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FACTORS INFLUENCING CONSUMERS' GREEN PURCHASE BEHAVIOR: GREEN ADVERTISING AS MODERATOR

Abstract. *Environmental sustainability importance increases, the environmental degradation problems attract the discussions around the world concerning many areas of life, consumption and disposition of goods. Green marketing and advertisement have become a popular choice by companies to influence the consumer buying process. This study aimed to examine the moderated role of green advertisement among the influence of environmental concern, social impact and self-image on green purchase behaviour. The survey sample is 458 responses from various consumers. The methodological tools were quantitative research methods. The study applied confirmatory factor analysis and moderation analysis to evaluate the six hypotheses developed and proposed in the conceptual framework. The authors performed regression and moderation analysis after achieving the model fit indices and Cronbach's alpha. The regression analysis reveals that independent variables environmental concern, self-image and social impact had a significant influence on green purchase behaviour. Furthermore, environmental concern and self-image have a more substantial influence on green purchase behaviour. The moderation results revealed that green advertisement has a positive and significant moderated relationship among environmental concern, self-image, social influence and green purchase behaviour. The obtained results indicated that marketers could increase green purchase behaviour. In turn, it will allow supporting the green environment by taken above determinants of green purchase behaviour into consideration for developing green policies and strategies which are mutually beneficial for the consumer as well as for the safe environment. The findings of this study suggest that green advertisement could increase green purchase behaviour. Herewith, people become greener and environment-conscious in their routine life. The authors suggested practical implications for the strategists and marketers who are willing to go green. The study results present an overview on how marketers could devise more effective strategies and advertisement to endorse the green purchase behaviour.*

Keywords: green purchase behaviour, green products, sustainable consumption, eco-friendly environment, social influence, self-image and green advertisement.

Introduction. Environmental hazards, pollution and sustainability are the major issues of the today's world (Li et al., 2018). Due to lack of knowledge and information, these issues become more severe and challenging to the modern world. Global environmental issues such as acid rain, pollution, global warming, and dwindling natural resources become a danger to the lives of human. In today's world, countries have started worrying about environmental issues, companies are developing environmentally friendly products, and even the demand for green products in the global consumer markets has amplified (Bhutto et al., 2019). Given the United Nations Sustainable development goals (SDGs) and the implementation of innovative sustainable technologies by companies could help to meet the United Nations 2030 agenda (Di

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Vaio et al., 2020). However, because of increasing pollution and environmental damages, people are still unaware of environmental hazards due to lack of knowledge and awareness. They usually prefer traditional buying, which now becomes one of the primary reason to reject switching to new products which are eco-friendly and safer for the environment. The previous findings indicated that there is less evidence available to comprehend what effect green advertising as moderator has on the customers' purchase behaviour. Therefore, it is essential to examine the effect of environmental advertisement on green purchase behaviour in the context of Pakistan to report this matter. The purpose of this study is to validate the relationship between social influence, environmental concern, and self-image empirically through the moderating effect of environmental advertising on green purchase behaviour. The findings of this study will be beneficial for the strategists and marketers who are willing to go green and will give an overview of how marketers can devise more effective strategies and advertisement to endorse the green purchase behaviour. Taking advantage of this study, useful information about eco-friendly products will communicate to the consumer more efficiently and efficiently. On the contrary, this will also help to reduce the environmental problems and pollution issues by creating awareness in the consumers. Moreover, it will allow marketers to form a strong image of green products in the consumers' minds by promoting green products with the help of advertisements, social media to more eco-friendly products purchasing.

Literature Review. Nowadays, green initiatives become more popular. Eco-friendly products are prefered for the sustainable and pollution-free environment. In the last ten years, the demand for environmentally friendly products raised constantly. Consumer behaviour is the major concern of green consumption. The concepts of green products and eco-design were introduced in the 1990s as strategies that companies' could apply to lessen the environmental impacts linked with their production practices. Mishra and Sharma (2010) indicated that green marketing is a part of sustainability and development. At the same time, green marketing is a phenomenon that has developed importance in the modern market. They also stated that green and sustainable marketing is referred to as efforts made by the organization in designing, pricing, promoting and distributing products that are not harmful to the environment. Green products are basically created through green technology methods that do not cause any hazards to the environment. Besides, green products could be identified through certain characteristics as follows: naturally grown, recyclable, consisting the natural ingredients, without toxic ingredients, no environment pollution, without testing on animals, eco-friendly packaging (Bargh et al., 2001). It describes how the customer makes purchase decision and organizes products and services. Martin Fishbein and Icek Ajzen first introduced the theory on consumer behaviour in 1967.

Further, in the early 70s, Fishben and Ajzen revised and expanded the theory known as Theory of Reasoned Action (TRA). In 1980, the theory was used to examine human behaviour and attitudes. According to Ajzen and Fishben (1980), attitudes towards behaviours and subjective norms are the key predictors of behavioural intent. The attitudinal factor and normative factor are two main factors to determine the behavioural intention. The first factor is about the attitude towards a specific behaviour and evaluation of the consequences. Second factor is about perception of individual or group thinks of what should they do. Further and Ajzen extended this theory in1985 by adding the variable «perceived behavioural control» to predict intention and behaviour that are not under volitional control, known as Theory of Planned Behaviour (TPB). In recent times the scholars and researchers have made great efforts in highlighting and understanding the importance of green purchase behaviour. For instance, Lasuin and Ng (2014) investigated the moderation of gender and ethnic identity and relationship among different variables such as self-image, social influence or status and concern about the environment. Findings of the study showed that EC and SIM both substantially have a positive impact on GP intention. Another stream of researches (i.e., Chaudhary and Bisai, 2018; Teng et al., 2018) supported the mentioned above. As Kong, Harun et al. (2014) stated the consumer perception, green corporate perception, eco-labels, and green products have substantially more positive impact on GP intention. Ansar (2013) presented that

besides environmental advertisements, price and ecological packaging has a positive influence on the green purchase intention. Age and education linked with eco-literacy and socio-demographic variables do not influence the green purchase intention. Vazifehdoust et al., (2013) defined that environmental concern, quality of green products, green advertising and green labelling positively influence the intention to purchase green products. As per Aman et al. (2012), environmental knowledge and environmental concerns considerably affect the GP intention. Environmental awareness, green products features, green promotion activities and green price have a positive effect on green purchase behaviour (Boztepe, 2012). Kalafatis et al. (1999) suggested that TPB is well designed and appropriate in defining the behavioural pattern. The researchers examined the reasons that affect the intention of eco-friendly products in the UK and Greece. Findings of a cross-sectional self-completion survey in two different markets (the UK and Greece) showed that TPB is accurate in defining the determinants of intention in the range of green marketing. The obtained results indicated that environmental regulation had a significant connection with the purchasing behaviour for environment connected to the clothing. The study shows that concern of the environment is not completely developed or linked in infer for apparel consumer behaviour that in return, can predict the apparel environmental behaviour (Kim and Damhorst, 2010). Further, Chan and Lau (2002) investigated the implication of TPB of environmental friendly purchase behaviour in Chinese and American cultures. Thus, the subjective norm and perceived behavioural control show that Chinese consumers had a stronger relationship with the behavioural intention than American consumer due to culture differences.

Ramayah, Lee and Mohamad (2010) examined how individual values and attitudes in developing countries influence the GPI by using the Theory of Reasoned Action (TRA). Datta (2011) reported that eco-friendly products should be promoted because awareness in the consumer can make a difference in the environment. One of the studies on Sabahan consumers (Malaysia) found that there is a significant direct impact of environment concern and knowledge on GPI (Aman et al., 2012; Suki, 2016). Moreover, attitude partially mediated the relationship between EC and GPI. On the contrary, attitude did not influence environmental knowledge so as an intention to green purchase product. Hence, marketers can use this information to improve marketing strategies. Dagher and Itani (2014) stated that three variables (two related to perception «seriousness of the environmental problem» and «environmental responsibility» and one related to concern «self-image») had a significant positive impact on green buying behaviour. Anvar and Venter (2014) surveyed Generation Y consumers and contributed the factors that affect attitude towards the green product and their purchase behaviour. In the study, the researchers used the factors as follows: price, social influence and E-awareness. Further, they investigated whether the consumer attitude influences the green products purchase behaviour. Companies can cultivate appropriate marketing strategies to increase the market share by focusing on the attitude and behaviour of Generation Y consumers. Lasuin and Ng (2014) investigated the moderating impact of segmenting factors such as gender and ethnic belonging on the connection between the variables such as environmental concern, social influence, and self-image on output variable GPI among the college scholars in Kota Kinabalu. The obtained results revealed both moderators did not affect. However, the findings showed a positive effect of self-image and environments concern on green purchase intention. This examination recommended that intention and real behaviour should be quantified to check the GP intention. On the contrary, Soomro (2019) found an insignificant relationship between social influence and behavioural intention. Besides, the positive image of eco-friendly products should be created in the customers' mind to improve buyer recognition about green buying. Mei et al. (2012) analyzed the factors influencing the green purchase of Malaysian consumers. There is a positive influence of green perceived risk, perceived trust, product value, brand image, green advertisement and consumer awareness on green purchase intention (Mahmood et al., 2014). The study suggests that consumers showed a great interest to protect the environment and concern about the environment. Therefore, marketers should organize seminars and workshop to increase the awareness of the consumers and to communicate them about environmentally friendly products and

environmental protection. Bhutto et at. (2019) conducted the study on understanding the Chinese consumers' green purchase behaviour for Mobile phones using the theory of planned behaviour variables. They found a significant relationship between the attitude, subjective norms, perceived behavioural control with gender as moderator for GPI, and used price transparency with green purchase behaviour. According to Almossawi (2014), companies could highlight their social responsibility by promoting their business as a green business. Lu et al. (2014) analyzed the determinants of green purchase behaviour, which are social influence, environmental concern, environmental attitude, perceived environmental problem, perceived environmental responsibility, perceived environmental behaviour, concern for self-image and role of Government. Companies should focus on these determinants to enhance green purchase behaviour and alter their strategies to develop and target the green market segment. It is suggested from the study that marketers should develop such marketing tools to increase the level of environmental concern and attitude because it has a significant impact on green behaviour (Dagher et al., 2015). To increase the environmental concern, marketers should describe the issues which the environment is facing. Ahmad and Thyagaraj (2015) indicated that environmental concern and self-expressive value benefits positively affect GPI. Besides, environmental knowledge, environmental concern and self-expressive benefits positively impact the attitude towards eco-brands which indicates positive influence on purchase intention. Karunanayake and Wanninayake (2015) found that price perception, social influence and perceived risk had a significant impact on the purchase of hybrid vehicles. In contrast, knowledge and environmental attitude do not show the significant influence over buying intention of buying hybrid vehicles. Based on the literature survey, the authors have devised the following hypotheses for hypothesized relationships:

H1: There is a relationship between social influence (SI) and green purchasing behaviour (GPB).

H2: There is a relationship between environmental concern (EC) and green purchasing behaviour (GPB).

H3: There is a relationship between self-image (SIM) and green purchase behaviour (GPB).

According to Carlson et al. (1996), green or environmental advertising is a firm generated concept, which focuses on creating consumer awareness and concern of natural environment degradation. Due to the growing usage of green marketing and advertising, scholars have studied many areas of this practice. Concerning this, authors have also investigated areas such as public opinion on policy options on reducing air pollution, perceptions created by environmental advertising claims and information on environmentally friendly packaging information across cultures (Carlson et al., 1993). Consumer outcomes of green advertising relevant to firms have also been explored. For instance, green advertising aids in creating an environmentally-friendly image of the brand; increasing the demand for environmentally-friendly products; and enhancing the effectiveness of such products and advertisements (Chan et al., 2006). The researchers have identified the effective experiential, symbolic and sensational benefits generated by environmental associations. Specifically, the experiential benefits define the consumers' satisfaction and their consequent belief in positively contributing to the environment by responding to green advertising and purchasing green products (Rios et al., 2006; Kong and Zhang, 2013). Green advertising not only generates enormous interest and discussion, but this perspective also provides an extra reason for the consumers to buy it over ones without green attributes. Most of the researches have concentrated on consumers' general reactions to green advertising (Chan, 2004; Hartmann et al., 2005). Advertisement can influence consumers' behaviour (Soomro, 2018). Moreover, it is beneficial in creating and shifting consumer purchasing behaviour and loyalty (Soomro, 2019). Marketing and advertisement companies promote their products Awan et al. (2016). Yusof et al. (2013) investigated the purchase intention of eco-friendly automobiles by examining the interrelationship between consumer environmental responsibility feelings, values, knowledge and perception of environmental advertising and environmentally-friendly automobiles. They suggested that consumers' knowledge about environmental issues lead to the

perception of eco-friendly products. Based on their findings, marketers could develop strategies which increase consumer awareness and consciousness about green issues. Besides, marketers' strategies should focus on the product itself. Thus, the focus on advertising has to guide consumers to make the green purchase. Chekima et al. (2015) determine the influence of environmental attitude, product functional aspects and cultural values on green purchase intention using environmental advertising as moderator. Environmental attitude, cultural values and eco-labels considerably influence the green purchase behaviour. Achchuthan and Thirunavukkarasu (2016) stated that environmental attitude, health consciousness and perceived consumer effectiveness positively influenced the green purchase intention. Therefore, based on the analysis of scientific background in the investigated field, this study proposes to test the conceptual model with hypotheses as follows:

H4: Green advertising moderates the relationship between SI and GPB.

H5: Green advertising moderates the relationship between EC and GPB.

H6: Green advertising moderates the relationship between SIM and GPB.

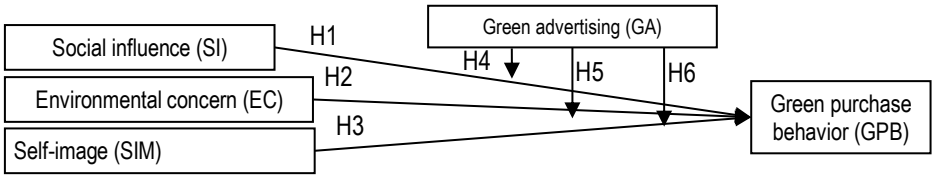

Figure 1. Conceptual Model

Source: developed by the authors.

Methodology and research methods. This study presents the quantitative research approach to examine the moderating impact of green advertising between the independent variables (SI, EC and SIM) and GPB. Authors used the exploratory research design and hypothesis from developed sources and theories. This type of research provides insight into the problem or situation. Quantitative researches present the measures of reality. In terms of sample size, MacCallum et al. (1999) argued that 300 sample size would be sufficient to address low commonality with small numbers of factors. Further, Comrey and Lee (1992) suggested the scale of the sample: 50-very poor, 100 poor, 200 fair, 300 good, 500-very good and 1000 and more-excellent. So the sample size of the study consists of 458 considered to be good. Additionally, the study followed the ethical guidelines to ensure respondents' privacy, clarity of research objectives, communication transparency related to research and avoidance of false information and biases in results. Table 1 shows the respondent's profile 58.96% males, and 41.04% females.

Table 1. Respondents' profile

Gender	**Frequency**	**Percentage**
Male	270	58.96
Female	188	41.04
Total	458	100
Age		
18-25	152	33.77
25-35	176	39.11
34-45 or above	130	28.88
Education		
Undergraduate	145	32.22
Graduate	224	49.77
Masters	89	19.77

Sources: developed by the authors

Majority of the respondents belong to the age group of 25-35 years, making up 38.42% of the sample and mostly are graduates having 48.90% of the total. The rest of the respondents were undergraduates and masters having 31.65% and 19.43% of the total. It is used to test the reliability and consistency of the scale used in the studies. It also provides information on individual items used in the scale. To evaluate the results data from 458 respondents were collected and tested to check the reliability. Overall and individual reliability of variables has been tested. In Table 2, all the variables met the suggested threshold alpha>0.7 reported by Perterson (1994). Therefore, results allowed concluding that the instrument is reliable and can be used for further data collection.

Table 2. Reliability of constructs

Variables	Cronbach's Alpha
Environmental concern (EC)	0.843
Social influence (SI)	0.812
Self-image(SIM)	0.792
Green advertising (GA)	0.801
Green purchase behaviour (GPB)	0.862
Overall	0.853

Sources: developed by the authors.

Results. Confirmatory factor analysis (CFA) was a vital statistical analysis tool. CFA allowed testing how good variables represent the number of the construct. Hu and Bentler (1999) gave the threshold as follows:

- CMIN/DF: (it should be < than 5);
- GFI: (Goodness fit index) it should be >= to 0.85;
- AGFI: (Adjusted goodness fit index) it should be >= to 0.80;
- CFI:(Comparative fit index) it should be>or = to 0.90;
- RMSEA: (Root mean square error of approximation) it should be < than or = to 0.08;
- (P-CLOSE) it should be > than 5%.

Because of the above constructs, Table 3 shows the results of the model fitness.

Table 3. Model fit indices

Indices	CMIN/DF	GFI	AGFI	CFI	RMSEA	PCLOSE
Threshold	< 5.0	> 0.80	> 0.80	> 0.90	< 0.08	> 0.05
CFA Model	2.124	0.891	0.870	0.950	0.050	0.489

Sources: developed by the authors.

It stands to mention that moderation analysis is a form of regression analysis conducted to check how much moderator affects the relationship between the predictors and outcome variable. Herewith, moderation is supported in case of the significant interaction between the variables. According to Baron and Kenny (1986), moderation happened when the impact of the independent variable on the dependent one varies according to the third variable, i.e. moderator. In turn, the moderator impacts in three ways as follows: (a) increases the impact of the Predictors on the criterion; (b) reduces the impact of the predictors; or (C) reverses the impact of the Predictors. Authors tested the hypothesis H4, H5 and H6 to check the moderation effect. Table 4 shows the results of direct hypothesized relationships and moderation analysis.

Table 4 indicated the results of regression analysis with the significance level of 0.000 ($p < 0.005$). The standardized beta coefficient of environmental concern and self-image are 0.303 and 0.206, respectively. Thus, it shows the relatively strong positive relationship between environmental concern and self-image with green purchase behaviour. That also indicates that environmental concern and self-image

have a significant influence on the GPB. Furthermore, Table 4 shows that results of regression analysis of the green advertising as a moderator on the relationship between the predicting variables environmental concern, social image and self-image on green purchase behaviour.

Table 4. Analysis coefficients and R-squares for Direct and Moderator model

	Beta Coefficient (*t*- value)
Direct effect	
(R^2= 38.7%; Q^2=38.3% model significant at 0.00 level)	
EC -> GPB	0.303*** (4.842)
SI -> GPB	0.177** (3.138)
SIM -> GPB	0.206*** (3.471)
Excluded variables from model (non)	
Moderation	
Moderator effect	
(R^2= 41.6%; Q^2=41.0% model significant at 0.00 level)	
EC ->GA-> GPB	0.198** (3.862)
SI ->GA-> GPB	0.165** (2.148)
SIM ->GA-> GPB	0.178** (2.897)

Note: R^2 (coefficient of determination); Q^2 (Adjusted R^2); Environmental concern= EC;Social influence= SI; Self-image= SIM; Green purchase behaviour =GPB; Green Advertising= GA; Significance level at * p < 0.05., ** p < 0.01., *** p < 0.001, ns = not significant

Sources: developed by the authors.

F change in table 4 is 0.00, which shows that green advertising significantly influences all three variables of the conceptual model, i.e. Environmental concern, social image and self-image on green purchase behaviour. R square changed from 0.387 to 0.416, which shows that the environmental concern, social image and self-image, green advertisement explained the 41.6% variance of green purchase behaviour. On the contrary, the adjusted R square was moderated from 0.383 to 0.410. Thus, it explains the variation of independent variables used to explain the dependent variable. Given the above results, the moderator shows a significant effect on the relationship between the outcome variable (GPB) and predictors (EC, SI and SIM). Therefore, the hypotheses H4, H5, and H6 were accepted. In short moderating variable green advertising has a significant influence on the relationship among EC, SI, SIM and GPB.

Conclusions. This study was based on previous studies model and found a significant impact of environmental concern, self-image and social influence. Therefore, thus H1, H2, and H3 accepted. Further, authors tested the moderation level by adding two variables green advertising to check whether it moderates the relationship between the independent variables SI, EC, SIM and GPB. So, authors tested the H4, H5, H6, and results showed that there is a significant positive effect of the moderator GA on the relationship between and independent variables SI, EC, SIM and GPB. The moderator could be used to increase consumer green purchase behaviour. The more environmental friendly consumers are, the more willing they will be to buy green products. Thus, green products increase consumers' self-image when they purchased them. According to the results, consumers will engage in more green purchase behaviour when they have more knowledge, information, and awareness of making the environment more eco-friendly and safe. The results allowed concluding that green advertisements and promotions should be implemented. Thus, more consumers would move towards green consumption. Advertisement for green marketing can highlight the issues of environmental problems and encourage consumers to become more eco-conscious. Moreover, this study endorses the same finding to prior research (Jaiswal and Singh, 2018). The more consumers are concerned about environmental issues, the more they intent to buy green

products. Given the above results and findings, it is recommended to the marketers and policymakers to develop and introduce such green strategies and policies which are mutually beneficial for the companies and environment. The practitioner could increase the green market size when they focus on the antecedents of green purchase behaviour. Companies should educate their employees about the green environment. Moreover, they should adopt green strategies in their business areas. In turn, business organization and NGO's should launch green campaigns to increase the environmental concern level and environmental awareness among the people. Government should arrange seminars, rallies and campaigns for a sustainable environment. They should also encourage the production of green products by giving them relaxation on duties and taxes to attract consumers to buy green products. Academics institutions at all level need to update curriculum to address the environmental issues and to promote green behaviours. The education programs should be initiated at an early kinder-garden level to develop positive green attitude among young kids. Herewith, advertisement campaigns could also be useful further to promote green purchase behaviour and green products. Social media and communication networks can also be used to create awareness regarding green environment and products. Additionally, it is essential that marketers should develop the green image in the consumers' mind by developing packaging features, eco-labelling and quality. A good positioning strategy can enhance consumer perception of green products. One of the limitations of the study is the concern that the data collection was from random places. It is suggested for future work that data should be collected from shopping malls, grocery stores and retail stores where the people make purchases. It stands to mention that buying intention of green products could vary according to the type of products and goods. One more limitation of this study was that the sample only included Karachi based consumers, and it might be a hurdle to generalize the findings on the whole population. It is recommended to examine the specific type of green products such as energy-efficient inverter air conditioners, disposable batteries, low electricity consumption microwave ovens, solar panels, usage of wind energy etc. It is possible to examine this study framework model by using other variables as moderators and mediators as follows: personality, income level, age groups and education etc. Other variables could be predictors that influence green purchase behaviour.

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Фактори впливу на екологічносвідому поведінку споживачів: зелена реклама як модератор

У статті проаналізовано роль екологічної свідомості споживачів при прийнятті рішення щодо придбання товарів. Авторами відмічено, що посидення дії негативних наслдків деградації навколишнього природного середовища на різні сфери суспільного життя провокує активізацію наукових досліджень у даному напрямі. У статті визначено, що компанії використовують зелений маркетинг та рекламу як засіб впливу на поведінку споживачів. Метою статті є дослідження посередницької ролі зеленої реклами на екологічносвідому поведінку споживачів. Детерміновану вибірку даних сформовано на основі результатів опитування 458 споживачів. Емпіричне дослідження проведено з використанням інструментарію кількісного аналізу. Авторами гіпотези дослідження перевірено за допомогою методів факторного аналізу та аналізу модерації. Незалежними змінними дослідження є: рівень стурбованості споживачів екологічними проблемами, самооцінка споживачів та соціальний вплив на прийняття рішень споживачами. Результати регресійного аналізу засвідчили, що незалежні змінні мають статистично значущий вплив на екологічносвідому поведінку споживачів. При цьому рівень стурбованості екологічними проблемами та самооцінка мають більший вплив на поведінку споживачів. За результатами аналізу модерації встановлено, що зелена реклама має статистично значущий позитивний зв'язок між рівнем стурбованості екологічними проблемами, самооцінкою, соціальним впливом та екологічнносвідомою поведінкою споживачів. У ході дослідження встановлено, що маркетологи можуть підвищувати екологічнносвідому поведінку споживачів. При цьому врахування вищезазначених детермінант споживацької поведінки при розробленні зеленої маркетингової політики та стратегій просування товарів, сприятиме мінімізації негативного впливу на навколишнє природне середовище. Авторами зазначено, що зелена реклама сприяє підвищенню купівельної спроможності, зростанню рівня екологічної свідомості населення та обізнаності про шляхи мімінімізації екодеструктивного впливу на навколишнє природне середовище. Результати дослідження мають практичне значення і можуть бути прийняті до впровадження при розробленні ефективних маркетингових стратегій, спрямованих на підтримку екологічносвідомої поведінки споживачів.

Ключові слова: зелена купівельна поведінка, зелені продукти, стале споживання, еко-дружнє середовище, соціальний вплив, самооцінка, зелена реклама.

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