique for the objective, systematic, and quantitative description of the manifest content of communication". Content analysis has evolved from manifest content into looking beyond the surface and find a deeper meaning with a message, called latent content (Babbie, 1992). Latent content is split into two types, one focusing on analysing patterns and the other focusing on the coders' own interpretation of the content (Potter & Levine-Donnerstein, 1999). The beforementioned type is to analyse projective latent content and focuses on the coders' own judgements and previous knowledge to find a meaning behind the explicit word (Potter & Levine-Donnerstein, 1999). Kleinheksel et al. (2020) argues that latent projective content analysis takes use of the interpretations of the researcher about the meaning of the text. The author has chosen to execute the content analysis as a projective content analysis, thus following the same approach as Baum (2012). When coding, the coders have to rely on their own knowledge to make decisions on what is to be considered greenwashing, and what is not.

A research assistant was recruited to do the content analysis together with the author. A pre-analysis training session consisting of giving the research assistant an understanding of greenwashing, green advertisements and the different frameworks used in the study. The author and the research assistant went through ten pre-chosen advertisements gathered in the first phase of the research. Thereafter each magazine was read through identifying green advertisements according to the schema by Banerjee et al. (1995).

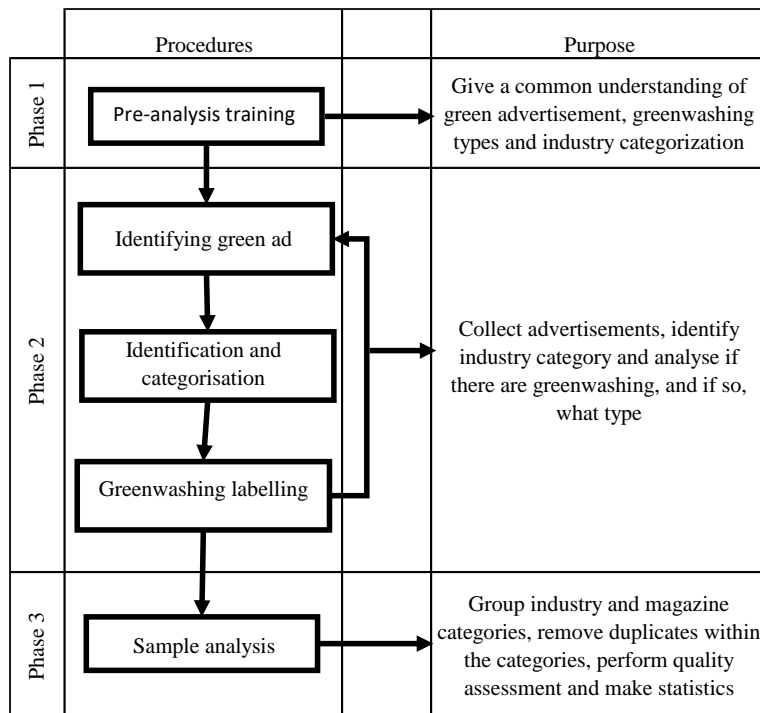|	Procedures		Purpose
Phase 1	Pre-analysis training	→	Give a common understanding of green advertisement, greenwashing types and industry categorization
Phase 2	Identifying green ad Identification and categorisation Greenwashing labelling	→	Collect advertisements, identify industry category and analyse if there are greenwashing, and if so, what type
Phase 3	Sample analysis	→	Group industry and magazine categories, remove duplicates within the categories, perform quality assessment and make statistics

Figure 4: Analytical phases

When an advertisement corresponding to one or more of the above criteria of Banerjee et al. (1995), the advertisement was analysed according to three greenwashing-frameworks. The first framework is TerraChoice Marketing's Seven Sins of Greenwashing™. (TerraChoice, 2009). The second framework is by Scanlan (2017) where six additional "sins" adds on the sevens sins from TerraChoice. The last framework is five firm-level greenwashing identified by Contreras-Pacheco & Claasen (2017). The use of the word "sin" in this context is most likely inspired by the "seven deadly sins" from the capital vices in Christianity (Blesserholt, 2021). The use of the word "sin" stems from the work of Terrachoice (2009), and are used as a term in several research articles (Baum, 2012; Netto et al., 2020; Blesserholt, 2021; Scanlan 2017). Blesserholt (2021, p.16) argues that "The name 'sin' highlights the significance of the immoral or illegal wrongdoing of brands who engage in greenwashing, causing a certain uneasy tension due to the severity of the word.". The author will be using the word sin in this chapter because of its active use in the literature, but will in later chapters be using the words "claim" and "misleading claim" to describe the 18 "sins" described.

When a green advertisement was identified, a picture of the advertisement was taken by phone or print screened on the computer, labelled and categorized by industry. The advertisement then was analysed «sin for sin». If one of the sins was identified, the advertisement got labelled as containing greenwashing. The coders also marked advertisements containing what Parguel et al. (2015) defines as executional greenwashing

elements. If an advertisement contains explicit use of nature elements, green or blue colour, animals and other elements, the advertisements was labelled containing sensory data. This notation is to be considered an add-on feature of the analysis, and did not in any way affect the main mission of the study. Executional greenwashing is not counted as greenwashing in the coding based on not having operationally frameworks.

The author had prepared a schema for analysing the advertisements with all information needed to further analysis after all relevant information has been gathered. The schema contained all sins and a notation of «1» if identified or «0» if not found. All in all, the schema contained 18 different sins, but the coders quickly noted a lack of some sins, mainly the «fibbing» category of the seven sins of Terrachoice (2009). The fibbing sin is by Terrachoice (2009, p. 3) defined as «the least frequent Sin, is committed by making environmental claims that are simply false. The most common examples were products falsely claiming to be Energy Star certified or registered». To know if an advertisement is containing outright lies is challenging, and thus did have few notations. The six additional sins by Scanlan (2017) was identified through research on advertising about? fracking in the oil and gas industry. These sins did not occur often, but occasionally covered some communicational behaviour that did not fit into the other categories. This also applies to the last five firm-level sins that occasionally covered sins that did not fall into the Terrachoice (2009), nor the framework of Scanlan (2017).

The seven sins of Terrachoice (2009, p. 3) is defined as:

1. Sin of the Hidden Trade-off, committed by suggesting a product is 'green' based on an unreasonably 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, including energy, greenhouse gas emissions, and water and air pollution, may be equally or more significant (Terrachoice, 2009, p. 3).

2. Sin of No Proof, committed by an environmental claim that cannot be substantiated by easily accessible supporting information or by a reliable third-party certification. Common examples are facial or toilet tissue products that claim various percentages of post-consumer recycled content without providing any evidence (Terrachoice, 2009, p. 3).

3. Sin of Vagueness, committed by every claim that is so poorly defined or broad that its real meaning is likely to be misunderstood by the consumer. 'All-natural' is an example. Arsenic, uranium, mercury, and formaldehyde are all naturally occurring, and poisonous. 'All natural' isn't necessarily 'green' (Terrachoice, 2009, p. 3).

4. Sin of Irrelevance, committed by making 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 (Terrachoice, 2009, p. 3).

5. Sin of Lesser of Two Evils, committed by claims that may be true within the product category, but that risk distracting the consumer from the greater environmental impacts of the category as a whole. Organic cigarettes are an example of this category, as are fuel-efficient sport-utility vehicles (Terrachoice, 2009, p. 3).

6. Sin of Fibbing, the least frequent Sin, is committed by making environmental claims that are simply false. The most common examples were products falsely claiming to be Energy Star certified or registered (Terrachoice, 2009, p. 3).

7. The Sin of Worshiping False Labels is committed by a product that, through either words or images, gives the impression of third-party endorsement where no such endorsement actually exists; fake labels, in other words. (Terrachoice, p. 5).

The six sins that Scanlan (2017) supplements the seven sins of Terrachoice is defined by Netto et al. (2020, p. 9) as:

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 (Netto et al., 2020, p. 9).

9. The sin of fearmongering: claims that fabricate insecurity related to not "buying in" on an organization practice, like OGI hydraulic fracking. Scanlan (2017, 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" (Netto et al., 2020, p. 9).

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 (Siegel, (2014) apud Scanlan (2017)). Scanlan (2017) describes that greenwashing obscures who loses regarding the negative impacts of fracking and OGI profits from exploiting the hopes and trust of the citizenry (Netto et al., 2020, p. 9).

11. The sin of injustice: according to Scanlan (2017) 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 (Netto et al., 2020, p. 9).

12. The sin of hazardous consequences: greenwashing hides the reality of inequality and distracts the public from the dangers of risk other experience, Scanlan (2017) includes another sin in reference to harm done from hazardous consequences (Netto et al., 2020, p. 9).

13. The sin of profits over people and the environment: to profit over people and the environment is what Scanlan (2017) describes as potentially the greatest greenwashing sin of all Netto et al. (2020, p. 9).

The last five firm-level greenwashing sins by Contreras-Pacheco & Claasen (2017, p. 527) is defined as:

14. Dirty Business: Belonging to an inherently unsustainable business, but promoting sustainable practices or products that are not representative neither for the business nor the society (Contreras-Pacheco & Claasen, 2017, p. 527).

15. 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 with the main sustainability concern (Contreras-Pacheco & Claasen, 2017, p. 527).

16. Political Spin: Influencing regulators or governments in order to obtain benefits that affect sustainability. It is common to notice that these spins are "justified" due to the companies' character of large tax payers or employers (Contreras-Pacheco & Claasen, 2017, p. 527).

17. It's the Law, stupid!: Proclaiming sustainability accomplishments or commitments that are already required by existing laws or regulations (Contreras-Pacheco & Claasen, 2017, p. 527).

18. 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 (Contreras-Pacheco & Claasen, 2017, p. 527).

The addition of 11 sins in addition to the sevens sins used by Baum (2012) is based on being new research done after the content analysis from 2012. In a content analysis by Blesserholt (2021), focusing on fast fashion, both the framework of Scanlan (2017) and Contreras-Pacheco & Claasen (2017) where utilized and successfully identified greenwashing activities not covered by the seven sins framework by Terrachoice (2009).

Intercoder reliability and credibility

There were two coders performing the content analysis. The research assistant and the author. Daymon & Hallway (2011) stresses that a single person coding may offer a challenge because of the coders cultural background and previous knowledge. The research assistant has a background in biology and thus offers a complementary academic background to the one of the author. In an analysis of projective latent content, the background and knowledge of the researcher is an important part of the analysis (Potter & Levine-Donnerstein, 1999). All advertisements were analysed by both coders, and when there were disagreements, both coders did individual research and then discussed again reaching an agreement.

Findings

The sample size of green advertisements reached a total of 442. Some advertisements appeared across several magazine issues and occasionally multiple times in the same magazine. To avoid a green advertisement being counted several times, all green advertisements where counted once per magazine (once in *VG Helg*, once in *A-magasinet* etc), but in the joined magazine category and total sample size each green advertisement is only listed once. The sample size when counting all green advertisements once was 333. If counted once within magazine category, the two news magazines had 187 green advertisements, the business magazines had 133, and the lifestyle magazines had 36.

Green advertisements and greenwashing in Norwegian magazines

The most amount of green advertisements appeared in the 50 issues of *A-magasinet* with 160 green advertisements. The second most green advertisements surprisingly appeared in only 22 issues of *Kapital* with 123 green advertisements, were 112 of them was unique (only found

once in the study). *VG Helg,* with over a double magazine issues to Kapital, had a total of 110 green advertisements. *DN-magasinet* had the least with only ten green adverts found. The two lifestyle magazines, *Tara* and *Vi Menn* had 26 and 13 green advertisements respectively.

Table 1
Sources of Green Advertisements

Category	Magazine Editions	Total Environmental Advertisments	Unique Advertisments*
News magazines			
A-magasinet	50	160	59
VG Helg	50	110	27
Business magazines			
Kapital	22	123	112
DN-Magasinet	22	10	10
Lifestyle magazines			
Tara	12	26	19
Vi Menn	12	13	5

* Green advertisments found in only one of the six magazines

Which industries greenwashes where?

In table 2 one can observe that one industry is standing out when it comes to frequency of green advertisements with a total of 133 advertisements across all magazines. Green adverts from the automotive industry is found in almost all editions of both news magazines, the business magazines and the lifestyle magazines. And as seen in table 2 the automobiles category is the most frequent industry with green advertisement in both the news magazines and the business magazines, while consumer products are the most frequent in the lifestyle magazines, with the automotive industry coming in second. What type of cars appears is closely tied to the customer segment of the magazines. In the news magazines most cars where family cars, while in the business magazines luxury cars like Jaguar, Land Rover and Porsche frequently appears. The amount of identified greenwashing is low by the automotive industry. In the news magazines 12 out of 85 green automotive adverts contain greenwashing, while the number is even lower in the business and lifestyle categories. 1 in 51 green automotive ads contains greenwashing in the business magazine category, while in the lifestyle magazines, the number is 1 in 13. In addition to green automobiles advertisements, the news magazines contain a high frequency of advertisements by the consumer product manufacture industry. 36 of the 62 green advertisements found contained traces of greenwashing which makes a total of 58%. In the lifestyle magazine category 20 out of 23 green ads contained traces of greenwashing. Overall, 65 out of 187 green ads in the news

magazine category contained greenwashing, while in the business magazine category 28 out of 133 green adverts are greenwashed. In the lifestyle magazine category 21 out of 36 adverts contain greenwashing elements. In figure 3 one can observe a clear violation of Norwegian legislation. Maxus (2021) has in their advertisement stated that their portfolio of cars are "saving the environment", a claim that is not backed up by any evidence or possible to proof neither through information in the advertisement or by following the internet links. An additional observation is the colour scheme used in the advertisement.

Figure 5: Greenwashed automotive advertisement (Maxus Norge, 2021)

Table 2
Frequency of each Industry Category in Magazine Type

Industry Category	News Magazines A-magasinet & VG Helg		Business Magazines Kapital & DN-magasinet		Lifestyle Magazines Tara & Vi Menn	
	Green advertisements	**Containing Greenwashing***	**Green advertisements**	**Containing Greenwashing***	**Green advertisements**	**Containing Greenwashing***
Automotive	85	12	51	1	13	1
Consumer product manufacturers	62	36	9	2	23	20
Energy, utilities, and gasoline	11	7	11	4	-	-
Environmental services and equipment	8	6	9	3	-	-
Real Estate	4	2	13	4	-	-
Other Services	3	0	10	3	-	-
Banking/financial services,	1	0	8	5	-	-
Climate Campaign	1	0	8	3	-	-
Transportation services	7	0	1	0	-	-
Other Products	3	2	4	2	-	-
Logistic services	2	0	4	0	-	-
Consulting Services	-	-	5	1	-	-
Total	187	65	133	28	36	21

* Green ads containing one or more instances of greewashing according to the frameworks of Terrachoice (2009), Scanlan (2017) and Contreras-Pacheco & Claasen (2017)

Frequency of misleading claims

In table 3 an overview of the frequency of greenwashing claims overall. Three types of greenwashing are identified more often than the others. The most frequent misleading claim is being vague with 20,7% of all advertisements containing it. No proof is found in 16,2% of all

the advertisements, while hidden tradeoff is identified in 10,8% of all green ads. The other
claims had much lower frequency with sporadic appearances.

Table 3
Frequency of Misleading Claims Overall

	Green advertisement n= 333
Hidden Tradeoff	10,8 %
No proof	16,2 %
Vague	20,7 %
Worshipping false labels	6,6 %
Irrelevance	4,5 %
Ad bluster	3,6 %
Others combined	3,0 %
Executional Greenwashing	42,0 %

Note: a single green advertisement could contain
several types of greenwashing

Figure 6: example on hidden tradeoff and no
proof claim (Lambi, 2021)

Misleading claims by magazine categories

In table 4 the frequency of each misleading claim distributed on magazine category is
presented. In the news magazine category, vague is the most frequent claim with 21,4 %. In
the category of lifestyle magazines 47,2% of all the green ads could be considered vague,
while in the business category 11,3% of all the green advertisements are using vague claims.
Hidden tradeoff is most frequent claimed in lifestyle magazines with 30,6 % of all green ads,
while in news magazines 13,4% contain it. The fewest instances of this claim is in the
business magazine category with only 0,8%. Claims with no proof is most frequent in lifestyle
magazines. In figure 4 an advertisement from Bambi (2021) containing both the claim of
hidden tradeoff and no proof. In the advertisement one can read that the product is "soft and
sustainable from Nordic nature" (Lambi, 2021, own translation). This advertisement is
promoting sustainability without any added information or links to read why their product is
sustainable, only that it is. This is an example on how an advertisement with a minimalistic
approach and few elements became greenwashed through lack of information.

Table 4

Frequency of Misleading Claims by News Magazine Category

	Magazines		
	News magazines A-magasinet & VG Helg n= 187	Business magazines Kapital & DN-magasinet n= 133	Lifestyle magazines Tara & Vi Menn n= 36
Hidden Tradeoff	13,4 %	0,8 %	30,6 %
No proof	17,1 %	12,0 %	22,2 %
Vague	21,4 %	11,3 %	47,2 %
Executional Greenwashing	47,6 %	33,1 %	38,9 %

Note: Each ad could appear in one or more magazine categories and contain several claims

Misleading claims by industry

In table 5, what type of greenwashing is identified distributed on industry category is presented. The data shows that there is a high frequency of vague greenwashing committed by the consumer product manufacturers. Almost half of the green advertisements within the industry contain vague claims, while almost a quarter contain hidden tradeoff or no proof. Figure 5 presents an ad containing a vague claim. The ad by Environ (2021) states that the product gives "full protection against environmental pollution" (Environ, 2021, own translation). If this means that the product is friendly towards the environment, or that it protects the user against pollution is ambiguous, and it is reasons to believe that the choice of words is not by coincidence, but with intention.

Figure 7: example on vague greenwashing (Environ, 2021)

Table 5
Frequency of Misleading Claims by Industry

Industry Category	n	Type of Greenwashing			
		Hidden Tradeoff	No proof	Vague	Executional Greenwashing
Automotive	133	4,5 %	6,8 %	6,8 %	43,6 %
Consumer product manufacturers	87	24,1 %	25,3 %	46,0 %	44,8 %
Energy, utilities, and gasoline	22	4,5 %	36,4 %	22,7 %	36,4 %
Environmental services and equipment	17	29,4 %	11,8 %	17,6 %	23,5 %
Real Estate	17	5,9 %	23,5 %	23,5 %	64,7 %
Other Services	13	-	7,7 %	23,1 %	30,8 %
Banking/financial services,	9	11,1 %	33,3 %	22,2 %	22,2 %
Climate Campaign	9	-	33,3 %	-	22,2 %
Transportation services	8	-	-	-	-
Other Products	7	14,3 %	28,6 %	28,6 %	-
Logistic services	6	-	-	-	-
Consulting Services	5	-	-	20,0 %	20,0 %
Total	333				

Most of the advertisements by the automotive industry did not contain greenwashing, but those who were identified as greenwashed had traces of being vague and no proof. In figure 6 is an advert from Porsche with the rhetorical question "Who had believed green choices could look like this?" (Porsche, 2021, own translation). This statement conveys a message that their car is green, and thus environmentally friendly. A statement that violates the Norwegian marketing law. The ad by Porsche (2021) contains several greenwashing attributes. There is no proof of it being a green choice. The ad promotes the car as green with a narrow set of attributes, thus is a hidden tradeoff. The use of the word "green" is ambiguous, something that is considered being a vague claim. The industry of energy, utilities, and gasoline uses claims that are not backed up with proof the most, while the second most committed greenwashing through vagueness.
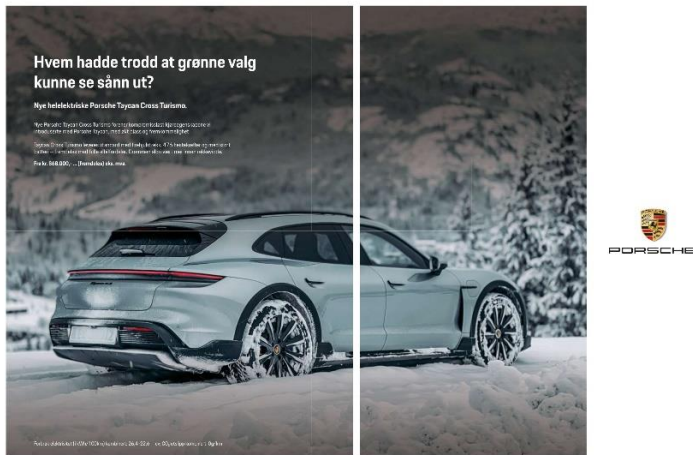
Figure 8: Greenwashed automotive advertisement (Porsche, 2021)

Greenwashing – an overview

In table 6 is a complete overview of green advertisement, frequency of greenwashing, and total percentage. In 333 green advertisements 108 contained greenwashing, which makes a total percentage of 32,4%.

Table 6
Overall greenwashing

Industry Category	Green advertisements	Containing Greenwashing*	Percentage
Automotive	133	13	9,8 %
Consumer product manufacturers	87	53	60,9 %
Energy, utilities, and gasoline	22	11	50,0 %
Environmental services and equipment	17	9	52,9 %
Real Estate	17	6	35,3 %
Other Services	13	3	23,1 %
Banking/financial services,	9	5	55,6 %
Climate Campaign	9	3	33,3 %
Transportation services	8	0	0,0 %
Other Products	7	4	57,1 %
Logistic services	6	0	0,0 %
Consulting Services	5	1	20,0 %
Total	333	108	32,4 %

* Green ads containing one or more instances of greewashing according to the frameworks of Terrachoice (2009), Scanlan (2017) and Contreras-Pacheco & Claasen (2017)

Executional greenwashing

In table 3, table 4, and table 5 the numbers for identified executional greenwashing is included. The results in table 3 show that 42% out of 333 green advertisement contains elements of executional greenwashing. Table 4 shows that almost half of the green advertisements in the news magazine category can be categorized as greenwashed with executional elements. 33,1% of the green advertisements in the business magazine category and 38,9% in the lifestyle magazines also had elements that can be categorized as executional greenwashing. The industries with the highest frequency of executional greenwashing is real estate with 64,7% and consumer product manufacturers with 44,8%. The automotive industry generally has a low frequency of greenwashing with only 13,8% of all advertisements containing greenwashing, but if the identified executional greenwashing had been counted in the percentage would rise to 43,6%. All the 12 ads that are greenwashed according to the frameworks of Terrachoice (2009), Scanlan (2017) and Contreras-Pacheco & Claasen (2017) all had executional greenwashing as well. Figure 7 contains an advertisement labelled as not greenwashed. The use of a green tree in the middle of the parking spot, in combination with cars being charged revolving the tree may, based on the research of Parguel et al. (2015), be considered executional greenwashing.

Figure 9: Automotive ad without greenwashing, but with executional greenwashing elements (Jaguar, 2021)

Greenwashing in Norwegian magazines

The aim of this study is to explore how greenwashing through advertising differ between industries in Norwegian magazines. Existing research primarily focuses on frequency, what type of greenwashing is happening, and which industries are committing it. Where the green advertisements are marketed, and thus, where the greenwashing is taking place, is not put much emphasis on. The results show that the two industries with most green advertisements are the automotive industry and the consumer product manufacturers which together have over 50% of the total sample size. While the automotive industry has a low frequency of greenwashing with 9,8% greenwashed ads, 60,9% of the consumer product manufacturers ads contain greenwashing. Additionally, over half of the ads from the industries of energy/gas, environmental services and banking contains greenwashing.

The three industries with highest frequency in the news magazine category consisting of *VG Helg* and *Aftenposten A-magasinet* was the automotive industry, consumer product manufacturers and the energy, utilities, and gasoline industry. The automotive industry had a low frequency of greenwashing, but primarily greenwashes through being vague or lacking proof of environmental performance. The consumer product manufacturers have a high frequency of greenwashing, and being vague is the most frequent reason, while hidden tradeoff and no proof are the second and third most used way of greenwashing. In the energy, utilities, and gasoline industry offering no proof is the most frequent reasons for this industry while being vague is secondly most used.

Kapital and *DN-magasinet* makes up the two business magazines. In the business magazine category, the automotive industry has the highest frequency of green advertisements, with only one instance of greenwashing. The second most advertised industry is real estate which most often when greenwashing are vague and lacking proof for their claims. The industry with third most green ads is the energy, utilities, and gasoline industry. In this industry, having no proof is the most frequent reasons for this industry greenwashing and being vague is the second most frequent reason.

The lifestyle magazines, which consists of *Tara* and *Vi Menn,* have two industries advertising a green message. Most green ads come from consumer product manufacturers, and 20 out of 23 advertisements contained traces of greenwashing. The most identified greenwashing type is being vague, while no proof is the second most frequent.

These findings evidence that there are greenwashing in green advertisements across Norwegian magazines committed by a variety of industries. Even with strict national legislation and increased focus from academia, media and the industries themselves.

Discussion

This study contributes to greenwashing literature offering new insight on where different industries advertise with green advertisement, in addition to identify the frequency and what type of greenwashing is in the communication. The study gives an insight in how the phenomenon of greenwashing operates in Norwegian magazines. What kind of product categories are most prone to advertise through green marketing, and whom are most likely to greenwash. This study shows that there are greenwashing in Norwegian magazines, and this demonstrate the potential and need for more regulation and more aggressive review by government bodies on these matters. The research shows that Norwegian marketeers still have growth potential to become even better on advertising in an environmentally friendly way. Only then the green paint can be used with a clean conscience. This study contributes with three contributions to the literature.

Greenwashing in Norway

The findings presented in this article evidence earlier research on which industries who communicates through green advertising the most. The automotive industry is the most frequent green advertiser, but at the same time with low frequency of greenwashing. Norway is considered to have a really strict interpretation of the marketing law, and advertising a car as green, clean or environmentally friendly has not been allowed since 2007 (Doyle, 2007; Parguel et al., 2015). Previous research from the US and UK evidenced that automotive and consumer product manufacturers have a higher frequency of greenwashing, while the data from this study suggest that the Norwegian legislation works as intended limiting greenwashing from the automotive industry. The frequency of greenwashing in the other industries evidences that many green advertisements are not designed according to the law. In figure 8 the author propose a theoretical model building on the model showing the relation between all the findings.
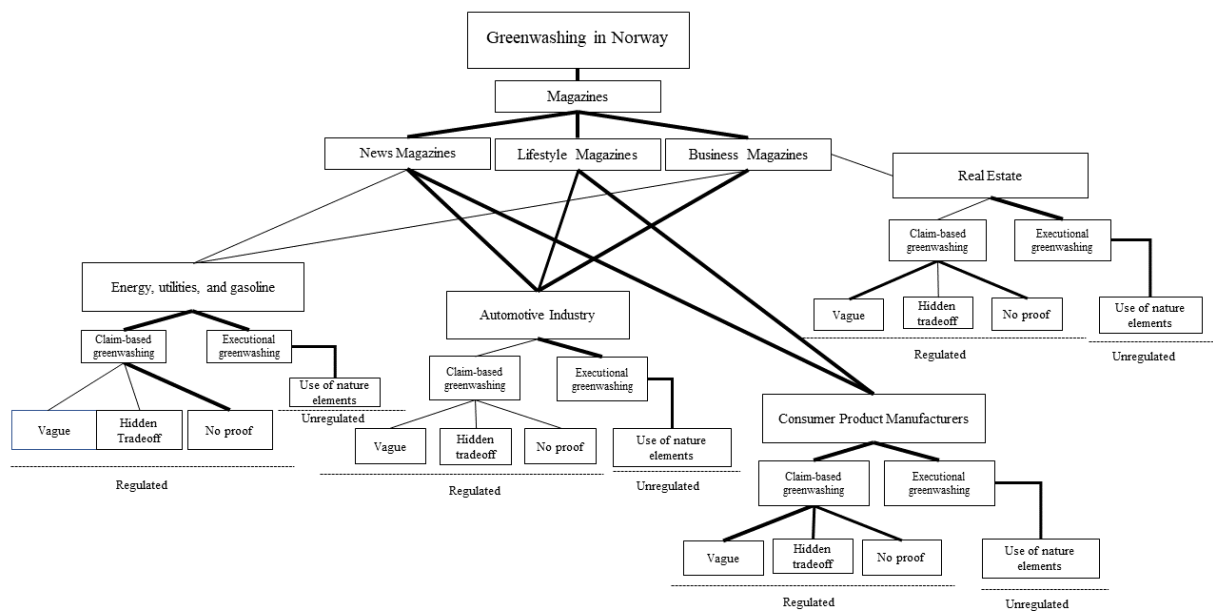
Figure 10: Theoretical model of Greenwashing in Norwegian Magazines

The role of executional elements

A contribution of this research is the identification of executional elements in green advertisement. 42% of all advertisements analysed contained one or more of the visual elements identified by Parguel et al. (2015). 49% of all advertisements containing greenwashing, which means an environmental claim of some sort, also contains visual elements of either nature or use of green/blue colour. A perspective that is most interesting is the adverts that does not contain greenwashing through claims, and thus per definition, is not greenwashing. If the definition of greenwashing is making customers believing a product or service is more environmentally friendly than it really is, would that not also include elements that does this implicitly? The research of Parguel et al. (2015), Schmuck et al. (2018) and Hartmann et al. (2013) shows that using nature elements contributes to people having a more positive attitude towards a product/service and brand. The results of the study show that these elements demand more focus and recognition as powerful tools in the marketing world. If the use of executional greenwashing is just as – if not more – powerful as a way of subconsciously affect customers, the mainstream understanding of greenwashing as a concept has to be updated.

Extending the scope of greenwashing

There is need for frameworks to measure and identify implicit greenwashing. The latest sin to be introduced to Terrachoice' list of sins, expanding it from being six to seven, is The Sin of Worshiping False Labels (Terrachoice, 2009). A false label is primarily a visual element, much more than a text-based claim, and gives the customer the impression of the product/service being supported by a green third-party actor, while that not being remotely true (Terrachoice, 2009). With this as a fundament, the author will argue that there is a need for an updated view of greenwashing. The first form of greenwashing is the traditional approach. The explicit *narrated greenwashing* where claims are made, stories are told and some are true, and some are not. The other perspective builds on the research of executional greenwashing. The implicitly *sensory impression greenwashing*. By using pictures, sounds, smells and other sense-activating elements, customers can be tricked to be more positive minded about a service, product or brand by activating a positive response from the recipient. Many of the car advertisement analysed during the research of this article did not contain *narrated greenwashing* because they, by law, are forced withstand using claims to be environmentally friendly, green, or any other lingo. The advertisements did, however, use a lot of nature, trees, blue sky and the colours of green and blue. All choices made with care and precision to implicitly *sensory impression greenwash* their message. On this basis, I will suggest to build on existing definitions on greenwashing to cover this phenomenon. Tateishi (2018, p. 3) defines greenwashing as: "communication that misleads people regarding environmental performance/benefits by disclosing negative information and disseminating positive information about an organization, service, or product". To build on this an adequate definition of greenwashing would be: "Implicit and explicit communication through text and visuals that misleads people regarding environmental performance/benefits by disclosing negative information and disseminating positive information about an organization, service, or product".

Implication and future research

This study concentrated on the calendar year of 2021, and there are many possibilities to study the phenomena over several years. How Covid-19 affected the frequency of green advertisement, and thus greenwashing, is also an interesting question. There are many interesting perspectives revolving executional greenwashing that can be further researched.

Are there any common traits in this kind of advertisement? Is the automobiles industry actively using nature elements to greenwash their product, or is it a result of cultural advertisement?

The research of this study should be red carefully by market departments and managers. There may be companies greenwashing unintentionally. These companies should make a closer inspection of their market communication and what methods they are using. The consumer product manufacturers industry, energy sector and banking/finance should especially look at their practises. As the study show, even with already strict laws, there is a need for stricter regulation on this matter. Legislators who want to limit greenwashing can use this study as an argument for more supervision and laws that make it even harder to greenwash.

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