

The influence of Digital Out-of-Home Advertising on consumer intention to purchase green products

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Summary

The study aims to determine the elements of Digital-out-of-Home Advertising (DOOHA) and personal factors that drive consumers' intention towards green marketing in South Africa. Specifically, the study aims to determine the influence of perceived entertainment value, attractiveness, informativeness, credibility and interactivity of the DOOH advertisements as predictors of consumer attitudes towards sustainable products, and the human characteristics of product knowledge, environmental concern and perceived cost as determinants of consumer attitudes towards green marketing. These factors have been investigated in different contexts and are therefore worthy of further investigation in the context of DOOH advertising.

Introduction and background

Although not new, green marketing has recently gained traction due to concerns about environmental impact, such as climate change, electricity availability, and droughts (Makhitha, 2021). Both industry and consumers play a crucial role in altering our course towards protecting natural resources and preventing global warming (Vashisht, 2021; Nekmahmud, Naz, Ramkissoon & Fekete-Farkas, 2022). The United Nations Department of Economic and Social Affairs encourages consumers and organisations to prioritise conscious choices that protect the environment (United Nations, 2015). Without a significant reduction in carbon emissions, the World Resources Institute (2021) predicts that within the next twenty years, global temperatures will rise by 4.4 degrees Celsius by 2100. This rise will have catastrophic consequences for economies and all life on Earth. Enterprises and consumers must urgently change their energy consumption, production processes, and consumption habits (World Resources Institute, 2021).

Green marketing, also known as environmental marketing, ecological marketing, sustainable marketing and social marketing in the literature, originated in the early 1970s when ecological issues first began to receive widespread recognition (Akgün & Bütüner, 2024). Since then, green marketing has been described to illustrate how companies identify, anticipate and satisfy customer needs by selling environmentally friendly goods and services. Put differently, green marketing is a marketing strategy that seeks to address the evolving needs of environmentally conscious consumers by implementing actions that reduce environmental harm.

Concerns about going green drive people to change their daily habits, what they eat, and how they consume. Despite consumers expressing a generally positive attitude towards the environment, the reality on the ground is not commensurate with the actual purchase of green products remaining low, a phenomenon known as the attitude-intention-behaviour gap (Goldsmith, Roux, Tezer & Cannon, 2022). Put differently, the attitude-intention-behaviour gap occurs when the positive attitudes and intentions towards green marketing do not translate into actual green purchases. Improving how organisations, marketers and governments persuade consumers to buy green products and practising a green lifestyle could enhance the chances of a greener environment for future generations (Venugopal, 2020).

South Africans are serious about protecting the environment and intend to purchase environmentally friendly products (Koloba, 2020). Existing reports indicate that a quarter of South Africans are willing to pay more for green products (Euromonitor, 2024). The market share of green products in South Africa is growing slowly among the middle class (Makhitha, 2021). The middle class provides an important tool for understanding the status of the 'average' South African and provides policymakers with a more balanced assessment of development in the country (Makhitha, 2021). Even though some research exists on using different marketing channels to promote consumer intention to purchase green products (Hasbullah et al., 2023), very few studies are available in the context of digital out-of-home advertising (DOOA) in South Africa.

Digital out-of-home advertising is an innovative form of media found on digital signage, LED screens, and billboards erected in busy public areas or along busy highways that individuals usually visit outside of their homes (Roux, 2018). By providing contextually relevant content to targeted audiences at scale, DOOHA enables companies to interact with consumers seamlessly as they go about their daily lives. With the increase in urban migration (Vangelov, 2022), the high advertising effectiveness and the sustainability aspect of the platform, the DOOHA channel cannot be neglected by researchers as it is a promising sustainability marketing platform alternative. With DOOHA, companies can take their brands to the streets and utilise animations to convey contextually relevant, complex messages. Thus, DOOHA can provide immersive experiences which enable consumers to empower themselves to make prompt decisions, thus creating high conversion rates (Statista, 2024).

Problem statement

First, there seem to be conflicting reports in the literature regarding consumer attitudes towards green marketing. Sun, Su, Guo and Tian (2021) reported that 54% of people in developed and developing countries have shifted their eating habits toward green consumption, suggesting they are receptive to green marketing efforts. Kamalanon, Chen and Le (2022) found that the influence of intention on green marketing is higher in developing countries compared to the developed world. This inconsistency suggests that more studies are required to enhance understanding of consumer attitudes towards green marketing. What is consistent, though, is that the attitude-behaviour gap is still widening (Koloba, 2020).

Second, conventional marketing methods are reported to be less effective than green marketing methods to promote environmentally friendly products and services (Miranda-Guerra, Arellano, Condorachay & Ramos, 2023). Companies normally use social media platforms, websites, television commercials and print media as green marketing channels (Correia, Sousa, Viseu & Larginho, 2023) to enhance consumer intention. However, Sreejesh, Paul, Strong and Pius (2020) posit that social media advertisements may not grab the consumer's attention because of the media proliferation and information overload on such platforms. Villarroel Ordenes, Grewel, Ludwig, Ruyter, Mahr and Wetzels (2019) also concur that despite brands'

increased participation in social media conversations, the impact on consumers is still surprisingly low, with an average brand tweet viewed by just 1% of followers and likely gets lost in the sea of big data. Therefore, it is crucial to figure out how to create dynamic messages that motivate customers by making efficient use of the verbal and visual components that are already available. Consequently, the inquiry that directs this research is: Might digital out-of-home advertisements (DOOHA) serve as the solution to reconciling the disparity between attitude and behaviour? Answers to this question are important for companies to implement green marketing strategies that enhance consumers' intention to purchase green products, as conventional marketing methods are reported to be less effective in promoting green marketing behaviours (Miranda-Guerra, Arellano, Condorachay & Ramos, 2023).

Digital Out-of-Home Advertising (DOOHA) is an emerging global advertising channel and is expected to grow in South Africa by 4,24% over the next 5 years (Statista, 2024). Globally, the market is expected to grow by 11.6% from 2023 to 2030 (Grand Viewer Search, 2023). Although this platform is highly interactive, it is very under-researched in the green marketing setting in South Africa (Maduku, 2024).

Third, despite extant literature on consumer intention to purchase green products, little is known about the main attributes of digital-out-of-home advertising in promoting green consumption in South Africa (Nekmahmudet et al., 2022). An evaluation of the publications in EBSCOhost, ProQuest, SA Publications, Science Direct, etc, reveals that no studies have investigated the elements of DOOH advertising to promote the intention to purchase green products, a knowledge gap that this study attempts to address.

Fourth, most studies have investigated the influence of the DOOHA media characteristics on purchase intention (Hasbullah et al., 2023; Correia et al., 2023), ignoring the human element. Research indicates that the human element also plays a crucial role in determining the effectiveness of a digital platform. The study takes the view that the success of a digital media platform goes beyond the visual aspects of the system but also includes consumer characteristics in making conscious green purchase decisions. Consequently, this study measures the influence of the DOOHA from both the technical and human or psychological perspectives to narrow the knowledge gap created by the scarcity of studies that combine the two perspectives.

Fifth, the study aims to achieve its main objective through the lens of the Stimulus, Organism and Response model (Woodworth, 1929), drawn from Pavlov's (2010) classic theory of the stimulus-response model, which has rarely been applied in this context.

Objectives of the study

The study aims to determine the elements of Digital-out-of-Home Advertising (DOOHA) and personal factors that drive consumers' intention towards green marketing in South Africa. Specifically, the study aims to determine the influence of perceived entertainment value, attractiveness, informativeness, credibility and interactivity of the DOOH advertisements as predictors of consumer attitudes towards sustainable products, and the human characteristics of product knowledge, environmental concern and perceived cost as determinants of consumer attitudes towards green marketing. These factors have been investigated in prior studies and were found to be significant predictors of consumer attitudes in various contexts such as public engagements (Wilson et al., 2020), green marketing (Dangelico et al., 2017) and social media marketing (Hasbullah et al., 2023) and are therefore worthy of further investigation in the context of DOOH advertising.

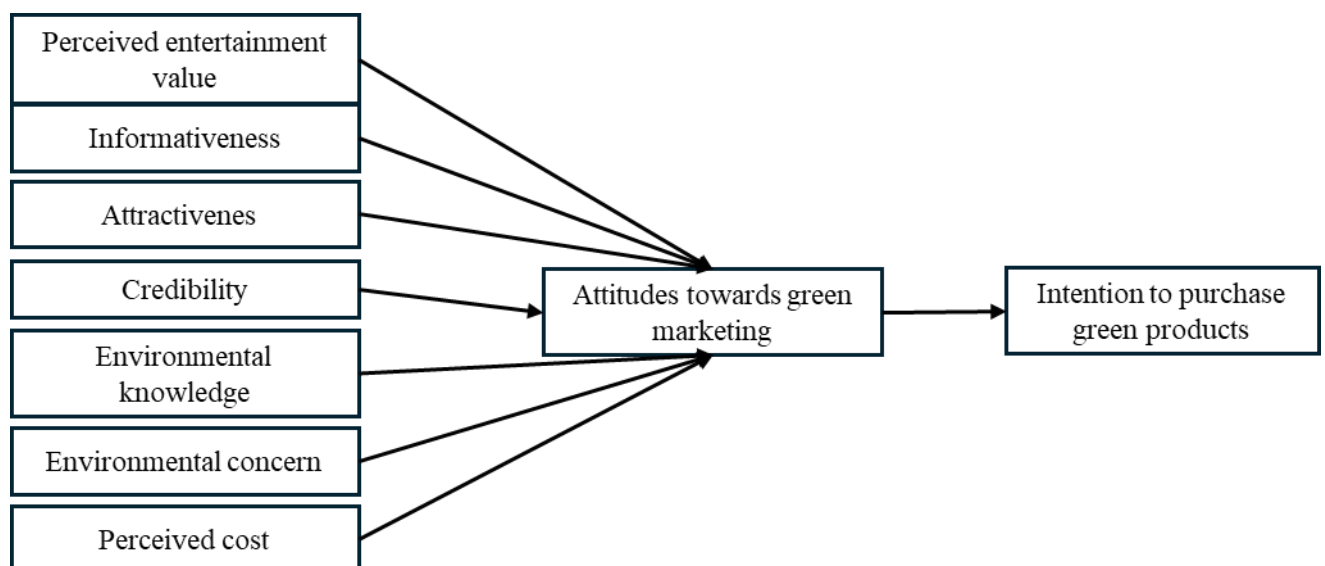
Theoretical framework and hypotheses development

Various theoretical models are used in studies on DOOH, such as the Technology Acceptance (TAM) (Davies, 1989) and the Theory of Planned Behaviour (Ajzen, 1991). This study is based on the Stimulus Organism Response (S-O-R) theory (Mehrabian & Russell, 1974), renowned for investigating the influence of environmental factors on green consumption. According to Chopdar and Balakrishnan (2020), the S-O-R model is used to describe how the external environmental stimuli (stimulus) influence a consumer's internal processes (organism) to either accept or avoid an object (response), the factors of which are depicted in Figure 1.

This study suggests that an external stimulus (stimuli: entertainment value, informativeness, attractiveness, credibility, and personal motives: environmental knowledge, environmental concern and perceived cost) may influence consumers' attitudes towards sustainable products (organism), which in turn elicits an emotion that leads to a response (R) (such as intention to purchase green products). Although the SOR theory has been applied in prior green marketing studies, there is a great differentiation of stimuli because of the varied types of stimuli in the environment. For example, Rivas et al. (2022) investigated green prices, green products, green places and green promotion as stimuli influencing environmental attitude, while Mishra et al. (2022) investigated email marketing, online advertising, social media marketing, mobile marketing and influencer marketing as stimuli to understand attitudes towards health-related advertisements.

Based on the researchers' knowledge, there are no studies that have investigated the influence of DOOH media characteristics including personal factors on consumer attitudes towards sustainable products, more so in South Africa where consumers with a reasonable understanding of societal issues show a preference for green products over conventional alternatives (Kutama & Deliwe, 2023). Similarly, Dlamini and Mahowa (2024) also contend that studies on green purchase behaviour have primarily been in food, electronics, energy systems, and clothing. Therefore, the study will provide complementary evidence to add to ongoing conversations on intention to purchase green products by focusing on the role of DOOH media characteristics and personal factors.

Figure 1: Theoretical Framework



Hypotheses

The following hypotheses will be tested in the study.

- H1: Perceived entertainment value positively influences attitudes towards green marketing.
- H2: Informativeness positively influences attitudes towards green marketing.
- H3: Attractiveness positively influences attitudes towards green marketing.
- H4: Credibility positively influences attitudes towards green marketing.
- H5: Environmental knowledge positively influences attitudes towards green marketing.
- H6: Environmental concern positively influences attitudes towards green marketing.
- H7: Perceived cost negatively influences attitudes towards green marketing.
- H8: Attitudes towards green marketing positively influence intention to purchase green products.

Methodology

A quantitative research approach will be applied in this study in tandem with prior similar studies (Makhitha, 2024; Yadaf et al., 2024). A self-administered questionnaire will be used to collect data. As most studies focus on young generations, this study will collect data from adult consumers aged 25 years and older who have watched a digital billboard before while travelling across major cities in South Africa using Google Forms. Statements to measure the variables will be adopted and adapted from the literature, based on the 7-point Likert scale response format. Convenience sampling supported by snowballing will be applied as suggested by Bah and Haba (2019). A sample size of 300 is deemed appropriate for the study based on the equation of Tabachnick and Fidell (2013:159), $N > 50 + 8m$ (m = number of independent variables). Thus, the sample size of 300 would be appropriate as it would be above the minimum of 90 respondents required to meet the above criterion. A statistical package for social sciences (SPSS) version 29 will be used for data analysis as suggested by Pallant (2020).

Theoretical contributions

First, a review of research databases such as ProQuest, EBSCO-HOST, and SA Publications indicates a dearth of studies that have empirically tested and explored the role of DOOH advertising on intention to purchase sustainable products in a South African setting. Second, the study intends to further the understanding of how DOOH could promote consumer intention to purchase sustainable products in the context of DOOH in South Africa, through the lens of the Stimulus-Organism-Response (S-O-R) model (Nekmahmud et al., 2022; Hasbullah et al., 2023) by examining both media platform and consumer characteristics. Third, the study focuses on adult consumers aged 25 years and older, as previous studies focused primarily on young respondents (Nekmahmud et al., 2022; Hasbullah et al., 2023).

Practical contributions

This study could assist South African companies in understanding and identifying the pertinent factors that contribute to successful DOOH advertising in promoting green purchase behaviour. DOOH has the potential to educate consumers on sustainability while promoting sustainable products and services, driving long-term behaviour changes and increasing the sales of green products. By adopting more sustainable advertising channels, the advertising industry could reduce its carbon footprint and set an example to consumers and businesses of sustainable business practices. This research could further assist businesses, especially those promoting green and sustainable products, in developing more effective marketing strategies, improving consumer attitudes toward these products, and increasing sales.

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