Greenwashing knowledge as a determinant of consumer engagement in greenwashed word of mouth

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Abstract: With the growth of green marketing, greenwashing practices have emerged. These practices cause green scepticism among consumers, who may share information on these misleading pro-environmental marketing practices with others. Such informal communication has been called greenwashed word of mouth (WOM). The study extends the understanding of greenwashed WOM by adding the concept of greenwashed electronic word-of-mouth (eWOM) opinion-seeking and giving. The role of this phenomenon in shaping green consumer behaviour and its determinants remains unexplored. The article aims to examine consumers' knowledge of greenwashing as a determinant of their engagement in greenwashed WOM and eWOM. An online survey among 230 adult Poles was conducted. The results showed a low level of greenwashing knowledge among the respondents. The ANOVA tests revealed a significant difference in the greenwashed WOM and greenwashed eWOM opinion giving depending on greenwashing knowledge. The study enriches information about consumers' behaviour in the situation in which they recognize greenwashing practices.

Keywords: greenwashing, green WOM, greenwashed WOM, customer green behaviour, green scepticism

JEL Classification codes: M31, Q01, Q56

INTRODUCTION

Today, consumers and organisations are more and more interested in sustainability. It has led to both an increase in research on sustainable consumption and the expansion of green marketing. Unfortunately, with increasing consumer interest in green products, some companies have begun to introduce greenwashing practices (Gatti et al., 2019). Greenwashing refers to vague, exaggerated or even false environment-friendly claims targeted at consumers about the nature of products (Pendse et al., 2022; Volschenk et al., 2022). This marketing strategy contributes to the confusion about green products. Consumers are not always aware of greenwashing and do not have sufficient knowledge of the practices involved. They need knowledge of greenwashing to properly recognise this misleading information. This is particularly important as only consumers who have knowledge of greenwashing can penalise such unethical marketing practices (Volschenk et al., 2022).

The effects of greenwashing practices on consumer green behaviour have not received enough attention in the literature. In contrast to many studies on green marketing (e.g. Ali, 2021; Jaiswal et al., 2022; Lisowski et al., 2022; Pendse et al., 2022;), only a few studies focused on

consumer reactions to greenwashing and its consequences (e.g. Chen et al., 2014; Singh et al., 2022). Greenwashing practices can increase green scepticism among consumers (Saraireh, 2023). If consumers are able to identify greenwashing, it can negatively affect their intentions to buy green products (L. Zhang et al., 2018; Volschenk et al., 2022). Consequently, consumers with green scepticism may be reluctant to value green information (Saraireh, 2023). Moreover, they may improve their awareness of greenwashing and develop a tendency to inform other consumers of such risks by engaging in word of mouth (WOM) communications. Although word of mouth or electronic word of mouth (eWOM) has been widely explored (Budzanowska-Drzewiecka, 2020), research on that phenomenon in the greenwashing context is scarce. Researchers mainly focus on consumer green WOM. Green WOM is defined as informal communication with friends, relatives and colleagues about positive environmental messages associated with a product or a brand (Söderlund, 1998, p. 179). It refers to positive recommendations made by other consumers about the environment-friendly nature of products or companies. Previous studies showed that greenwashing practices reduce green WOM communications (Chen et al., 2014). On the other hand, such unethical marketing practices can enhance greenwashed word of mouth (greenwashed WOM, GWWOM)(Singh et al., 2022). Greenwashed WOM is a new concept in the marketing literature. It involves consumers sharing negative recommendations about products, brands, or companies which convey false or misleading information about their environment-friendly nature. Due to the novelty of the construct, the role of greenwashed WOM (negative in nature) in consumer green behaviour remains unexplored. Making informed green purchase decisions requires an active search for information not only about green products but also about greenwashing. Word of mouth communications is one of the most influential information sources for consumers (Bartschat et al., 2022). Greenwashed WOM can serve as a potential source of information about misleading claims regarding false green products. However, more research is needed on the propensity to search and give information on greenwashing in that source as well as on the determinants of this process.

One of the determinants of the information-seeking process is consumer knowledge (Carlson et al., 2009; Karimi et al., 2015; Kumar et al., 2021). Consumer knowledge may explain consumers' engagement in searching for information and their reaction to recommendations from others (e.g. opinions about products in online reviews)(Park & Kim, 2008). However, to the best of the authors' knowledge, these relationships in the context of greenwashed WOM and eWOM need to be determined.

The article focuses on greenwashing knowledge as a determinant of engagement in greenwashed WOM and eWOM, defined as communications between consumers about misleading pro-environmental marketing practices. The aim of the study is threefold. Firstly, it examines the engagement of Polish respondents in the greenwashed WOM, including face-to-face interaction, as well as opinion seeking and giving on the Internet (eWOM). Secondly, the study measures consumer knowledge about greenwashing and the propensity to look for information about greenwashing. Thirdly, it determines the relationship between consumer knowledge of greenwashing and engagement in greenwashed WOM and eWOM. In general, the study was expected to establish differences regarding greenwashed word of mouth depending on the level of knowledge on consumers' part. It was decided to conduct a survey among adult Poles.

1 LITERATURE REVIEW

Environment-friendly products attract consumer attention. According to de Freitas Netto et al. (2020), more than two-thirds of consumers are willing to pay more for more environment-friendly products. Research shows that including pro-environmental information in a product

description helps it conquer the market faster than it is in the case of a product not accompanied by such information (Anwar Abdou et al., 2022). In response to consumer interest, companies emphasise their pro-environmental characteristics involving green marketing activities (Chiu et al., 2019).

Some companies go a step further and modify the information provided to customers to make products appear greener than they really are. This phenomenon is called greenwashing (Gatti et al., 2019). The term "greenwashing" was coined Jay Westervelt in 1980 (Braga Junior et al., 2019; Romero, 2008). It came into common use after 1996 (Greer & Bruno, 1996). There are three stages in the development of this phenomenon: ground setting (2003-2010), trail-blazing (2011–2015) and remarkable growth (2016–2020)(Montero-Navarro et al., 2021). Prior systematic literature reviews (e.g. Montero-Navarro et al., 2021; Yang et al., 2020) show an increase in the number of studies on greenwashing. This concept has attracted the interest of researchers from different scientific disciplines including marketing, public policies and environmental management, environmental issues and business ethics (Gatti et al., 2019). This interest has contributed to a general and intuitive definition of the phenomenon. For example, according to (Delmas & Burbano, 2011, p. 65) greenwashing refers to poor environmental performance with very positive communication about it.

Defining greenwashing is approached in two ways (de Freitas Netto et al., 2020). The first approach refers to greenwashing as a selective disclosure related to the visibility of pro-environmental practises sought after by recipients of the message (Delmas & Burbano, 2011; Tateishi, 2018). The second approach defines greenwashing as decoupling behaviour, i.e. action undertaken to divert attention from a company's non-environment-friendly activities (Walker & Wan, 2012). In this study, greenwashing is understood as selective communication of positive information about a company's environmental (or social) activities which does not fully disclose negative information, thus creating an overly positive image of the company (Lyon & Maxwell, 2011; Z. Yang et al., 2020, p. 1493).

Greenwashing can be analysed in many different dimensions (Jog & Singhal, 2019). One area of interest is the influence of greenwashing practices on consumer behaviour. Greenwashing obstructs the potential purchase of more sustainable products and undermines overall trust in green claims (Naderer & Opree, 2021). Companies that employ greenwashing can face negative consequences when consumers become aware of their practices. These consequences stem from the importance of green customer satisfaction in building long-term customer relationships with brands (Issock Issock et al., 2020). For example, greenwashing can result in lower trust in green products (Y.-S. Chen & Chang, 2013), negative attitudes towards advertising and the brand (Gallicano, 2011), or less inclination to buy green products (Golob et al., 2018). According to Braga Jr et al. (2016), greenwashing leads to a more sceptical attitude among customers towards green product consumption, especially in purchase behaviour (or purchase intention). It is less intense when customers are familiar with the products a given company has to offer. In such circumstances, there is no visible drop in sales, but customers signal confusion (Hsu & Huang, 2016; Wu & Chen, 2014). The impact of greenwashing practices of one company can affect not only the intention to buy a particular product but also the demand for green products in general (Wang et al., 2020). Interestingly, green scepticism may have the opposite effect. For example, it may be manifested in an increased interest in green advertisements and a more intensive analysis of the information about green products (Silva et al., 2020).

The development of greenwashing practices confuses consumers when making purchase decisions in the case of green products. Consumers report lack of knowledge about sustainable and pro-environmental activity of companies (Byrd & Su, 2021). Moreover, research has shown that consumers do not recognise greenwashing practices (Fernandes et al., 2020). They have problems distinguishing between acceptable and deceptive environmental claims and need a

greenwashing literacy intervention (Eng et al., 2021). In some cases, they can interpret the reduced information on the green activities of a company as greenwashing (Rahman et al., 2015), which may lead to green scepticism. Scepticism increases when the inconsistency between marketing claims and company's activities can be observed and when these claims are difficult to verify (Ford et al., 1990). For this reason, consumers need reliable information to be able to verify the actual features of green products and make sustainable decisions.

In both the linear (Engel et al., 1968, p. 45) and the circular (Hankins, 2021) models of the purchasing decision process, information about the offer is a critical factor for market participants. In the digital era, consumers can choose among various types of online and offline sources when looking for information about a product. Among the sources, other consumers' recommendations are often of the utmost importance (Bartschat et al., 2022). Traditionally, consumer-to-consumer recommendations are defined as word of mouth (WOM) communications (Ngarmwongnoi et al., 2020). Dissemination of the Internet brought about the spread of the so called electronic word of mouth (eWOM) communications (Budzanowska-Drzewiecka, 2020). In contrast to traditional face-to-face communication i.e. WOM, eWOM is generally agreed to be informal communication between private parties on the Internet during which goods are evaluated (Hennig-Thurau et al., 2004; Babić Rosario et al., 2020). Consumers trust and rely on WOM or eWOM communications to know more about the real quality of products (Filieri et al., 2021). It is becoming more and more natural for customers not only to search for information in WOM and eWOM but also to engage in eWOM giving (Chan & Ngai, 2011; T. (Christina) Zhang et al., 2017).

The literature on WOM and eWOM contributes to expanding knowledge about customer green behaviour (Rahim et al., 2015; Singh et al., 2022). WOM communication indirectly influences green consumption as it plays a mediating role in green purchase intention (L. Zhang et al., 2018; Al-Gasawneh & Al-Adamat, 2020).Consumers look for information about environment-friendly offers in WOM and eWOM sources during the decision-making process. Such environmentally framed eWOM messages have different valence: positive and negative (Filieri et al., 2021). Positive word of mouth about environment-friendly products, services or companies is called green WOM (Issock Issock et al., 2020). To date green WOM has attracted the attention of most of the researchers in that area (e.g. Chen et al., 2014; Allen & Spialek, 2018; L. Zhang et al., 2018; Hameed et al., 2022). Since it is a result of green marketing practices and green brand image (Mehdikhani & Valmohammadi, 2022) green WOM can be improved through reducing greenwashing practices (Chen et al., 2014). It should be noted that greenwashing practices can lead to negative eWOM regarding false environment-friendly practices of brands or companies. Then it is called greenwashed WOM (Singh et al., 2022). Greenwashed WOM can be treated as a counterpoint to green WOM or as a form of green WOM which refers to communication about the risk of greenwashing claims and to negative statements about the offer. Greenwashed WOM is a new concept in the marketing literature. In one of the first studies on that phenomenon, Singh et al. (2022) showed a mediating role of GWWOM in customer green purchase behaviour. They found that consumers who are sceptical are likely to spread negative information about greenwashing practices. Singh et al. (2022) conclude, however, that research on greenwashing and greenwashed WOM is in its infancy. Therefore they suggest further investigating this phenomenon in diverse cultural backgrounds while taking into consideration other constructs. One of them may be consumer knowledge of greenwashing.

2 METHODOLOGY

Due to the novelty of the greenwashed WOM construct, the study was exploratory and descriptive. Having done the literature review, the authors formulated the following research questions:

RQ1: To what extent are Polish respondents engaged in greenwashed WOM and eWOM, including opinion seeking and giving?

RQ2: What is the knowledge of Polish respondents about greenwashing and their propensity to look for information about greenwashing?

RQ3: What is the relationship between respondent knowledge of greenwashing and engagement in greenwashed WOM and eWOM?

Data collection and sample

The data was collected through an online survey among adult Poles. A convenience sampling procedure was used. Although it has limitations, the convenience sampling method is often used in studies on green consumption (Kumar et al., 2021). Respondents were recruited on a voluntary basis, without additional incentives. The link to the questionnaire was shared on social media for one week. The data was collected between January and February 2023. A total of 230 completed questionnaires were obtained, 5 of which did not meet the criteria. Finally, 225 were used for analysis.

The sample was predominantly female (74%). The average age of respondents was 30 years old (SD = 11.83). The participants were well-educated: 44% had a Bachelor's degree and 29% had a post-graduate degree (e.g., Master's and Ph.D. degree). Most of the participants (51%) were residents of big cities. The sample characteristics are presented in Table 1.

Tab. 1 Sample demographic profile (n = 225)

	Characteristics	Frequency	Percentage
Gender	Female	166	74
	Male	56	26
Age (years)	18-29	148	66
	30-39	21	9
	40-49	36	16
	50-59	16	7
	Over 60	4	2
Place of residence	Town with 500,000 residents and more	115	51
	Town from 100,000 up to 500,000 residents	37	17
	Town from 20,000 up to 100,000 residents	13	6
	Town with up to 20,000 residents	19	8
	Village	41	18
Education	Primary school	1	0
	Secondary school	60	27
	Bachelor's degree	99	44
	Master's degree	42	19
	Ph.D.	23	10

Source: own elaboration.

Measures

The self-administered online questionnaire included measures for the main constructs and demographic questions. It was divided into several sections. The first was related to the independent variable, which was subjective greenwashing knowledge. The next sections referred to the dependent variables: information-seeking intentions about greenwashing,

greenwashed WOM, greenwashed eWOM seeking intentions and greenwashed eWOM giving intentions. The scales used in the study were adapted from the relevant literature. Subjective knowledge of greenwashing was measured using a five-item Likert-type scale (Flynn & Goldsmith, 1999; Eng et al., 2021), ranging from strongly agree (7) to strongly disagree (1). All dependent variables were measured on four-item scales, ranging from strongly agree (7) to strongly disagree (1).

All measures and items are reported in Table 2.

Tab. 2 Reliability of the measures used in the study

Constructs	Items	Source	Cronbach's Alpha
Subjective greenwashing knowledge	GK1: I know pretty much about greenwashing. GK2: I don't feel I'm knowledgeable about greenwashing (reverse scored) (*rejected*) GK3: Among my friends, I'm one of the "experts" on greenwashing. GK4: Compared to other people, I feel I am an expert on greenwashing. GK5: When it comes to greenwashing, I don't really know a lot. (reverse scored)	(Flynn & Goldsmith, 1999); (Eng et al., 2021)	0. 8538
Information-seeking intentions about greenwashing	GSI1: I'll try to search for information about greenwashing in the near future. GSI2: I intend to find more information about greenwashing soon. GSI3: I intend to look for information about greenwashing in the near future. GSI4: I'll look for information related to greenwashing in the near future.	(Z. J. Yang et al., 2014)	0. 9031
Greenwashed WOM	GWWOM1 I treat seriously negative word of mouth about a product/company which misleads through wrong environment advertorial claims. GWWOM2 I give due consideration to negative reviews left by users on social media after they have used bogus green products. GWWOM3 I am influenced by campaigns run by individuals and NGOs against marketing practices of greenwashed organisations/brands. (*rejected*) GWWOM4 I will ensure that people around me do not buy a product/brand that has misled me or someone else through false green claims.	(Singh et al., 2022)	0.7627
Greenwashed eWOM seeking intentions (opinion-seeking)	GeWOM_S1: I search the Internet for negative opinions of other consumers about a product/company that misleads someone through false environmental claims. GeWOM_S2: When I find negative word of mouth about a product/company which misleads consumers through false environmental claims, I use the "like" function to illustrate my appreciation. GeWOM_S3: When I see negative word of mouth about a product/company which misleads consumers through false environmental claims, I use the 'dislike' function to share my opinion. GeWOM_S4: In the future, I will continue to look for negative opinions on the Internet about a	(ALNefaie et al., 2019)	0.7411

	product/company which misleads consumers through false environmental claims.		
Greenwashed eWOM giving intentions (opinion-giving)	GeWOM_G1: I share with my friends opinions about products/companies that engage in greenwashing practices. GeWOM_G2: I intend to speak out loud in social media about the dangers related to greenwashing. GeWOM_G3: I am willing to spread negative opinions on my social media about products/companies that engage in greenwashing practices. GeWOM_G4: I intend to speak/write to my closest friends about the use of greenwashing.	combined scale (Lee et al., 2020); (Eng et al., 2021)	0. 8357

Notes: Scale: from 1 to 7; 1 – the lowest rating.
Source: own elaboration.

The measures were translated into Polish by the authors. The questionnaire was developed using Google Forms software. Before it was administered, a pilot study had been conducted among 10 individuals to ensure the validity and reliability of the questionnaire. Respondents were asked to assess all items in terms of clarity and to evaluate the questionnaire in terms of structure and language. Some modifications to the items were made. This helped to improve their intelligibility. Furthermore, the internal consistency of the measures was checked. Due to the novelty of the greenwashed word of mouth construct and the need to adjust the scales for other constructs to the research subject, the loading factors were analysed. As a result, some items were rejected. Cronbach's alpha (Barbera et al., 2021) was used to assess the construct reliabilities. The scales reflected reasonable reliability scores based on Cronbach's alpha coefficients (all coefficients were greater than 0.7). The scales had adequate measurement properties and were suitable for further analysis.

To test the relationships among the variables, a quantitative analysis was performed. Before the analysis of variance (ANOVA), descriptive statistics had been calculated. Data was analysed using the STATISTICA software.

3 RESULTS AND DISCUSSION

The study aims to establish the engagement of Polish respondents in greenwashed WOM and eWOM (RQ1). For this purpose, the greenwashed WOM scale developed by Singh et al. (2022) was used. Moreover, due to the proliferation of social media, the construct was extended to include greenwashed opinion seeking and giving on the Internet, as a form of greenwashed eWOM. The descriptive characteristics of variables are presented in Table 3.

Tab. 3 Descriptive characteristics of dependent variables (n = 225)

Construct – dependent variable	Items	Mean	Standard deviation
Greenwashed WOM	GWWOM1	3.9644	1.6308
	GWWOM2	3.7556	1.8244
	GWWOM4	4.1333	1.9594
	Total GWWOM	3.9511	1.4904
Greenwashed eWOM seeking intentions (opinion-seeking)	GeWOM_S1	3.7778	1.7358
	GeWOM_S2	3.6578	1.9760
	GeWOM_S3	3.3733	1.9692
	GeWOM_S4	3.9511	1.7684
	Total GeWOM_S	3.6900	1.3994
Greenwashed eWOM giving intentions (opinion-giving)	GeWOM_G1	3.7422	1.8164
	GeWOM_G2	3.0267	1.7650
	GeWOM_G3	3.0267	1.6309
	GeWOM_G4	3.4800	1.7271
	Total GeWOM_G	3.3189	1.4209

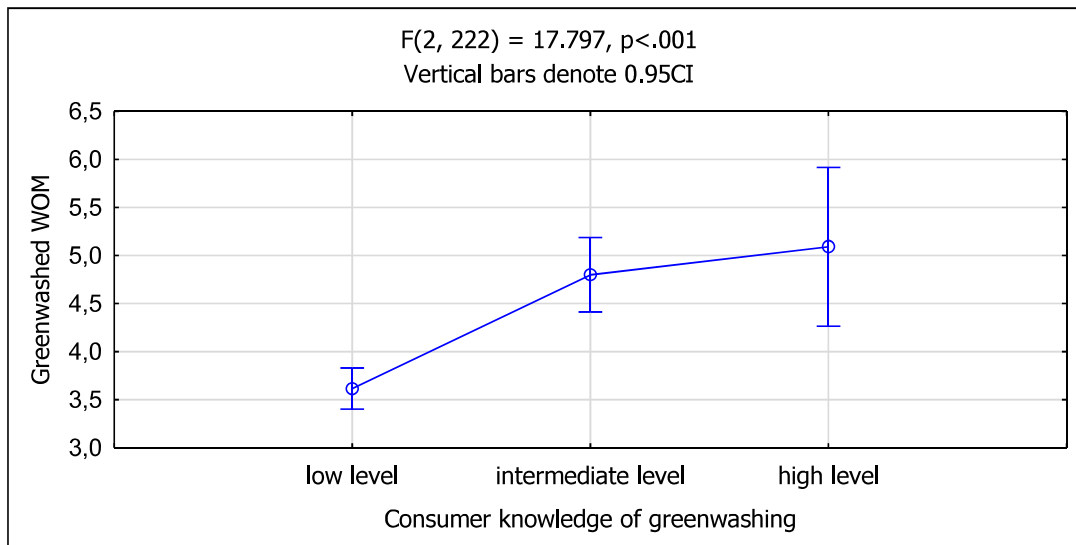Notes: Scale: from 1 to 7; 1 – the lowest rating.
Source: own elaboration.

The results show a relatively positive attitude of the participants towards greenwashed WOM. The scale score was at the average level. The participants' engagement in greenwashed eWOM seeking and giving is rather ambivalent. However, the respondents are more engaged in greenwashed eWOM seeking than in greenwashed eWOM giving (t-test value = 2.79; $p<.05$).

The ANOVA test did not reveal significant differences in greenwashed WOM depending on gender ($F_{(1, 223)} = 2.8210$, $p>.05$). Similarly, greenwashed eWOM seeking ($F_{(1, 223)} = 0.32719$, $p>.05$) and greenwashed giving ($F_{(1, 223)} = 1.2115$, $p>.05$) are not related to respondents' gender. Surprisingly, women are more interested in greenwashed WOM than greenwashed eWOM seeking.

The study was also intended to explore the knowledge of the respondents about greenwashing (RQ2). Subjective knowledge about greenwashing was measured. Overall, the results obtained show a low level of expertise in this field (m = 2.7733; SD = 1.3880). Consumer knowledge about greenwashing is not related to gender ($F_{(1, 223)} = .03142$, $p>.05$). Taking into consideration the level of knowledge about greenwashing, the participants can be divided into three groups: low, intermediate and high level of knowledge. Only 5%, i.e. 11 individuals, are experts. Most of them (73%; 164 individuals) are novices. However, participants declare a propensity to expand their knowledge by searching for information about greenwashing (m = 4.9456; SD = 1.3636), especially the respondents with an intermediate level of expertise (m = 5.4400; SD = 1.1667). In general, interest in searching for information on greenwashing depends on consumer knowledge ($F_{(2, 222)} = 5.1733$, $p<.001$). Additionally, the intention to seek information about greenwashing is stronger among females ($F_{(1, 223)} = 10.681$, $p<.001$).

The levels of consumer knowledge were used to test the relationships between consumer knowledge of greenwashing and greenwashed WOM and eWOM (RQ3). ANOVA was performed to evaluate whether greenwashing WOM and greenwashed eWOM opinion seeking and giving were affected by subjective knowledge of greenwashing. The ANOVA-tests revealed a significant difference in greenwashed WOM ($F_{(2, 222)} = 17.797$, $p<.001$)(Figure1) and greenwashed eWOM opinion giving ($F_{(2, 222)}=12,305$, $p<.001$). No significant differences were established in terms of greenwashed eWOM opinion search.

Fig. 1 Greenwashed WOM in relation to the level of consumer knowledge

F(2, 222) = 17.797, p<.001
Vertical bars denote 0.95CI

Notes: Scale: from 1 to 7; 1 – the lowest rating.
Source: own elaboration.

In both the relation between the consumer knowledge of greenwashing and greenwashed WOM as well as the relation between the consumer knowledge of greenwashing and greenwashed eWOM opinion giving the same pattern can be noticed. Respondents with low knowledge of greenwashing are more sceptical about their engagement in greenwashed WOM and eWOM activities. In their case, the post-hoc test revealed significant differences compared to those with intermediate (p<.001) and high levels of greenwashing expertise (p<.001). It is worth noting that respondents with intermediate and high levels of knowledge had similar perceptions of their engagement in greenwashed eWOM.

When it comes to greenwashed eWOM opinion searching, respondents with a high level of expertise show less interest (m = 3.2272, SD = 0.9647) in this kind of search. In contrast, those with low and intermediate knowledge declare more engagement (m = 3.6921, SD = 1.4739; m = 3.7850, SD = 1.2174; for low and intermediate knowledge respectively). However, the differences are not statistically significant.

Summing up, the respondents, particularly those with an intermediate level of expertise, declare a proactive approach to seeking information about greenwashing. This pattern of searching for information, namely the inverted U-shaped pattern, is well-known in the literature. Both novices and experts are less interested in gathering information. The aforementioned pattern is less visible in the case of greenwashed eWOM opinion seeking. It stems from the attitude on novices' part who declare using eWOM as the source of information about greenwashing. This finding is consistent with previous research on eWOM. Consumers tend to use eWOM as an influential information source in the decision-making process (Bartschat et al., 2022).

CONCLUSIONS

The study is one of the first to examine greenwashed WOM and eWOM. It aimed to explore the engagement of Polish respondents in greenwashed WOM and eWOM and their knowledge about greenwashing. Additionally, the aim of the study was to determine the relationship between consumer knowledge of greenwashing and greenwashed WOM/eWOM. On the basis of the results, it can be concluded that the engagement of participants in greenwashed WOM

and eWOM is on the average level. They are interested in greenwashed WOM, but less in greenwashed eWOM opinion giving. Moreover, as expected, the engagement of respondents in greenwashed WOM and eWOM depends on their knowledge. Taking into consideration the general low level of greenwashing knowledge, the results may improve our understanding of the attitude-behaviour gap in sustainable consumption. The study revealed a low level of consumer knowledge about greenwashing. The score obtained raises doubts whether consumers can recognise greenwashing practises. Lack of knowledge of greenwashing, and consequently, the ability to properly evaluate green products may lead to making decisions which are not sustainable (Kumar et al., 2021). This conclusion points to the need for continuous education about sustainability with special emphasis on marketing strategies related to environmental issues (Jog & Singhal, 2019). Greenwashing always hurts society, even if it benefits selected stakeholder groups (Z. Yang et al., 2020).

Due to the ubiquity of greenwashing (Gallicano, 2011; Miller et al., 2020), research into this phenomenon is important for corporate green communication efforts. A decrease in interest in a company's offer can have many negative effects. Therefore, companies should carefully plan advertising campaigns that reduce greenwashed WOM and eWOM.

The study has some limitations. First, they are the consequence of the selected sampling procedure. The sample was not representative, and the results should not be generalised for the whole population of Poland. Although convenience sampling is common and the sample was not a student sample, the distribution of characteristics does not reflect the structure of Polish population. Second, the limitations are related to the adopted measures. While WOM or eWOM have been widely researched, greenwashed WOM is a novel concept in the marketing literature (Singh et al., 2022). Singh et al. (2022) established the scale to measure greenwashed word of mouth, however, its consistency needs to be reviewed in an additional properties analysis.

Notwithstanding the limitations, the study contributes to the knowledge of consumers' ability to identify greenwashing as well as consumers' engagement in searching and giving information about greenwashing. It proves that greenwashed WOM is a promising concept. Due to its inherent properties, namely specific content and negative valence, greenwashed WOM and eWOM may play an important role in shaping consumer green behaviour. Therefore, this topic requires further investigation.

The article paves the way for future research integrating consumer knowledge of greenwashing and greenwashed WOM and eWOM in the context of sustainable consumption. The study is the first attempt to investigate the relationship between greenwashed WOM/eWOM and knowledge of greenwashing. However, the results require further verification. Future research should be conducted among representative and demographically diverse Polish consumers and in other cultural settings. Additionally, future research could investigate the moderating effect of greenwashed WOM and eWOM in consumer purchase decisions. Furthermore, researchers could examine the persuasiveness of greenwashed WOM and eWOM and the uniqueness of these constructs in comparison with negative WOM and eWOM messages about green products. Moreover, future research could explore the level and determinants of greenwashing knowledge in the context of different products.

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