International Review of Management and Marketing

ISSN: 2146-4405

available at http: www.econjournals.com

International Review of Management and Marketing, 2026, 16(6), 303-313.

Behavioral Economics in Green Marketing: How to Push Consumers to Make Responsible Choices (Nudge Theory)

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Received: 02 April 2026 **Accepted:** 20 July 2026 **DOI:** https://doi.org/10.32479/irmm.24361

ABSTRACT

The study addresses the growing importance of corporate social responsibility and environmentally responsible consumption in the context of global environmental challenges. Traditional marketing tools are becoming less effective, increasing the need for behavioral economics instruments, particularly "nudging," which influences consumer choices through changes in decision-making architecture without limiting freedom of choice. The research aimed to substantiate the theoretical foundations of behavioral tools in green marketing and develop practical recommendations for their business implementation. The study applied systematic analysis, synthesis, comparative analysis, abstraction, and modeling. The findings demonstrate that effective green marketing depends on psychological, social, and cultural factors influencing consumer behavior. The most efficient approaches combine green defaults, informational and social nudges, and digital behavioral tools that personalize consumer engagement. The study also highlights ethical considerations, emphasizing transparency and preservation of consumer autonomy. Practical recommendations include adapting behavioral strategies to target audiences, integrating them with traditional marketing instruments, and using digital technologies for personalized communication. The results can support businesses in strengthening customer loyalty, competitiveness, and sustainable consumption practices.

Keywords: Behavioral Economics, Green Marketing, Nudge Strategies, Environmentally Responsible Consumption, Consumer Behavior, Social Norms
JEL Classifications: M31, D91, Q56

1. INTRODUCTION

In the current climate of worldwide environmental problems and rising demands for sustainable development, it is increasingly popular for consumers to be targeted with green marketing to encourage them to adopt environmentally responsible behaviours. Traditional marketing instruments providing direct incentives either in form of financial compensation or information campaigns, for the most part have been unsuccessful due to cognitive biases, inertia in behavior and dissonance between environmental intentions and actual consumer behavior.

Behavioral economics, which adds psychological factors affecting the decision-making process to economic models, offers new perspectives to promote environmentally friendly behavior. Among the main instruments in this field it is the nudge theory, consisting of the utilization of little and subtle nudges to steer consumers behavior without limiting their freedom of choice. Approaches based on nudge can indeed contribute to foster sustainable consumption by suggesting organizations to stimulate consumers to choose sustainable alternatives through framing the choice, social norms, visual cues or other psychologically viable solutions.

Studies in behavioral economics and green marketing indicate that nudges designed appropriately can greatly magnify the impact of sustainability and corporate social responsibility initiatives by motivating consumers to opt for environment-friendly products and services. At the same time, the questions of adjustment on the use of Nudge tools, its culture-specific adaptation, socio-economic market parameters, and the influence on the long-run outcome of application and evaluation of Nudge are open and promising for further research.

Furthermore, by introducing behavioral tactics within the green marketing mix, it is possible to have a more systematic approach to increase consumers' awareness and demand through green for sustainable products and services. This approach allows for the combination of business opportunities with societal and environmental objectives, thus rendering the analysis of the effectiveness of Nudge instruments particularly interesting for both contemporary science and practice.

2. LITERATURE REVIEW

An overview of the current scientific literature reveals the increasing use of behavioral economics principles within green marketing, where nudging tools are for instance proposed as an effective mechanism to encourage environmental friendly consumers' behavior. Its development is based on the basic assumptions of behavioural economics, which argues that consumer decisions do not only result from rational thinking, but are also affected by cognitive biases, emotions and social norms (Thaler, 2018; Sunstein, 2014). This is what laid the foundation for the development of the concept of nudging as a tool for changing behavior without coercion.

Among the first systematic studies of the effectiveness of nudges in the context of sustainable consumption are articles of Lehner et al. (2016) that characterize nudges as a promising tool for influencing consumer behavior by adjusting the architecture of choice. The authors emphasize that these approaches allow bridging the gap between environmental intentions and actual behavior, which is one of the main problems of green marketing. The further development of this concept is reflected in the study by Schubert (2017), which investigates the effectiveness and ethics of "green" nudges in order to ensure transparency and voluntary influence on consumers.

Significant contributions to the theoretical and practical aspects of behavioral approaches to sustainable consumption have also been made in recent review articles. In particular, Amiri et al. (2024) combine a wide range of behavioral tools, such as nudges, social signals, information interventions, etc. and demonstrate that their application in a holistic form brings the highest efficiency. The same conclusion is reached in the monograph of Singh et al. (2024), which emphasizes the role of behavioral economics in promoting environmental sustainability, as well as the need to adapt tools to a specific socio-economic context.

Empirical research shows that nudges are effective in practice in a variety of areas. In particular, Becchetti et al. (2020), in their field experiment, found that changing the context of choice, for example, by changing the menu or through informational messages, can significantly affect the environmental decisions made by consumers. Similar results were obtained by Arno and Thomas (2016), which demonstrate the effectiveness of nudges in changing eating behavior that directly relates to sustainable consumption. At the same time, Gossen et al. (2022), in an analysis with a global sample, find that the effectiveness of design tools differs significantly from information signals, in this case product labeling, and the level of trust in them.

The role of social factors has received special attention in the literature. Sunstein and Reisch (2014) discover that information on social norms is a powerful behaviour driver in solid waste management fields, in particular, when appropriately embedded into marketing communications. This notion is further elaborated by White et al. (2019), who argue that the consideration of the social context of consumer behavior, such as group identity and the need to comply with the expectations of others, is necessary in order to properly influence consumer behavior. Meanwhile, research of Sunstein et al. (2019) raises the question of trust in nudges, suggesting that the deeming of such tools as manipulative can undermine their effectiveness.

Current studies concentrate on the digitalization of behavioral interventions (Khalufi, 2025), showing that digital nudges integrated into mobile applications and web platforms have the potential to raise the level of concern for environmental matters and the behavior of consumers. However, such approaches pose new challenges for data privacy and ethical use of algorithms, which is equally highlighted (Sunstein, 2014).

An important area of research concerns the analysis of a specific instrument such as green defaults. Kaiser et al. (2020) show that choosing green options as a default is one of the most effective ways to encourage people to make responsible choices, as it exploits the status quo effect and reduces the cognitive costs of decision making. These results are consistent with theoretical predictions in behavioral economics and demonstrate the practical relevance of such tools.

In the context of green marketing, much attention is also paid to the determinants of consumer behavior (Zhang and Don, 2020). Environmentally conscious consumer shopping behavior: Toward a new marketing mix based on a systematic review and future research agenda. The authors found a number of important factors influencing environmental purchase including environmental knowledge, social influence and economic incentives in their review result. Related conclusions also stated in research of responsible consumption and marketing strategy by Skackauskiene and Vilkaite-Vaitone (2023), Chen et al. (2024), these results are embellished with the finding that the intention to purchase green products may be transformed into actual purchasing behaviour by stronger incentives.

Ukrainian scholars are also actively researching the issues of green marketing and economic behavior. Iankovets (2024) explores behavioral effects in marketing, emphasizing that the influence of mental processes on the formation of consumer behavior should be taken into account. Plisenko and Tryvaylo (2025) investigates the importance of green marketing for the formation of startups, emphasizing that it should be integrated into the business model. Grekova and Yeremeeva (2025) define green marketing as a competitive advantage that leads to increased consumer loyalty. Polous and Hrebelnyk (2022) emphasize that environmentally conscious consumers are a leading factor in socially responsible business.

The study by Romanenko (2024) considers the concept of green marketing as a tool for appealing to socially responsible consumers, which is in line with current market trends (Hussain et al., 2020). They analyze the determinants of environmental consumer behavior, such as the role of advertising as a moderator, and emphasize the importance of communication strategies. Hatska (2020) extends these findings by emphasizing the need to study consumer behavior in the context of green marketing.

The analysis of the current literature in this area allows us to state that research on behavioral economics and green marketing is in the process of development, using different perspectives and tools. Most authors agree that incentives are a powerful tool for promoting responsible consumption, but their strength depends on the context of application, the level of consumer trust, and culture. At the same time, there are some controversies about the universality of these instruments, which is the impetus for further research.

A review of the literature suggests that, although there is considerable research, the problem of tailoring behavioral instruments to particular corporate marketing situations and evaluating their effectiveness over time is largely unaddressed. Furthermore, questions of ethics in relation to the use of nudges, particularly in the digital realm where the means of influence are multiplying, also merit further investigation.

Hence, the reviews of the literature align the potential of behavioral intervention in green marketing as being indeed promising on the one hand; on the other hand there exists a need for a integrative and context-aware procedure for bringing about such behaviors. The results of the literature analysis provide a theoretical basis for further research on the effectiveness of Nudge strategies, as well as for the development of practical recommendations for their use in the corporate environment.

3. MATERIALS AND METHODS

This study used a range of interrelated scientific methods to ensure the depth and comprehensiveness of the study of the problem of introducing behavioral economics tools into green marketing practice. The methodological basis of the study is based on a combination of general scientific and specialized approaches and ensures the logical coherence of the analysis, the validity of the conclusions and compliance with the defined objectives.

The systemic approach as a research method made it possible to consider behavioral tools in the corporate marketing system that interact with financial, social and cultural factors. This contributed to a holistic approach to the relationship and interconnection between elements of marketing strategies, behavioral influence mechanisms, and results in terms of changed consumption patterns. The systemic approach also contributed to the positioning of Nudge strategies in the modern green marketing landscape and their function in shaping environmentally responsible consumption.

The method of analysis and synthesis of scientific sources played an important role in the study, which allowed summarizing the results of research in the field of behavioral economics and sustainable consumption. The literature review made it possible to identify the main approaches to defining the essence of nudging, classify behavioral influence tools, and evaluate their effectiveness in different contexts. Thus, the integration of the information obtained in the studies allowed us to form a general conceptual model of the use of behavioral tools in green corporate marketing, which made it possible to develop further recommendations.

Comparative analysis was a method of comparing the results of various scientific studies, which allowed us to identify common trends, differences and contradictions in the application of the Nudge approach to performance measurement. As a result, it is possible to find out which tools demonstrate consistently high effectiveness regardless of the context and which need to be adapted to the socio-cultural context.

The comparative analysis also allowed us to determine the degree of convergence/divergence of modern approaches and directions for future research.

The paper also applies the method of logical generalization, which made it possible to draw theoretical conclusions about the impact of behavioral factors on consumer behavior and the effectiveness of marketing tools. It was this approach that allowed to prove in theory the compatibility of the different theoretical perspectives at the heart of nudge theory and to provide for the co-existence of these theoretical perspectives with the same nudge tools in real business-world applications.

In order to evaluate the efficiency of behavioral instruments, also qualitative analyses were performed, namely the reading of results of empirical studies available in the scientific literature. This allowed analyzing the influence of different instruments, such as the green default option, social signals and information nudges, on consumers' choice, as well as their advantages and disadvantages. In particular, the qualitative analysis led to a better understanding of the mechanisms through which behavioral strategies influence and the circumstances under which they are most effective.

The approach of abstraction was also applied in order to emphasize the most relevant characteristics of behavioral instruments, distinguishing them from the less relevant ones. This allowed to concentrate on the most important factors of nudges effectiveness and to give general advice about the way they should be operationalized.

The study also applied a modeling approach that contributed to the development of a conceptual model for integrating behavioral tools into the corporate green marketing system. This model captures the relationships between different types of nudges, consumer characteristics, and outcomes in terms of behavioral change and can be used as a basis for developing practical strategies for a particular nudge tool.

Thus, the use of a set of complementary methods provided a holistic coverage of the study, which allowed for an in-depth analysis of the problem and the formulation of reasonable conclusions and recommendations for the adaptation and implementation of behavioral economics tools in the practice of corporate green marketing.

3.1. Objectives of the Study

The objective of this study is to examine the effectiveness of applying the principles of behavioral economics to promote responsible consumer choices in the context of green marketing by integrating the Nudge theory into marketing strategies. Achieving this goal requires studying existing "advanced" tools and their impact on consumer behavior, as well as identifying the main factors that lead to the success of programs to promote sustainable consumption. Particular attention is paid to psychological, social and cultural aspects as determinants of consumer behavior patterns and the effectiveness of Nudge strategies.

In addition, the study aims to systematize intermediate issues, the solution of which will help to achieve the main goal. These include optimizing the design of nudges, adapting the tools to the market and socio-economic context, and assessing the long-term effects of using these tools. The development of practical recommendations for the application of behavioral approaches in corporate sustainability programs will not only improve green marketing, but also increase consumer environmental awareness by instilling sustainable development models in responsible consumption.

4. RESULTS

Behavioral economics plays a significant role in the field of green marketing, as it contributes to a deeper understanding of consumer behavior and helps to more effectively stimulate environmentally conscious decisions. The introduction of its principles into marketing strategies allows companies to influence consumer choices through so-called "nudges" that do not limit freedom of decision, but at the same time improve the structure of choice, stimulating the preference for goods and services that are consistent with the ideas of sustainable development (Lehner et al., 2016; Thaler, 2018). These approaches are especially important in the current realities, when environmental awareness is increasingly influencing consumer choices, and society is putting forward growing demands on businesses to demonstrate social and environmental responsibility (Iankovets, 2024; Plisenko and Tryvaylo, 2025). The degree of success of behavioral tools in green marketing is determined by their ability to change consumer behavior without the use of direct coercion or strict regulation. For example, the use of green defaults-automatically setting the most environmentally friendly options to default-has proven to be quite effective in encouraging the choice of environmentally friendly products (Kaiser et al., 2020).

Such instruments contribute to reducing cognitive barriers and "choice difficulties," which generally act as barriers toward the purchase of green products. Schubert (2017) finds that also small incentives - like visual markers or information cues related to the sustainability of a product - are able to increase consumers' propensity to select more sustainable options. However, we note that there are significant constraints to applying behavioral instruments. The first has to do with cultural and social differences that influence how nudges are received, the second concerns ethics and the question of whether it is right to manipulate choices and if it is acceptable to do so (Sunstein et al., 2019). For example, green nudges may be effective in countries with high levels of environmental awareness, but in countries with low levels of environmental awareness, their impact may be negligible (Gossen et al., 2022). In addition, some consumers may perceive nudges as imposition, which leads to a decrease in their trust in the brand and the company (Sunstein, 2014). Another set of tools is information and education approaches aimed at raising consumers' awareness of the environmental consequences of their choices. A study (Chen et al., 2024) shows that consumers who received information about the environmental impact of their behavior were more willing to purchase products accordingly. An eco-friendly product label provides information about the environmental benefits of a product or comparative information about its environmental impact, and positively influences consumers' intention to choose the green option. However, the impact of such interventions is limited when the information is too complex or insufficiently personalized, which can lead to cognitive overload (Hussain et al., 2020).

Based on the review of the existing literature, a classification of main behavioral economics tools used in green marketing considering their effectiveness and possible limitations is proposed in Table 1.

Digital nudges - which are integrated into mobile apps and online platforms to "nudge" consumers - are particularly popular. Studies (Khalufi, 2025) have shown that interactive digital messages are effective in significantly increasing environmental awareness, especially among younger audiences who actively use online services to meet their shopping needs. However, these approaches require a high level of technological infrastructure and proper design, otherwise they can cause irritation or misunderstanding of the messages.

One crucial aspect of this is the application of social norms and regimentation influences based on behavioral patterns. Social information (e.g. informing consumers that the majority of users buy environmentally friendly products) can enhance the probability of taking a responsible action (White et al., 2019). This strategy works best when integrated with nudges and informational incentives, as it boosts the intrinsic motivation of the consumer by means of social comparisons and a perception of belonging to a responsible community (Sunstein and Reisch, 2014). In addition, behavioral economics is leveraged in business strategies,

Table 1: Key behavioral economics approaches in green marketing

Tool	Description	Effectiveness	Limitations
Green defaults	Automatic setting of eco-friendly default options	High, encourages the selection of "green" products	May not work in low-eco environments; ethical issues
Green nudges	Visual cues, social cues, sustainability messages	Moderate, effective when awareness is high	May be perceived as manipulation; cultural differences
Informational approaches	Educational materials, comparative data, impact awareness	Medium-high, improves awareness and intention	Complexity of presentation, cognitive overload
Digital nudges	Use of apps and platforms for nudging	Moderate, integration with behavioral cues	Dependence on technology; effectiveness depends on reach

Source: (Kaiser et al., 2020; Schubert, 2017; Lehner et al., 2016; Gossen et al., 2022; Chen et al., 2024; Hussain et al., 2020; Khalufi, 2025; Sunstein, 2014)

as firms experiment with consumer nudges in the field (Becchetti et al., 2020) They ran a field study in the restaurant business and established that basic nudges like changing menu formatting or adding informative signs can be enough to nudge customers toward more sustainable options. The findings suggest that the combination of different strategies, standard options, social norms and information, has the strongest impact. Ethical and transparency considerations are one of the barriers to implementing behavioral strategies (Sunstein et al., 2019), they argue that consumers should be aware of the existence of nudges and that they have a specific purpose. Otherwise, nudges can be seen as manipulative, leading to a loss of trust in the brand. Nudges to reduce consumption: The need for regulation. There is also a need to regulate digital nudges, especially in the online space, where algorithms can imperceptibly influence consumer behavior without their explicit consent (Khalufi, 2025). A review of the existing literature points towards a convergence in behavioral and traditional marketing paradigms as superior. For example, pairing informational messages with green defaults not only strengthens consumer intention to engage in responsible consumption behavior, but also alleviates cognitive effort in the decision making process (Lehner et al., 2016; Amiri et al., 2024). And such tactics work in pretty much every industry from food to fashion and electronics where the environmental impact of production and consumption is felt the most (Singh et al., 2024).

Another factor is the behavior-adjusting design of products and packaging to stimulate green behavior (Van Birgelen et al., 2008) demonstrates that labels with information about the biodegradability of packaging, along with visual stimuli on shelves, may enhance consumers' intent to select products with a reduced environmental burden. However, there are situational factors affecting the efficacy of the two strategies: Too much information might undermine consumers' motivation to purchase green products, while too little information might fail to evoke behavioral changes (Gossen et al., 2022).

Table 2 summarizes the relative effectiveness of various green marketing tools in the behavioral economics framework according to the state of the art.

Systems thinking reveals that the effectiveness of these instruments can be increased if they are used in combination, for example green standards, nudges, information instruments and social signals. Synergistic effects of the integrated use are obtained not only by increasing the willingness of consumers to opt for responsible options, but also by compensating for the weaknesses of the instruments when taken individually. A study (Amiri et al., 2024) suggests that integrated strategies increase the effectiveness of marketing campaigns in the field of sustainable consumption. In addition, the use of behavioral economics in green marketing is not limited to stimulating environmentally responsible behavior, but can also influence long-term changes in consumer habits, which is a key element in creating a sustainable consumer environment. For instance, a review by (Reisch, 2021) reveals that behavioral science-based interventions foster systemic transformations in food policy and the selection of products that exert a lesser environmental burden.

Monitoring and evaluation are especially important. To this end, laboratory and field methodologies have been applied (Becchetti et al., 2020), stressing that only in field experiments can the real impact of nudges and combined strategies be tested across varied socio-economic contexts. This approach allows to identify unexpected limitations and optimize tools to achieve maximum effect.

It is also found that green marketing can benefit from digitalization. A combination of mobile applications, e-commerce, and gamification integrates behavioural signals into daily dealings with consumers (Khalufi, 2025). Digital nudges work so well nowadays, especially among younger generations who are daily users of digital services, but they must be appropriately regulated and ethically overseen to contain the risks of manipulation.

The results of the systematic review show that adopting behavioral instruments in green marketing is positive and allows to enhance communication effectiveness, advance environmentally sound behavior, and sustain business growth. However, the effectiveness depends on the tool combination, the context of consumer use, and the transparency of the application. Further research should focus on the individual, cultural and digital aspects, as well as the ethical dimensions of these approaches (Sunstein, 2014; White et al., 2019).

Accordingly, a systematic review of the current literature confirms that behavioral economics within the framework of green marketing is not only theoretically favorable but also practically effective, provided that various tools are synthesized taking into account consumer needs and market specifics. Comprehensive positive results from the impact of nudges, social signals, information campaigns and digital interventions on consumer behavior and the formation of sustainable environmentally responsible practices.

Table 2: Comparative effectiveness of behavioral tools in green marketing

Tool	Scope of application	Effect on consumer behavior	Limitations
Green defaults	Packaging, online ordering, energy	High, automates the selection of eco-friendly options	Not always effective in culturally diverse groups
Green nudges	Retail, online platforms, restaurants	Moderate, increases environmental awareness	May be perceived as manipulation; dependent on social context
Informational approaches	Educational campaigns, marketing materials	Medium-high, stimulates intention and knowledge	Cognitive overload, need for personalization
Digital nudges	Apps, online marketing	Medium, integrates behavioral cues	Technical limitations, effectiveness depends on reach
Social cues	Retail, social media	Medium-high, uses social comparison	Cultural differences, requires high visibility
Behavioral design	Packaging, product presentation	High, increases the selection of eco-friendly products	Information overload reduces the effect

Source: (Kaiser et al., 2020; Schubert, 2017; Lehner et al., 2016; Gossen et al., 2022; Chen et al., 2024; Hussain et al., 2020; Khalufi, 2025; Sunstein, 2014; White et al., 2019; Sunstein and Reisch, 2014; Van Birgelen et al., 2020; Gossen et al., 2022)

The attitude of consumers to green marketing overall is a result of their interrelated psychological, social and cultural characteristics which influences their willingness to adopt responsible purchasing behaviours and their reaction to nudging interventions. Psychological factors include individual needs, beliefs, emotional reactions, and thinking patterns that enable and interfere with sustainable behaviors. Research (Lehner et al., 2016) suggests that consumers frequently decide unconsciously or on the basis of routines, thus rules of thumb or habits, and that this entails both barriers to and the introduction of behavioral nudges. For example, the introduction of green defaults allows for the inclusion of an environmentally friendly option in the decision-making process without additional burdening of mental processes, which increases the likelihood of making a responsible choice (Kaiser et al., 2020). At the same time, emotional and cognitive aspects of the consumer are key factors in the perception of Nudge strategies. Consumers' reactions to nudges are more positive, which creates more positive emotional associations, for example, as a result of visual stimuli or social comparisons that emphasize belonging to a group of responsible consumers (White et al., 2019). This phenomenon is supported by the theory of social norms, which states that human behavior is influenced by what people perceive as the actions of others and what they feel pressure to do in their social environment (Sunstein and Reisch, 2014). At the same time, the effectiveness of such approaches is limited by the level of environmental awareness, individual motivation, and the perception of transparency of the company's actions (Sunstein et al., 2019).

Social factors are associated with a consumer's interaction with family, friends, co-workers and other members of the society along with norms and expectations that influence the consumer behavior. Findings (Gossen et al., 2022) indicate that an important share of consumers bases its decisions on the behavior of others or on signals related to the social appropriateness of a given option. These strategies are frequently enacted via social nudges, telling consumers that the majority of buyers opt for the environmentally friendly alternative. The use of these strategies increases the chances of making responsible choices, but success depends on the cultural and demographic background of the target audience, as well as the visibility and credibility of the information (White et al., 2019; Sunstein and Reisch, 2014). Cultural determinants individualize inclinations and perceptions of environmental behavior in different regions and countries. Trust in companies, environmental awareness of the population, traditions and collective values determine the response to nudging. For example, nudging strategies in countries with strong social trust and high environmental awareness are very successful, but in regions with low environmental awareness or where there is a lot of skepticism about marketing messages, the effect of nudging may be minimal (Gossen et al., 2022; Schubert, 2017).

A study of Amiri et al. (2024) indicates that the effectiveness of nudge strategies depends not only on the choice of a specific tool, but also on a certain balance of psychological, social, and cultural characteristics of the consumer. For example, the combination of green defaults with informational messages and social signals significantly increases the likelihood of choosing green, as it satisfies both the cognitive and emotional needs of the consumer. Such a combination of tools minimizes the risk of perceiving the nudge as manipulation and increases brand trust (Sunstein, 2014; Lehner et al., 2016). Digital interventions are another nudge in the direction of responsibility, particularly for younger audiences. With e-commerce applications and platforms, behavioral nudges can be integrated into consumers' daily interactions, providing personalized messages and product-related information on the environmental benefits of the products (Khalufi, 2025). Digital nudges increase the effectiveness of strategies, but they need to be properly designed and controlled to avoid causing information overload or backlash (Sunstein, 2014).

Attitude change, in the short- or long-term, is also influenced by psychological components. For example, a study (Reisch, 2021) shows that highly motivated consumers and consumers with environmental awareness are more likely to be susceptible to nudge strategies and show long-term behavioral changes. At the same time, such appeals to decision makers, whether based on habit or economic incentives, can only have a temporary effect, so they should be reinforced by other measures.

Another equally important aspect is the behavioral design of products and packaging, taking into account psychological, social, and cultural factors, which takes into account and changes consumer behavior. Zhang and Dong (2020) keep in mind that visual signals, information tags and environmental certificates can also increase the value of a product from the consumer's perspective and encourage them to select more responsible options. However, the effect of these types of interventions at the single user level is strongly influenced by their culture, access to information and the degree of trust in the brand (Gossen et al., 2022).

Table 3 summarizes the psychological, social, and cultural determinants of consumption and the success of nudge interventions.

Social and cultural factors affect not only the effectiveness of specific Nudge tools, but also brand perception and trust.

For example, Polous and Hrebelnyk (2022) have shown that environmental consumer behavior is a driving force behind the development of socially responsible businesses, and a lack of trust in a company or a company's failure to meet cultural expectations can neutralize the effect of any nudge, which emphasizes the importance of adapting strategies to a specific social and cultural context (local norms, regional characteristics, and demographic groups).

Motivication to act based on sustainability principles is influenced by psychological processes, such as perception of risk and benefits. Sunstein (2014) notes that consumers who view environmental behavior as rewarding and consistent with their values are more inclined to use green alternatives, yet those who consider green product options as hard or costly may dismiss nudge approaches.

In addition, culture and social expectations can influence the long-term impact of behavioral strategies (Singhet al., 2024). To demonstrate that taking into account psychological, social and cultural factors when developing Nudge strategies increases the sustainability of changes in consumer behavior and the implementation of sustainable consumption practices. This is especially important for global companies with green marketing campaigns in different regions with sharp differences in consumer attitudes. Information and education methods, combined with Nudge approaches, are also crucial in promoting environmentally responsible choices. Romanenko (2024) emphasizes that consumers who receive personalized messages about the environmental benefits of a product have a significantly higher level of readiness to engage in responsible behavior. This emphasizes the need to adapt information strategies to the psychological, social and cultural characteristics of the audience.

Table 3: Psychological, social, and cultural factors influencing consumer behavior

Factor	Description	Impact on behavior
Psychological	Motives, beliefs, emotions, cognitive schemas	Determine the tendency toward automatic decisions and the perception of a nudge
Social	Social norms, peer pressure, family, colleagues	Increase the likelihood of responsible choices through social comparisons
Cultural	Traditions, values, level of trust, environmental awareness	Shape perceptions of Nudge and the acceptability of eco-friendly behavior
Emotional	Positive associations, sense of belonging	Enhance the effect of behavioral nudges
Digital	Use of apps, e-commerce platforms	Provide personalized nudges

Source: (Lehner et al., 2016; Kaiser et al., 2020; White et al., 2019; Sunstein and Reisch, 2014; Gossen et al., 2022; Schubert, 2017; White et al., 2019; Amiri et al., 2024; Khalufi, 2025; Sunstein, 2014)

Table 4 shows how the different factors and Nudge strategies were combined and their usefulness to assess them.

The analyses of the existing literature indicate that effectiveness of Nudge interventions is strongly influenced by psychological, social and cultural factors and a specific adjustment to the individual-receiver as well as to the context is necessary. At the same time, (non) ethical considerations, transparency, cognitive overload, and divergent interpretations of behavioral tools in various socio-cultural contexts pose limitations (Sunstein et al., 2019; Gossen et al., 2022).

The results of this study indicate that a multi-level strategy (integrating green standards, information messages, social signals, and digital tools) is the best way to encourage responsible decisions. A tailored approach is feasible and strategies can be adapted to the needs of the consumer and to societal expectations and culture in order to foster sustainable long-term consumer behavior (Amiri et al., 2024; Singh et al., 2024).

Behavioral green marketing is conducive to the good development of business social responsibility and sustainable consumption practice. But to work, the psychological, social and cultural characteristics of the target group need to be taken into consideration, the use of Nudge tools should be made transparent and ethical and the strategies monitored and adapted in real time (Plisenko and Tryvaylo, 2025; Iankovets, 2024).

Thus, a systematic review of the literature shows that comprehensive nudge strategies that take into account psychological, social, and cultural aspects are important for promoting environmentally responsible consumer choices. They can influence behavior not only in the short term, but also lead to long-term changes in consumer habits, helping to support sustainable development and socially responsible business (Lehner et al., 2016; Amiri et al., 2024; White et al., 2019).

The modern development of green marketing is taking place in an era of growing environmental problems, the growing role of corporate social responsibility and the transformation of consumer priorities, which requires the search for effective means of influencing consumer behavior. In this regard, behavioral economics offers a new approach to encouraging environmentally responsible choices through the use of "nudge" tools that change behavior without coercion, preserving freedom of choice, but at the same time directing consumers to more sustainable options (Thaler, 2018; Sunstein, 2014).

The relevance of introducing such tools into corporate practice is that traditional marketing mechanisms do not always provide a sufficient degree of behavior change, while behavioral interventions allow taking into account cognitive limitations, emotional reactions, and social influences that shape consumer choices (Lehner et al., 2016; White et al., 2019). Applying nudges

Table 4: Psychological, social, and cultural factors, as defined in Table 1, influence the effectiveness of nudge strategies

Nudge tool	Psychological factor	Social factor	Cultural factor	Effectiveness
Green defaults	Motivation and cognitive ease	Support for social norms	Alignment with local values	High, especially when integrated
Green nudges	Emotional appeal	Social cues	Cultural expectations	Moderate, effect depends on context
Informational approaches	Perception of benefits and risks	Social support	Local values and trust	Medium-high
Digital nudges	Personalization and interest	Online social interaction	Tech culture	Medium, requires high reach

Source: (Kaiser et al., 2020; Lehner et al., 2016; Schubert, 2017; White et al., 2019; Chen et al., 2024; Reisch, 2021; Khalufi, 2025; Sunstein, 2014)

in green marketing is founded on the premise that consumer decisions are not entirely rational and are influenced by intuitive thinking, habits, and the context in which they decide. That is, alterations in the representation of choice can exert strong effects on decisions made by consumers. For example, the adoption of green defaults, i.e., making the environmentally friendly options pre-selected as default options, has been repeatedly demonstrated to lead to substantial increases in the percentage of green choices and the reason is already known: It eliminates the need for active decisions by consumers (Kaiser et al., 2020).

A range of personalized and session-based methods can be applied to the business category, if full-scale execution across sales, customer service, and digital platforms being feasible. The preparation of the guidance on applying nudges in corporate green marketing should be informed by scientific evidence and consider the psychological behavior mechanisms as well as the organizational capabilities of firms. In particular, due consideration should be given to cognitive biases (such as status quo bias, bounded rationality, and the reinforcement effect) that affect how consumers perceive information and make decisions (Lehner et al., 2016; Sunstein, 2014). The introduction of information nudges should focus on reducing these barriers by simplifying decision-making, increasing information transparency, and ensuring a positive brand experience.

One of the priorities is to introduce information nudges into marketing communications.

Consumers' environmental awareness can be increased through nudges by informing them about the environmental properties of a product, the environmental impact of a product, and the benefits of making responsible choices, which may have the potential to promote behavior change (Chen et al., 2024; Hussain et al., 2020). At the same time, the effectiveness of such measures depends on the way they are presented: It needs to be understandable, accessible, and relevant to the specific audience, otherwise it can lead to cognitive overload and loss of attention. This is in line with research showing that too much information can reduce the effectiveness of its delivery, including in the field of environmental messages (Gossen et al., 2022).

A key tool in this regard is the use of social nudges that engage in behavioral norms and encourage individuals to want to meet the expectations of the social environment. Interpersonal influence can affect people's behavior greatly, whether it be in conveying the message that the majority of consumers purchase green products, or by providing instances of responsible conduct (White et al., 2019; Sunstein and Reisch, 2014). In business, this can take the form of advertising, customer reviews, product environmental ratings, or social signal integration in digital platforms. However, the effectiveness of such tools depends on the level of trust in the source of information and the cultural context in which they are used (Schubert, 2017).

Digitalization provides new possibilities for the realization of advice in company marketing. Based on the behavior of individual consumers, personalized tips may be generated via mobile apps, personalized recommendations, push notifications, and machine learning algorithms (Khalufi, 2025). These digital nudges are especially powerful because they are built into the user experience and guarantee ongoing contact with the brand. However, the application of these tools implies the need to consider ethical matters with respect to data protection and the transparency of algorithms, as too much or too opaque influence can have the effect of a boomerang among the users (Sunstein et al., 2019).

The formulation of recommendations should also take into account the cultural and social characteristics of the market.

Research indicates that nudges have a significant impact on this effect; however, the level of environmental awareness, social norms, and traditions associated with environmentally friendly behavior determine its effectiveness (Gossen et al., 2022; Singh et al., 2024).

Bearing this in mind, companies need to localize their strategies and respond to the values and expectations of consumers in a given region. For instance, in nations that are environmentally conscious, advanced and creative nudges may be applied, whilst in continents with indifferent populations, simple education and interaction might have the most impact.

Pay special attention to the integration of nudges into the product lines of companies. Product design, packaging, labeling, and in-store placement can be used as powerful tools to influence consumer behavior. A study by Zhang and Dong (2020) shows that the use of environmental stickers and visual cues stimulates an increase in the perception of product value, which can influence the choice of product offer. At the same time, the effectiveness of such measures depends on the degree of trust in certification systems and the level of transparency with which information is provided to consumers.

Applying nudges in a way that ensures the ethicality of the process, as well as its transparency, is important in the execution of such nudges. But customers need to be consciously aware of that their choices are being influenced, without feeling pressured or manipulated. This implies that some guiding principles for when behavioral instruments may be used need to be developed that take into account business interests and societal interests (Sunstein et al., 2019).

Ethical considerations are more relevant in the digital environment, where the opportunities for influence are much wider and the risks of abuse are higher.

A summary of current approaches in terms of adapting and implementing corporate green marketing nudges leads to the recommendations presented in Table 5.

Future development of corporate green marketing should lie in the alignment of behavioral instruments with traditional marketing tools to enable a comprehensive impact on consumers. This is a package of economic incentives, information campaigns and behavioral interventions that support one another and promote sustainable consumption patterns (Amiri et al., 2024). A constant monitoring of the effectiveness is also necessary along with updating the applied measures as to the changes occurred in consumer behavior and market atmosphere.

Hence, using Nudge strategies within firm green marketing appears to be an emerging promising tool to stimulate consumers to be more environmentally responsible and contribute to sustainable development. The effectiveness of these strategies relies on a thorough understanding of the psychological, social and cultural determinants of the target audience as well as on the capability of the firm to customize its strategies for the specific needs of the target group and to be transparent and ethical. Integrating behavioral instruments in business practice enables to open up new pathways for advancing responsible consumption and business competitiveness under a background of escalating complex global environmental challenges.

5. DISCUSSION

The study confirms that the use of behavioral economics tools in environmental marketing effectively influences consumer behavior, but the degree of influence of these tools largely depends on the context of implementation, such as the psychological, social and cultural characteristics of the target group. The most effective approaches have been integrated approaches, which studies include green defaults, information prompts, social cues, and digital interventions, which is consistent with previous findings in the areas of behavioral economics (Lehner et al., 2016; White et al., 2019). At the same time, while the use of certain tools achieves certain, albeit small, successes, research findings suggest that their effectiveness is limited and they often do not lead to sustainable changes in consumer behavior.

Interpretation of the results allows us to assert that the ability of nudge strategies to influence the automatic cognitive processes underlying most consumer decisions is the main factor determining their effectiveness. In particular, the adoption of green standards by default reduces cognitive effort and triggers the status quo effect, thereby increasing the likelihood of choosing environmentally friendly options (Kaiser et al., 2020). This is consistent with the theoretical principles of behavioral economics, which argue that consumers are subject to inertia and limited rationality in their decision-making processes (Thaler, 2018). The results also indicate a potential reduction in the impact of these types of nudges when consumer trust is low or environmental awareness is low, which is consistent with the findings of other studies (Gossen et al., 2022).

Comparison of the results with those of other authors shows a general consensus on the effectiveness of social nudges as a tool for influencing consumer behavior. In particular, it has been proven that the use of social norms and signals (information about the behavior of other consumers) leads to an increase in the likelihood of making responsible decisions, as confirmed by the studies of Sunstein and Reisch (2014) and White et al. (2019). At the same time, this study shows that the use of social nudges is highly dependent on the cultural context, which partially contradicts the universalist positions expressed in some previous studies.

This suggests that social nudge strategies need to be adapted to the local characteristics of consumer culture. The results also underscore the importance of information interventions in improving consumer awareness and enhancing their attitudes towards green products. This lends support to the results of Chen et al. (2024), demonstrating that awareness of the environmental consequences of consumption promotes responsible choices. Although to date, information overload has been demonstrated to cause cognitive overload and have a negative impact on communication efficiency, which has also been confirmed by studies (Hussain et al., 2020). Thus, the findings of this study add

Table 5: Recommendations for the Implementation of nudge tools in corporate green marketing

Area	Tool	Essence of the recommendation	Expected effect	Limitations
Selection architecture	Green defaults	Setting eco-friendly options as defaults in products and services	Increase in the share of "green" solutions	Potential resistance due to low awareness
Communications	Informational nudges	Providing clear and relevant information about environmental benefits	Raising environmental awareness	Risk of information overload
Social influence	Social nudges	Using social norms and behavioral examples	Strengthening motivation through group influence	Dependence on cultural context
Digital solutions	Digital nudges	Personalized recommendations and notifications	Increased engagement and interaction frequency	Privacy and ethics
Product policy	Eco-design and labeling	Use of labels and eco-design	Enhancing perception of product value	Distrust of certifications

Source: (Kaiser et al., 2020; Lehner et al., 2016; Chen et al., 2024; Hussain et al., 2020; White et al., 2019; Sunstein and Reisch, 2014; Khalufi, 2025; Sunstein, 2014; Zhang and Dong, 2020; Gossen et al., 2022) to the current scientific rationale by emphasizing the importance of striking a balance between informing and enabling the recipient to comprehend the information.

Interest should be focused primarily on digital nudges, which were found to be moderately effective in this study, but with high potential for growth. This is in line with the findings of Khalufi (2025), which emphasize that digital means provide an opportunity to personalize the impact and engage consumers more. At the same time, the results of the study show a certain barrier in terms of external, private and trust, which is also noted in the work of Sunstein et al. (2019). This suggests that further improvement of digital incentives to create clear regulatory mechanisms and increase the transparency of algorithms is needed.

In general, the results of the study suggest that the effectiveness of Nudge tools is increased not only by the characteristics of the tools, but also by the degree of integration of the tools into the company's overall marketing strategy. This is the result of research (Amiri et al., 2024), which emphasizes the need for a targeted approach to stimulating sustainable consumption. Meanwhile, the findings extend these results by showing that behavioral tools when packaged together with traditional marketing approaches can induce sustained changes in consumer behavior.

An assessment with (Singh et al., 2024) enabled us to infer that the influence of cultural elements is higher than that they are usually ascribed in earlier research. Specifically, the present research shows that Nudge-based instruments are more effective if adapted to local culture and that cultural differences can be disregarded only at risk of worse outcomes or even a boomerang effect. This explains some of the discrepancies between the results of different studies, which can be explained by differences in the samples studied and the socio-cultural context.

The findings of the study demonstrated that the hypothesis stating that the application of behavioral instruments in green marketing enhances consumers' environmental responsibility was confirmed with a certain degree of confidence. Nevertheless, some tools' potency is not universal and situational dependent, which warrants further studies. In this context it is worth remarking that nudges effectiveness may be influenced by consumers income, education, age and other socio-demographic variables as it was the case in a research by (Reisch, 2021).

It should be noted that this study has limitations that should be taken into account when interpreting the results. First, the analysis is based on a (conditional) generalization of the results of previous studies, which means that it may be questionable to what extent this review has captured the specifics of particular markets. Second, the lack of empirical testing in the context of a single corporation will limit the ability to assess how useful the recommendations will be in practice. Third, this study does not take into account dynamic changes in consumer behavior that may be caused by external factors, such as economic crises and changes in legislation.

Implementation of the study results in relation to the theoretical framework the results of the study contribute to the motivation to implement a nudge strategy in order to increase the effectiveness of corporate green marketing. In addition, companies can use green silences, social signals and digital prompts to promote appropriate choices, adapting them to the characteristics of the target audience. At the same time, it is necessary to guarantee the transparency and ethical use of such tools, demonstrating the merit of the methods to avoid negative attitudes from consumers and not to lose their trust in the brand (Sunstein et al., 2019).

Thus, the results of the study highlight the strengths of behavioral economics in shaping environmentally oriented consumers, while emphasizing the need for a holistic and differentiated approach to the application of Nudge strategies. Comparison with the results of other researchers allows us to conclude that the scientific approaches are generally applicable, but also demonstrates a number of points that should be further explored, including cultural and social factors and ethical issues in the application of behavioral marketing.

6. CONCLUSION

It has been found that behavioral economics provides effective theoretical and practical support for improving green marketing tools by taking into account the real decision-making process of consumers, which is not always rational. Traditional marketing approaches, which are focused at educating consumers and providing them with financial incentives, have not been effective in changing their behaviors, whereas behavioral strategies have enhanced the stability and predictability of outcomes.

It is emerging that the development of a choice architecture for environmentally friendly decisions is coming to the fore and can be influenced in the desired direction through nudging. The easiest effective solutions are written solutions that require least to no cognitive effort from consumers, trigger unconscious behaviors, and form friendly contexts for choosing sustainable options. Meanwhile, the success of these instruments appeared to vary greatly according to the degree of consumer awareness on environmental issues, the level of brand trust as well as the socio-culture of the environment.

It was found that a combination of different types of behavioral tools, such as changing default options in the context of choice, using social norms, providing information, and using digital technologies, leads to the greatest effectiveness in promoting environmentally responsible behavior. The isolated use of individual tools is associated with a limited effect, while their integrated implementation creates a synergistic effect and expands the prospects for long-term behavioral change.

The study argues that the successful application of behavioral tools in a company's practice should be adapted to specific target market segments, taking into account psychological, social and cultural factors, and be transparent and ethical. It has been found that failure to comply with these requirements can lead to a decrease in the effectiveness of marketing activities or even to a negative attitude of consumers.

It is also determined that the digitalization of marketing processes affects the expansion of opportunities for personalization of behavioral interventions, increasing their effectiveness, but also leads to the need to address issues of personal data protection and agitation of trust in digital tools. It is determined that it is advisable to integrate behavioral approaches with traditional marketing tools, which will allow for the formation of comprehensive, influential consumer strategies.

In general, it has been demonstrated that the tools of behavioral economics in green marketing are a promising direction for the development of corporate strategies, which contributes to increasing the environmental responsibility of consumers, developing sustainable consumption patterns and increasing the competitiveness of enterprises. At the same time, further research should focus on deepening the empirical base, assessing the long-term impact of behavioral interventions and developing mechanisms for their adaptation to different market conditions.

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