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# THE EVOLUTION OF GREEN CONSUMER BEHAVIOUR IN THE DIGITAL ERA: A SYSTEMATIC REVIEW AND RESEARCH AGENDA

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## ABSTRACT

**Objective:** This study aims to systematically review and map the evolution of green consumer behavior in the digital age by integrating perspectives on sustainability, marketing, and information technology. This study seeks to identify the main themes, theoretical approaches, and new research trends that shape the transformation of sustainable consumption behavior in the digital context.

**Research Design & Methods:** This study applied a Systematic Literature Review (SLR) approach based on the PRISMA 2020 protocol. Data search was conducted through the Scopus database for the period 2010–2025 in the fields of Business, Management, and Accounting. Of the total 2,804 documents identified, 124 articles met the initial synthesis stage, and 36 final articles were analyzed qualitatively using thematic clustering to identify conceptual patterns related to digital engagement, green marketing strategies, and ethical consumption behavior.

**Findings:** The results identified four main clusters: (1) Green Trust and Digital Authenticity, which highlights the importance of transparency and credibility in sustainability communication; (2) AI, Personalization, and Sustainable Engagement, which emphasizes the role of algorithms and artificial intelligence in environmentally friendly decisions; (3) Digital Influencers and Green Socialization, which explains the influence of social media on pro-environmental identities; and (4) Ethical Consumption and Green Identity, which focuses on the moral and symbolic dimensions of sustainability. The analysis also shows a methodological shift towards data-driven sustainability and a cross-cultural approach in understanding digital green consumer behavior.

**Implications & Recommendations:** These findings provide strategic insights for policymakers and practitioners to design an ethical digital marketing framework, promote algorithmic transparency, and strengthen sustainability-oriented digital literacy. Further research is recommended using longitudinal and cross-cultural approaches to explore the dimensions of digital ethics, trust in AI, and emotional relationships in the formation of consumer green identity.

**Contribution & Value Added:** This article contributes to integrating behavioral, technological, and ethical theories in explaining the evolution of green consumer behavior. Theoretically, this research expands understanding by linking the Theory of Planned Behavior (TPB) with digital-era constructs such as AI-based trust and authentic sustainability communication.

**Keywords:** Green Consumer Behavior, Digital Sustainability, Ethical Marketing.

JEL codes: Q56, D91, O33.

**Article type:** research paper

## INTRODUCTION

The development of digital technology has fundamentally changed the way consumers interact with brands, access information, and make purchasing decisions, including in the context of sustainable and environmentally friendly consumption. Digitalization has expanded the space for discussion and awareness about sustainability through social media, e-commerce, and community-based platforms that encourage consumers to be more aware of the environmental impact of their behavior (Karunanayaka et al., 2024). This era marks a shift from conventional consumption to green consumer behavior, where purchasing decisions are no longer driven solely by functional needs, but also by ethical, social, and ecological values (Rana & Solaiman, 2023). In the last decade, there has been a significant increase in research on the relationship between digital transformation and green consumer behavior. Information technology, social media, and artificial intelligence enable consumers to more easily obtain information about environmentally friendly products, share experiences, and assess brand credibility based on transparency and commitment to sustainability (Bajrami et al., 2025). Bibliometric studies show that research on green consumer behavior is now shifting from a psychological perspective to a multidisciplinary approach that combines technological, cultural, and social dimensions (Nair & Little, 2016; Sivarajah, 2024).

Digital transformation also broadens the meaning of green behavior through e-green consumerism, where sustainability is practiced through online channels such as shopping on eco-friendly platforms, participating in digital campaigns, and supporting brands that display environmental ethics (Makrides et al., 2020). Social media has become the primary channel for shaping consumers' ecological perceptions and identities, as it enables two-way dialogue between brands and the public (Sarkis et al., 2024). Through digital narratives and value-oriented communication, brands can build green brand equity and strengthen consumer loyalty (John et al., 2025). However, these dynamics also present new challenges. On the one hand, digitalization opens up space for transparency and consumer engagement; on the other hand, there is the phenomenon of greenwashing and digital manipulation that obscures the authenticity of sustainability messages (Espinoza & García, 2024). This phenomenon highlights the importance of ethics and trust in green consumer behavior, where consumers are increasingly critical of sustainability claims that are not accompanied by concrete evidence (Diwanji, 2026). Therefore, understanding the interaction between digital trust, perceived authenticity, and green engagement is central to the latest literature (Pichierrri & Belk, 2026).

Amid growing attention to global sustainability, organizations are also required to adopt more responsible and environmentally oriented business models. Recent studies show that peer-to-peer sharing and circular economy businesses facilitated by digital platforms provide real alternatives to reduce overconsumption (Cui et al., 2025). In this context, green consumer behavior is not only defined as a preference for environmentally friendly products, but also as part of a digital lifestyle that emphasizes resource efficiency, social collaboration, and ecosystem balance (Samala & Rawas, 2024). The increased adoption of technologies such as artificial intelligence, machine learning, and virtual influencers also adds complexity to the study of green consumer behavior (Kaiser et al., 2025). On the one hand, these technologies facilitate the personalization of marketing messages and enhance the consumer experience; on the other hand, they raise new questions about authenticity. In several studies, perceptions of digital ethics and consumer comfort with digital marketing practices significantly influence brand trust and the tendency to engage in sustainable consumption, as the authenticity of messages and the credibility of digital communicators are key factors in building ethical relationships between consumers and brands (Sarkis et al., 2024; Sherief et al., 2025; Vardikou et al., 2025).

Additionally, the COVID-19 pandemic accelerated changes in consumer behavior toward more conscious and digital consumption practices. This global crisis strengthened awareness of environmental sustainability, health, and social values, and encouraged companies to integrate sustainability into their brand communications. In the post-pandemic era, the literature shows an increased interest in the topics of responsible consumerism and eco-centric marketing, especially through social media (Cárdenas et al., 2021). Ecological awareness is now understood not only as a moral responsibility, but also as a form of digital identity that plays a role in building social image

(Kaiser et al., 2025). Although many studies have discussed the relationship between digital marketing and green consumer behavior, there are still conceptual gaps in understanding the dynamics of this change systematically. First, most studies are fragmentary and focus on specific industry contexts such as fashion, food, or tourism. Second, there is a lack of cross-cultural approaches in assessing how social values and local norms influence the acceptance of digital green behavior. Third, most studies focus on purchase intention without examining post-purchase dimensions such as sustainable loyalty or green advocacy.

Therefore, this systematic study aims to provide a comprehensive understanding of the evolution of green consumer behavior in the digital age by mapping conceptual, methodological, and thematic trends from the latest literature. This SLR approach also highlights key factors that shape green consumer behavior, including technology, ethics, social engagement, and digital trust. By identifying patterns of relationships between variables, this study is expected to contribute theoretically to the development of sustainable consumer behavior models in the era of digital transformation, as well as provide practical recommendations for marketers and policymakers to design ethical, authentic, and environmentally oriented communication strategies (Bajrami et al., 2025; Nair & Little, 2016).

## LITERATURE REVIEW

### The Concept of Green Consumer Behavior

Green consumer behavior is a form of ecological awareness in the context of modern consumption, where individuals make purchasing decisions by considering the social and environmental impacts of the products or services they use (Anwar et al., 2025). Conceptually, this behavior reflects a shift in values from a materialistic orientation towards a sustainability orientation, where consumers not only assess the functional benefits of a product, but also the moral and ethical values behind its production process (Rana & Solaiman, 2023). Green behavior requires cognitive, affective, and conative involvement, each of which contributes to the emergence of intentions and concrete actions to support environmental sustainability (Nguyen et al., 2025).

Green consumer behavior is described as a complex interaction between environmental awareness, personal values, and social norms that shape preferences for sustainable products (Makrides et al., 2020). Green consumers tend to prioritize products that have eco-labels, are made from recycled materials, or are produced ethically with minimal carbon impact (Lazarte et al., 2025). This view is in line with the Value-Belief-Norm (VBN) theory, which states that green consumption decisions are driven by moral beliefs and personal responsibility towards the environment (John et al., 2025). This means that consumptive actions are no longer merely a reaction to economic needs, but also a reflection of an individual's ecological identity and moral awareness (Kaiser et al., 2025). Several studies in the last decade show that psychological factors such as empathy for nature, ecological guilt, and the desire to be part of a sustainable community also influence green consumer behavior (Sarkis et al., 2024). Consumers with high levels of environmental empathy tend to be more sensitive to sustainability messages and more active in advocating for environmentally friendly lifestyles through social media (Szakal et al., 2024). On the other hand, there is also the phenomenon of green fatigue, which is psychological exhaustion due to excessive exposure to sustainability messages that are not followed by real changes from the industry (Pichierri & Belk, 2026). This phenomenon shows that the effectiveness of green marketing strategies is highly dependent on the balance between education, transparency, and authentic experiences provided by brands (Diwanji, 2026).

Green consumer behavior is also influenced by cultural and socioeconomic dimensions. Cross-country studies have found that consumers in collectivist societies, such as in East Asia and Southeast Asia, are more likely to associate green behavior with social values and group norms, while consumers in individualistic societies emphasize self-expression and personal image in green consumption practices (Rana & Solaiman, 2023). Sustainability campaigns in different countries require different cultural approaches, whether in the use of symbols, narrative styles, or forms of digital communication. These differences arise because social values, cultural norms, and the way

consumers interpret ethical and environmental messages vary greatly between regions. Studies show that sustainability messages that are successful in one country may not necessarily be effective in another context, as digital literacy levels, visual preferences, and collective norms also influence perceptions of the authenticity and credibility of messages (Mude & Undale, 2023). Green behavior is also closely related to risk perception and trust in a brand's sustainability claims. Consumers tend to be skeptical of greenwashing, which is a manipulative practice where companies claim to be environmentally friendly without concrete evidence (Espinoza & García, 2024). This distrust can hinder green purchase intentions and reduce brand loyalty, making it important for companies to demonstrate transparency through digital sustainability reporting, environmental certification, and evidence-based communication (Diwanji, 2026). In the digital age, trust is increasingly important as consumers rely on online information, user reviews, and social interactions to validate brand credibility and assess the integrity of marketing messages. Online reviews and user-generated content play a central role in shaping trust and purchase intent, especially when supported by strong visual experiences and emotional engagement on social media (Minh et al., 2024; Riswanto et al., 2024).

The concept of attitude-behavior gap is a consistent phenomenon in green behavior literature. Many consumers express concern for environmental issues, but this is not always reflected in actual behavior due to limitations in price, accessibility, and perceptions of the effectiveness of individual actions (Anwar et al., 2025). Situational factors such as the ease of obtaining green products, perceptions of convenience, and social encouragement from digital communities have been shown to mediate the relationship between intention and actual action (Nguyen et al., 2025). Therefore, effective green communication strategies need to bridge this gap by reinforcing the belief that individual actions contribute significantly to global sustainability (Makrides et al., 2020). In the digital era, green consumer behavior is increasingly shifting from mere purchasing decisions to expressions of social identity and symbols of digital ethics (Pichierri & Belk, 2026). Consumers now use social media to showcase green lifestyles, support environmental campaigns, and assess brand credibility based on their engagement with sustainability issues (Sarkis et al., 2024). Therefore, understanding green consumer behavior needs to be expanded to include the digital dimension, which encompasses the role of technology, data, and online social interactions in shaping sustainable awareness and actions (Vardikou et al., 2025). Thus, green consumer behavior is not only an ecological phenomenon, but also a social and cultural transformation that strengthens the relationship between sustainability, technology, and global moral responsibility (John et al., 2025).

### Digitalization and Consumption Transformation

Digital transformation has fundamentally changed the way consumers obtain, interpret, and react to information about sustainability (Karunanayaka et al., 2024). Digitalization has created a more transparent and participatory consumption ecosystem, where consumers are not only recipients of marketing messages, but also help shape the narrative about brand ethics and responsibility (Sarkis et al., 2024). Through social media, blogs, and online community platforms, consumers play an active role in creating and disseminating new meanings related to environmentally friendly behavior, which in turn shapes public opinion and new social norms in consumption practices (Szakal et al., 2024).

Technological advances such as artificial intelligence (AI), machine learning, and big data analytics have revolutionized marketing strategies by delivering personalization based on the sustainability values adopted by consumers (Bajrami et al., 2025). The concept of eco-personalization allows brands to tailor messages and products to users' green awareness profiles, thereby increasing emotional relevance and strengthening consumer attachment to the brand (Vardikou et al., 2025). However, this algorithm-based personalization also raises new ethical challenges related to data privacy, algorithmic bias, and consumption behavior manipulation (John et al., 2025). Therefore, recent literature emphasizes the importance of applying digital ethics principles in every interaction between brands and consumers to ensure that technological innovations remain aligned with social and environmental sustainability (Diwanji, 2026). Digitalization also encourages the emergence of prosumerism, where consumers not only consume

but also produce content that influences brand image and perceptions of sustainability (Sarkis et al., 2024). In this context, consumers act as co-creators of value, crafting sustainability narratives through product reviews, short videos, or online campaigns highlighting green practices (Kaiser et al., 2025). These activities reflect a shift from passive consumption to active participation in the digital ecosystem, where authenticity, credibility, and moral values are the main benchmarks for brand legitimacy (Diwanji, 2026).

The transformation of digital consumption also expands the space for consumer participation in environmental social and political movements. Through platforms such as TikTok, Instagram, and X (Twitter), people build digital green communities that facilitate advocacy, education, and collective mobilization on sustainability issues (Pichierri & Belk, 2026). This phenomenon marks the emergence of eco-activism 4.0, a form of activism that combines ecological awareness with digital literacy and cross-platform communication skills (Samala & Rawas, 2024). Through online interactions, consumers can influence corporate policy direction, demand transparency, and boycott brands that are considered ecologically unethical (John et al., 2025). Digitalization not only changes consumption behavior but also shifts the paradigm of the relationship between humans, technology, and nature. Consumption is no longer merely an economic activity but a social practice that combines sustainability values with digital identity expression (Kaiser et al., 2025). Thus, understanding green consumer behavior in the digital age requires an interdisciplinary approach that integrates technological, psychological, and ethical perspectives in order to explain the new dynamics between digitalization and global sustainability (Kaiser et al., 2025).

### Green Marketing in the Digital Age

Green marketing in the digital context is a comprehensive strategy that integrates sustainability values into all communication, distribution, and consumer relations activities through data-based technology (Lazarte et al., 2025). This approach emphasizes the importance of creating value propositions that are not only oriented towards economic profit, but also towards contributing to the environment and society (John et al., 2025). The transformation towards digital green marketing marks a paradigm shift from simply promoting environmentally friendly products to building a sustainable value ecosystem through innovation, transparency, and collaboration between brands and consumers (Samala & Rawas, 2024). According to Sarkis et al. (2024), the main strength of digital green marketing lies in its ability to create deep emotional connections between brands and consumers through value-based narratives. This strategy not only conveys informative messages but also builds brand storytelling that emphasizes corporate social responsibility and ethics (Szakal et al., 2024). The use of social media, interactive campaigns, and user-generated content allows consumers to actively participate in communicating green values, thereby strengthening the credibility of the message and increasing engagement (Kaiser et al., 2025). In this case, consumers are no longer passive audiences, but part of the co-creation process of sustainability values (Sarkis et al., 2024).

However, as the adoption of green marketing increases, the challenge of message authenticity becomes more significant. Greenwashing practices, namely false sustainability claims used to attract consumers, cause a crisis of trust in brands and reduce consumer loyalty (John et al., 2025). To overcome this, companies are required to apply the principle of digital sustainability transparency, namely openness in conveying environmental data, production processes, and measurable and verified social impacts (Diwanji, 2026). This transparency-based approach not only strengthens public trust but also creates strategic differentiation for brands amid growing skepticism about green claims (Pichierri & Belk, 2026). Digital technology also provides opportunities for companies to optimize green marketing practices through the use of big data analytics, blockchain, and the Internet of Things (IoT) to monitor green supply chains and accurately measure carbon footprints (Bajrami et al., 2025). These innovations enable eco-innovation, namely the creation of new value that supports energy efficiency, the use of renewable materials, and product circularity (Kaiser et al., 2025). Thus, digitalization not only serves as a promotional tool, but also as an operational foundation for the implementation of real sustainability strategies (Vardikou et al., 2025).

Recent studies show that the success of green marketing in the digital age depends on the synergy between ecological rationality and consumer social emotions (John et al., 2025). Effective messages combine factual evidence of environmental impact with emotional elements such as empathy, pride, and moral identity (Rana & Solaiman, 2023). This values-based marketing approach allows brands to become social symbols that represent the sustainability values held by their consumers (Anwar et al., 2025). As a result, green marketing is not only an economic instrument, but also a means of shaping a new culture of consumption oriented towards ecological responsibility and digital ethics (Kaiser et al., 2025). Green marketing in the digital age serves as a bridge between corporate responsibility and consumer aspirations for sustainable living (Samala & Rawas, 2024). This practice requires the integration of technological innovation, ethical communication, and cross-stakeholder collaboration to build a marketing ecosystem that is not only competitive but also contributes to global sustainable development goals (Diwanji, 2026).

### Trust, Ethics, and Digital Authenticity

Trust is the main foundation in the relationship between consumers and brands in a digital environment that is transparent and based on real-time interaction (Pichierri & Belk, 2026). Trust is not only built on product quality, but also on the company's integrity in maintaining data security, consistency in communication messages, and commitment to sustainability values (Karunanayaka et al., 2024). Companies that are able to maintain information transparency, provide protection for user privacy, and demonstrate social responsibility will find it easier to gain long-term trust from consumers (Diwanji, 2026). Digital trust is dynamic in nature, as it is formed through repeated online experiences, perceptions of security, and assessments of brand behavior across various digital platforms. Authenticity plays a strategic role in strengthening a brand's green image and credibility in the digital age (Anwar et al., 2025). Modern consumers demand verifiable authenticity, not just symbolic or rhetorical promotional claims (Rana & Solaiman, 2023). Authenticity signaling practices, such as demonstrating environmentally friendly production processes, local community involvement, and consistent sustainability policies, are important mechanisms in building a trustworthy brand image (Pichierri & Belk, 2026). Authenticity is also manifested through value transparency, where brands demonstrate a balance between commercial goals and ecological responsibility, thereby creating perceptions of honesty and social empathy in the eyes of consumers (Sarkis et al., 2024). This kind of authenticity encourages consumers to form an emotional connection with the brand, while strengthening loyalty to the sustainability values it promotes (Kaiser et al., 2025).

Digital marketing ethics play an important role in ensuring that the use of technology does not have a negative impact on individuals or the environment (Vardikou et al., 2025). Companies are required to avoid data exploitation, algorithm abuse, and emotional manipulation in digital marketing communications (John et al., 2025). The principles of ethical digital marketing include the responsible use of artificial intelligence and data analytics to provide honest and relevant added value to consumers (Kaiser et al., 2025). Efforts to maintain ethics also include protection against information asymmetry, a condition in which companies have far greater access to data than consumers, which has the potential to cause inequality in purchasing decisions (John et al., 2025). Ethical integrity, digital trust, and authenticity are interrelated in building sustainable relationships between consumers and brands (Szakal et al., 2024). Brands that successfully balance these three aspects will find it easier to create long-term trust and loyalty based on social responsibility (Samala & Rawas, 2024). Ethical, open, and sustainability-oriented digital reputation management reflects the transformation of business values from mere economic achievement to a tool for social and ecological change (Diwanji, 2026). Trust- and authenticity-based green marketing ultimately becomes key in strengthening brand image and facilitating a shift towards more environmentally conscious consumption (Anwar et al., 2025).

### Theory and Integration of Consumer Behavior in Digital Sustainability

Understanding consumer behavior in the context of sustainability has evolved from classical theory to a more complex and multidimensional digital paradigm. One of the most influential theories is the Theory of Planned Behavior (TPB) developed by Ajzen (1991) which explains that an individual's intention to behave is determined by their attitude toward the behavior, subjective

norms, and perceived behavioral control. In the context of green consumption, this theory explains how beliefs about environmental issues shape the intention to purchase environmentally friendly products (Beyari et al., 2024). The adaptation of TPB to the digital realm shows that factors such as trust in online information, social engagement in digital media, and perceived technological risk also influence green behavioral intentions (Mude & Undale, 2023). The expansion of this model has resulted in the concept of digital behavioral intention, which is a form of intention mediated by interactive experiences, digital brand authenticity, and virtual social norms formed through online communities (Szakal et al., 2024). The use of TPB in the digital era also emphasizes the role of perceived behavioral control as a result of increasingly widespread access to information through technology, which enables consumers to feel more capable of contributing to sustainability issues (Kaiser et al., 2025).

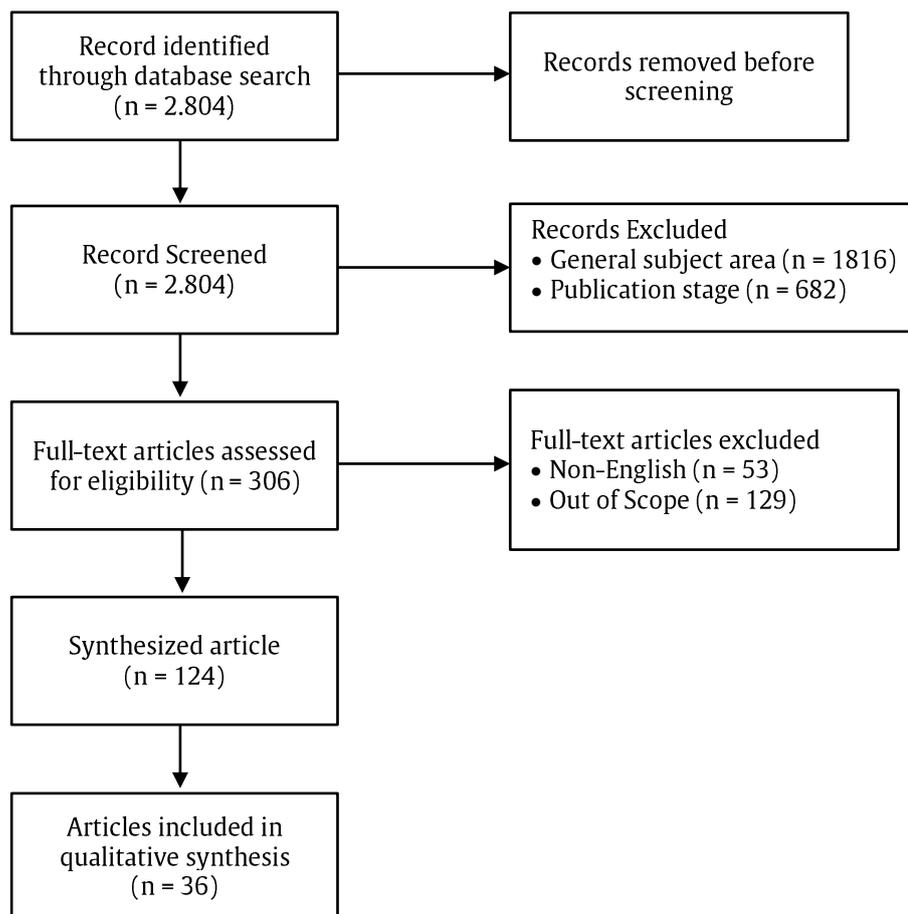
In addition to the Theory of Planned Behavior (TPB), the Theory of Consumption Values (TCV) framework also offers a more comprehensive understanding of how consumers evaluate green products based on functional, social, emotional, and epistemic value dimensions. This approach enriches the understanding of consumer motivation, which is not only driven by rational intentions but also by affective experiences and social norms related to sustainability. Studies show that perceived value of green products—such as functional benefits, emotional satisfaction, and social recognition—significantly increases consumer loyalty and purchase intention in the context of digital marketing (John et al., 2025; Juanim et al., 2024). Functional value reflects the quality and practical benefits of a product, while social value relates to the image and social recognition gained from green consumption (Rana & Solaiman, 2023). Emotional value arises from moral satisfaction and feelings of pride in contributing to the environment (Nguyen et al., 2025). Epistemic value, on the other hand, reflects consumers' curiosity about green innovations and sustainable technologies (Anwar et al., 2025). This model provides an understanding that green consumer behavior is not only driven by rationality but also by strong symbolic and affective dimensions. In the digital context, these values are manifested through ecological self-expression on social media, where consumers use digital platforms to build a green identity and share sustainability views (Sarkis et al., 2024).

The transformation of green behavior into the digital realm shows the integration of environmental awareness and social participation in the online ecosystem. Digital technology facilitates consumers to access sustainability information in real-time, compare green claims, and share experiences through virtual communities (Karunanayaka et al., 2024). This development marks a shift from individual consumption behavior to collective participation based on digital advocacy, where consumers are not only buyers but also agents of social change (Samala & Rawas, 2024). Digital literacy is an important element in this process, as consumers' ability to sort credible information and understand the ecological impact of digital consumption determines the effectiveness of their green behavior (Kaiser et al., 2025). The concept of digital literacy for sustainability describes the cognitive and ethical abilities to utilize technology for broader sustainability goals (Pichierri & Belk, 2026). The integration of behavioral theory and digital sustainability practices also creates a new paradigm called green digital behavior, which is a combination of ecological awareness, digital trust, and social participation mediated by technology (John et al., 2025). Green consumers in the digital age not only evaluate the environmental value of products but also relate it to brand ethics and transparency in online communication. Brands that are able to deliver authentic, evidence-based, and sustainability-oriented digital experiences will find it easier to build consumer trust and loyalty (Diwanji, 2026). This relationship reinforces the argument that green digital behavior is the result of complex interactions between personal values, social norms, and evolving technological structures (Kaiser et al., 2025).

## METHODS

This study uses a Systematic Literature Review (SLR) approach with reference to the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. This approach was chosen because it allows the literature review process to be carried out systematically, transparently, and can be replicated by other researchers. PRISMA was used to organize the research stages, starting from literature identification, initial screening, feasibility

assessment, to the final selection of articles relevant to the research topic. The database used was Scopus, because it has high quality standards and broad coverage in the field of business and management. The search strategy was carried out by entering a combination of the keywords “consumer behavior,” “digital marketing,” “green marketing,” and “sustainability” in the title, abstract, and keywords fields. The search process was conducted in October 2025 without publication year restrictions so that the results would include the latest conceptual and empirical developments. The initial search yielded 2,804 documents. All search results were downloaded in CSV format for manual selection, then filtered based on topic relevance and publication quality to suit the research objectives.



**Figure 1** Research sample selection strategy  
(created by author)

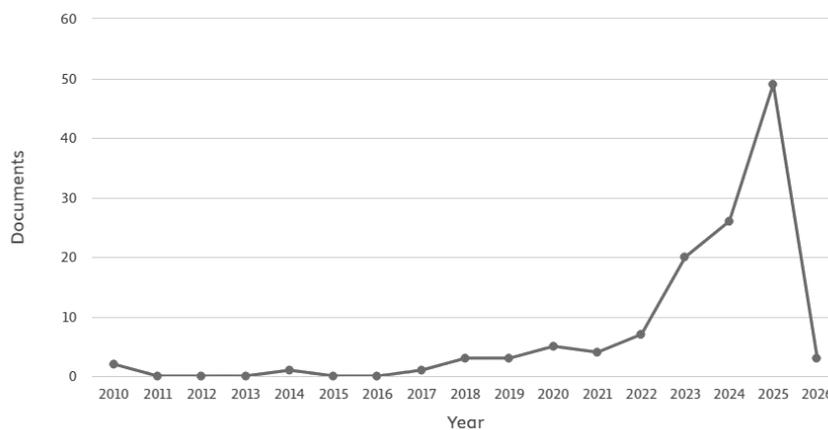
In Figure 1, the screening stage was carried out by establishing inclusion criteria covering the fields of Business, Management and Accounting, document type (article), final publication stage, language (English), and source (reputable scientific journals). After applying these criteria, the number of articles was reduced to 306 documents. Non-academic articles, proceedings, book chapters, and conference papers were excluded from the analysis. The next process was the eligibility stage, which was an assessment of the suitability of the article's substance to the research focus, which included consumer behavior, digital marketing, and sustainability. Articles discussing topics outside this scope, such as finance, education, or digital health, were excluded as irrelevant. After rigorous selection based on abstracts and article content, 36 final articles were obtained that met the research criteria. These articles were then reviewed in depth to identify conceptual themes, theoretical approaches, and key variables related to digital consumer behavior and green marketing. The PRISMA approach enabled this study to produce a comprehensive and valid literature map and supported transparency in the source selection process. Thus, the results of this systematic review provide a strong empirical and theoretical basis for the development of a conceptual model that

describes the relationship between consumer behavior, digital ethics, and sustainability in the context of modern digital marketing.

## RESULT

The results of bibliometric analysis based on data from Scopus in Figure 2 show a significant increase in the number of publications discussing the topic of green consumer behavior in the context of digital marketing during the period 2010–2026. At the beginning of the observation period (2010–2016), the number of publications was still very low, with an average of only 1–2 articles per year. This condition reflects that the issues of sustainability and digital consumer behavior were still in their early stages in academic studies during that decade. An increase began to be seen in 2018, when publications increased to 3 documents and continued to grow consistently until reaching its peak in 2025 with 49 publications. This surge indicates that attention to the integration of sustainability, consumer behavior, and digitalization is increasingly becoming mainstream in global marketing research. Factors such as increased environmental awareness, business digital transformation, and post-pandemic sustainable consumption trends are the main drivers of the increase in publications in the 2023–2025 period. The year 2024 recorded 26 publications and 2023 recorded 20 publications, indicating a strong acceleration of the topic ahead of the peak of research productivity in 2025. Meanwhile, in 2026, there was a decline to 3 publications, possibly because most of the articles for that year were still in the publication or review stage at Scopus. Overall, research trends show exponential growth in the last decade, indicating that the topic of green consumer behavior in the digital era is a dynamic and evolving field of research towards a multidisciplinary direction, involving the fields of marketing, management, and information technology.

Figure 2 Number of publication per year



Source: Created by author (2025)

Table 1 shows that a bibliometric analysis of 124 documents screened from the Scopus database indicates a significant increase in research on consumer behavior in the context of digital marketing since 2020. The surge in publications, which peaked in 2025 with 49 articles, signifies the acceleration of post-pandemic digital transformation, especially on themes such as metaverse marketing, social media strategy, and immersive technologies such as AR and VR (Dwivedi et al., 2023). The article with the highest citation rate by Dwivedi et al., (2021) became the main conceptual foundation because it mapped the direction of future research with a focus on the integration of consumer behavior and digital innovation. Another study (Dwivedi et al., 2023), expanded the scope to virtual ecosystems that facilitate consumer experiences based on interactivity and digital identity. Research by Kirk & Rifkin (2020) and Cárdenas et al. (2021) describes how the global crisis has driven shifts in consumer behavior toward digital adaptation, impulsive buying, and the search for emotional value through brands. These studies reveal a strong synergy between psychological and technological dimensions in shaping loyalty, trust, and

perceived authenticity in the modern digital environment (Jacobson et al., 2020; Poncin & Mimoun, 2014).

**Table 1 Most Cited Publication**

Judul	Penulis	Sitasi
Setting the future of digital and social media marketing research: Perspectives and research propositions	Dwivedi, Y.K.	1,388
Metaverse marketing: How the metaverse will shape the future of consumer research and practice	Dwivedi, Y.K.; Hughes, L.	627
I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic	Kirk, C.P.; Rifkin, L.S.	499
The impact of e-atmospherics on physical stores	Poncin, I.; Ben Mimoun, M.S.	205
COVID-19, consumer behavior, technology, and society: A literature review and bibliometric analysis	Cruz-Cárdenas, J.	195
Social media marketing: Who is watching the watchers?	Jacobson, J.; Gruzd, A.	177
Tourism, technology and ICT: a critical review of affordances and concessions	Gössling, S.	156
What makes a sustainable business model successful?	Piscicelli, L.	129
The role of digitalization in business and management: a systematic literature review	Calderón-Monge, E.; Ribeiro-Soriano, D.	126
AI anthropomorphism and its effect on users' self-congruence and self-AI integration	Alabed, A.; Javornik, A.	119
Effects of in-store live stream on consumers' offline purchase intention	Zhang, P.; Chao, C.-W.F.	67
Exploring YouTube Marketing Communication	Febriyantoro, M.T.	63
The Gold Rush of Digital Marketing	Makrides, A.; Vrontis, D.	62
Can AI chatbots help retain customers?	Li, C.-Y.; Fang, Y.-H.	60
Fake news or true lies? Reflections about problematic contents in marketing	Di Domenico, G.; Visentin, M.	58

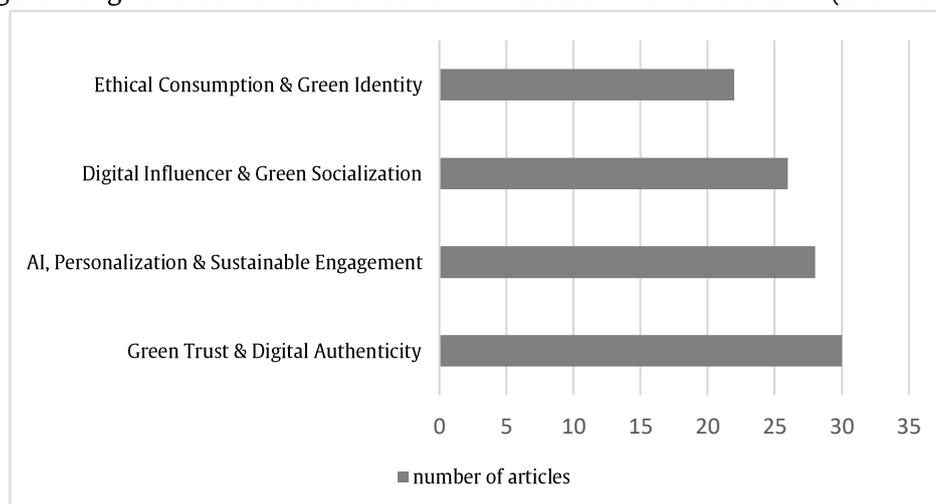
Source: Created by author (2025)

The fifteen articles with the highest citations reflect three main trends in digital marketing literature. First, there is a shift in focus from traditional strategies to cognitive and affective approaches to consumers in the digital environment, as described by Dwivedi et al. (2023) and Cárdenas et al. (2021). These studies emphasize the importance of technological embodiment in influencing consumer perceptions of credibility and digital interactions. Second, other influential research highlights the impact of the digital retail environment and social media on purchasing decisions (Jacobson et al., 2020; Poncin & Mimoun, 2014). These studies show that elements of digital atmosphere, personalization, and social proof increase customer trust and emotional engagement. Third, there is a new focus on AI-based and immersive technologies such as chatbots, AR, and live streaming as strategic marketing tools that shape consumer experience and brand loyalty (Alabed et al., 2022; Diwanji, 2026; Zhang et al., 2023). These studies imply the importance of understanding human-AI congruence and trust calibration in the era of automated digital marketing. Overall, the latest literature reinforces the idea that the success of digital strategies depends not only on technological innovation, but also on a deep understanding of the psychological, social, and ethical aspects of digital interactions (Domenico & Visentin, 2020; Makrides et al., 2020). These findings support the recommendation that further research combine interdisciplinary approaches between technology, consumer behavior, and communication policy to ensure sustainability and trust in the global digital marketing ecosystem.

Analysis of these highly cited articles reveals three main patterns. First, there is an integration between digital technology and sustainable behavior that has created new concepts such as green metaverse marketing (Dwivedi et al., 2023), and AI-driven consumer trust (Alabed et al., 2022). Second, post-pandemic research highlights the importance of consumer empathy and

resilience as the basis for shaping digital green behavior (Kirk & Rifkin, 2020). Third, the emergence of a cross-platform approach that links social media, e-commerce, and user-generated content in shaping perceptions of sustainability (Jacobson et al., 2020). This phenomenon reinforces the thesis that green consumer behavior is not only the result of ecological awareness, but also an adaptive response to the digital architecture that shapes new social interactions (Cárdenas et al., 2021). In addition to temporal distribution, content analysis through thematic clustering (Figure 2) reveals four major research groups. Cluster 1: Green Trust and Digital Authenticity, emphasizes the formation of trust in green brands through transparent and consistent digital communication (Pichierri & Belk, 2026). Research in this cluster often uses trust theory and digital ethics approaches to explain how consumers assess brand integrity in the online environment. Cluster 2: AI, Personalization, and Sustainable Engagement, highlights how algorithms, chatbots, and recommendation systems drive the personalization of green experiences (Vardikou et al., 2025). This cluster focuses on the relationship between artificial intelligence, communication efficiency, and ethical consumer decision-making. Cluster 3: Digital Influencer and Green Socialization, describes the role of social media and virtual influencers in spreading sustainability messages (Dwivedi et al., 2023). Finally, Cluster 4: Ethical Consumption and Green Identity, focuses on the formation of moral identity and social awareness of environmentally-oriented consumers (Samala & Rawas, 2024).

Figure 3 Digital Green Consumer Behavior Research Thematic Cluster (2020–2025)



Source: Scopus analysis, compiled by author (2025)

This clustering shows that the evolution of research on digital green consumer behavior is no longer linear or purely descriptive, but has entered an integrative phase that combines the dimensions of psychology, technology, and ethics into a single interrelated conceptual framework. While research in the early 2010s focused only on traditional factors such as attitudes toward green products and purchase intentions (Samala & Rawas, 2024), the last five years have seen a shift toward a deeper understanding of how digital experiences shape consumers' ecological awareness. Studies by Ju et al. (2024) and Pichierri & Belk, (2026) confirm that digital authenticity—or perceived authenticity in digital communication—is a key prerequisite for building green trust, which is consumer confidence in a brand's commitment to sustainability. This indicates that in a digital ecosystem saturated with artificial content, an authentic green brand image must be supported by consistent narratives, data transparency, and meaningful social engagement.

Expanding the understanding of successful digital green campaigns by highlighting the importance of emotional resonance—the ability of brands to create emotional resonance through technology-based interactive experiences (Samala & Rawas, 2024). In this context, technologies such as virtual reality (VR), augmented reality (AR), and immersive storytelling serve not only as promotional tools but also as media for moral value transformation and social participation. Consumers, who previously only acted as recipients of messages, now become co-creators of sustainability values through participatory digital interactions. For example, immersive experiences in green digital campaigns allow users to “feel” the ecological impact of their consumption behavior

directly, thereby encouraging stronger behavioral internalization of sustainability values (Vardikou et al., 2025).

This change also marks a shift from individual ecological awareness to a social phenomenon orchestrated by technology. In the digital space, the concept of sustainability is not only understood as a personal ethical decision, but as a form of digital citizenship—active participation in online communities that demand moral responsibility towards the environment. For example, social movements such as #PlasticFreeChallenge and #EcoTok on TikTok show how digital social norms can influence collective behavior towards greener consumption (Szakal et al., 2024). This reinforces the argument that technology does not merely mediate consumer behavior, but also shapes a new moral architecture in the virtual world.

Cross-cultural analysis enriches this understanding by showing that digital green behavior has diverse expressions depending on the socio-cultural context. Asian countries such as Indonesia, Vietnam, and China began to dominate post-2023 research, replacing the Western dominance that previously emphasized individualism and personal morality (Kaiser et al., 2025). In Asia, green behavior is often interpreted as part of community solidarity and compliance with social norms. In this context, green behavior is not only the result of individual preferences, but also a product of collective interactions on digital platforms such as WeChat, Shopee Live, or TikTok Shop, which emphasize collaboration, social support, and peer influence (Zhang et al., 2023). Conversely, in Europe and North America, digital green behavior is more often associated with self-expression and individual moral responsibility. Thus, the globalization of sustainability in the digital world now demands a more adaptive and sensitive approach to diverse cultural values.

From a methodological perspective, the synthesis results show that quantitative approaches still dominate, with the use of Partial Least Squares Structural Equation Modeling (PLS-SEM) as the main method for testing the relationship between attitude variables, subjective norms, purchase intentions, and actual behavior. However, since 2023, there has been a sharp increase in the use of qualitative and mixed methods aimed at exploring the subjective meanings behind digital green consumer behavior. Researchers have begun to utilize social media discourse analysis, netnography, and AI-assisted sentiment analysis approaches to understand public perceptions of sustainability issues (Dwivedi et al., 2023). This approach opens up space for exploring the emotional, ethical, and identity dimensions of consumer behavior, which were previously difficult to reach with traditional quantitative surveys. Big data analytics research is becoming the center of attention in studying green behavior in the digital world. The data-driven sustainability model developed by Kaiser et al. (2025) shows how green consumption patterns can be predicted through digital traces such as search behavior, clickstream data, and participation in online campaigns. Thus, green behavior can now not only be observed, but also modeled and optimized algorithmically. However, this situation also raises new ethical dilemmas related to privacy, AI bias, and consumer data exploitation, which further emphasizes the urgency of research in the fields of digital ethics and AI transparency (Pichierri & Belk, 2026).

Overall, these findings confirm that the evolution of green consumer behavior in the digital age is dynamic, non-linear, and layered. Sustainability values no longer stand apart from technology but are rearticulated through algorithms, digital interfaces, and online culture. Modern consumers not only purchase green products to reduce their carbon footprint but also participate in digital ecosystems that shape collective ecological identities. In this context, green consumers become moral and social actors who combine values, emotions, and technology in their decision-making processes (Alabed et al., 2022). Research needs to further highlight how AI-driven personalization, blockchain-based transparency, and gamification of sustainability can encourage consumer engagement in sustainable green practices. The main challenge is no longer how to persuade consumers to “go green,” but how to design digital systems that inherently facilitate green behavior as part of a broader economic and social ecosystem. Thus, the integration of digital ethics, technological literacy, and community participation becomes the new foundation for shaping green consumer behavior in the digital age (Pichierri & Belk, 2026).

## DISCUSSION

The results of the study show that the evolution of green consumer behavior in the digital age cannot be understood solely through a classical behavioral approach, but must be contextualized within the landscape of technological, social, and ethical interactions. The shift from conventional consumption to sustainable consumption mediated by digital technology marks a fundamental change in how consumers perceive values, morality, and identity (Dwivedi et al., 2021). Consumer behavior is now driven not only by preferences for environmentally friendly products, but also by digital experiences that shape collective awareness of sustainability (Kirk & Rifkin, 2020). In this context, social media, e-commerce platforms, and digital campaigns play an important role as “moral spaces” where consumers negotiate between personal desires and social responsibility (Cárdenas et al., 2021). This phenomenon reinforces the finding that digital engagement and trust are now key dimensions in building green brand loyalty (Poncin & Mimoun, 2014). The integration of digital ethics, emotional experiences, and technology-based trust has become a new form of social and interactive “green consciousness.” Thus, this transformation confirms that digital green behavior is the result of interactions between ecological identities and technological systems that influence each other in an increasingly complex digital ecosystem (Pichierri & Belk, 2026; Samala & Rawas, 2024).

The following discussion highlights how digital authenticity is the main foundation for building trust in green brands in the virtual space. Consumers now demand tangible evidence and transparent narratives regarding a brand's environmental commitment. Digital authenticity is defined as a brand's ability to showcase sustainability values through consistent, honest, and interactive communication across various digital channels (Campagna et al., 2023). Previous research confirms that consumers are able to detect inconsistencies between brand messages and actual practices, which can erode trust and reduce the intention to purchase green products (Pichierri & Belk, 2026). In the context of social media, green trust emerges as a mediator between perceptions of authenticity and brand loyalty, where consumers assess integrity and credibility based on evidence of transparent communication (Samala & Rawas, 2024). Sustainability strategies packaged in the form of visual storytelling and user-generated content have proven to be more effective in enhancing perceptions of brand honesty (Kaiser et al., 2025). This means that green consumer behavior in the digital age is not only determined by rational information, but also by the emotional resonance created from digital experiences that are considered authentic and socially relevant (Dwivedi et al., 2023).

Additionally, the second cluster in the results highlights the importance of integrating Artificial Intelligence (AI) and personalization in shaping sustainable engagement. Technologies such as AI-driven recommendation systems and chatbots enable brands to create more personalized consumer experiences while reinforcing environmental messages (Vardikou et al., 2025). AI-supported personalization helps consumers feel emotionally and morally involved in sustainable consumption practices (Li et al., 2023). However, challenges arise regarding the balance between algorithmic efficiency and consumer privacy ethics, which often becomes a dilemma in green technology design (Alabed et al., 2022). Studies on AI anthropomorphism show that when technology is designed to resemble humans, trust and self-congruence increase, which has the potential to strengthen engagement with green products (Makrides et al., 2020). Thus, AI-based personalization not only optimizes the marketing process but also expands consumers' moral capacity to understand and assess environmental impacts through intelligent and adaptive digital interactions (Monge & Soriano, 2024).

The third cluster highlights the influence of digital influencers and virtual socialization in shaping green consumer behavior. The role of Key Opinion Leaders (KOLs) and virtual influencers is not limited to promotion, but also as agents of spreading sustainability values in the digital space (Pichierri & Belk, 2026). Young consumers, especially Generation Z, show a high level of engagement with green campaigns presented by digital figures they consider credible (Vardikou et al., 2025). The persuasive effect of KOLs on impulsive behavior and green product preferences shows that trustworthiness, attractiveness, and expertise are important factors in shaping sustainable purchase intentions (Zhang et al., 2023). Additionally, social media algorithms reinforce the dissemination of

sustainability messages through recommendation patterns oriented toward social and affective values (Szakal et al., 2024). Thus, digital influencer marketing functions as a new social mechanism for building collective ecological norms in the virtual world, contributing to the formation of green identities and prosocial behavior in online communities (Dwivedi et al., 2023; Ju et al., 2024).

Meanwhile, the fourth cluster, Ethical Consumption and Green Identity, explains that digital green behavior reflects not only economic preferences but also moral identity transformation. Green consumers in the digital era are no longer understood as rational individuals who choose environmentally friendly products because of their benefits, but as social actors seeking harmony between personal values, social norms, and technology (Samala & Rawas, 2024). Neuromarketing studies show that emotional factors, such as empathy, affective resonance, and ecological memory, play an important role in strengthening the intention to purchase green products. Through a neuroscience and artificial intelligence-based approach, recent research proves that digital experiences that can stimulate positive memories and environmental empathy can increase consumer engagement and encourage sustainable purchasing behavior. These findings reinforce the view that green consumption decisions are not only determined by rational considerations, but also by emotional activation and moral perceptions in the digital context (Alabed et al., 2022). Furthermore, this emotional engagement is amplified through immersive experiences based on augmented reality (AR) and virtual reality (VR), which deepen environmental awareness (Dwivedi et al., 2023). This phenomenon indicates that green identity in the digital world is not only declarative but also performative—demonstrated through actions, interactions, and social participation on online platforms (Pichierri & Belk, 2026). Thus, ethical consumption has become an arena of digital identity that combines moral values, technology, and social participation in a complex sustainability ecosystem.

Temporally, the significant increase in publications between 2022–2025 Figure 1 signifies a surge in academic attention to digital green consumer behavior. This surge was triggered by the post-COVID-19 pandemic momentum, which drove massive digitalization and increased social awareness of environmental issues (Cárdenas et al., 2021; Kirk & Rifkin, 2020). The pandemic accelerated lifestyle changes toward digital consumption that is more reflective of sustainability values and collective well-being. Additionally, advances in AI and big data technology enable real-time analysis of consumer behavior, generating new insights into understanding the interaction between technology, ethics, and green behavior (Monge & Soriano, 2024). Geographically, the shift in research dominance from the West to Asia shows the increasing relevance of cultural context in digital green behavior studies, with countries such as Indonesia, Vietnam, and China becoming centers of community-based green behavior innovation (Kaiser et al., 2025). This means that the trend of sustainability globalization is now moving from an individualistic paradigm towards digital collectivism rooted in social participation and ecological solidarity.

From a theoretical perspective, the results of this study expand the Stimulus–Organism–Response (S-O-R) model in the context of digital green consumer behavior. Stimuli, which were initially understood only as marketing stimuli, now include digital elements such as algorithms, data visualization, and ethical narratives that shape consumer perceptions (Zhang et al., 2023). Organism, in the digital context, is no longer limited to individual psychological responses, but also includes emotional involvement, social awareness, and the construction of ecological identity mediated by technology (Li et al., 2023). Thus, consumer responses are not only in the form of purchasing actions, but also social participation such as sharing green content, participating in digital campaigns, and supporting brands that are considered ethical (Pichierri & Belk, 2026). This expansion of the concept is in line with the Theory of Planned Behavior (TPB) approach, which emphasizes the role of subjective norms and perceived behavioral control in predicting green intentions (Vardikou et al., 2025). However, the main contribution of the digital era lies in the emergence of new variables such as AI anthropomorphism, digital transparency, and social validation that simultaneously connect cognitive and social processes. In this context, digital green behavior becomes a reflection of collective moral consciousness mediated by social technology (Dwivedi et al., 2023; Samala & Rawas, 2024).

This paradigm shift also emphasizes the importance of trust as the main mediating variable in the relationship between digital ethics and consumer behavior. As found by [Poncin & Mimoun \(2014\)](#), an ethically designed digital atmosphere (e-atmospherics) can trigger positive emotional responses that reinforce perceptions of brand credibility. In this context, trust depends not only on the integrity of information, but also on perceptions of data security, clarity of communication, and the social values exchanged in online interactions ([Makrides et al., 2020](#)). Recent studies highlight that algorithmic transparency and user privacy protection are key elements in shaping digital trust, which determines the success of green marketing strategies ([Alabed et al., 2022](#)). This reinforces the Consumer Brand-Based Equity (CBBE) theory, which asserts that brand image and loyalty are rooted in meaningful and consistent consumer-brand interactions ([Dwivedi et al., 2021](#)). Trust bridges the gap between perceptions of digital authenticity and sustainable engagement, where consumers evaluate brands not only based on product performance but also on the extent to which sustainability values are translated into digitally verifiable actions ([Pichierri & Belk, 2026](#)). Therefore, trust in the digital ecosystem is not merely a psychological construct, but also a moral structure that underpins the relationship between humans, technology, and green values.

In addition to trust, the discussion also shows that engagement and emotional connection are the main drivers of loyalty to green brands in the digital environment. Consumers no longer passively receive messages, but actively build meaning together through online community participation and co-creation ([Samala & Rawas, 2024](#)). On the Digital Influencer and Green Socialization cluster, the role of influencers as social mediators is increasingly prominent because they are able to translate sustainability values into relatable lifestyles ([Ju et al., 2024](#)). Research shows that the parasocial relationship between followers and influencers creates psychological effects similar to interpersonal relationships, which directly impact the intention to purchase green products ([Vardikou et al., 2025](#)). On the other hand, the emergence of virtual influencers and AI-based avatars marks a new evolution in green communication strategies, where digital personas can be fully controlled by brands to maintain consistency in ethical and aesthetic values ([Dwivedi et al., 2023](#)). However, the risks of digital fatigue and greenwashing remain a concern, especially when authenticity is perceived to decline due to communication automation ([Pichierri & Belk, 2026](#)). Therefore, further research needs to explore more deeply the balance between technological efficiency and emotional authenticity in building sustainable green engagement.

From a global perspective, these results indicate the decentralization of the discourse on sustainability, which was previously dominated by Western countries. Southeast Asia, particularly Indonesia, Vietnam, and China, is now emerging as a new center of study with a collectivist approach that emphasizes community participation and social values ([Kaiser et al., 2025](#)). This contrasts with Western research, which tends to emphasize individual moral reasoning and personal preferences for green products ([Szakal et al., 2024](#)). In the digital context, this collectivist approach creates a new model of community-driven sustainability, where green practices are maintained through social solidarity, not just individual awareness ([Dwivedi et al., 2021](#)). Furthermore, bibliometric data shows that 2025 was the peak of academic productivity in this field, followed by diversification of methods such as AI-based sentiment analysis, eye-tracking, and social network mapping to understand the emotional and behavioral dimensions of consumers ([Cárdenas et al., 2021](#); [Li et al., 2023](#)). This trend shows a shift towards a data-driven sustainability paradigm, where green behavior is understood through large digitalization patterns that reveal the complex relationship between humans, emotions, and technology ([Monge & Soriano, 2024](#)). Thus, the discourse on digital green consumer behavior is now evolving into a multidisciplinary study that integrates environmental psychology, interactive technology, behavioral economics, and digital ethics as the main analytical framework for the future of sustainable marketing.

The academic implications of these findings are significant, particularly in expanding the boundaries of green consumer behavior theory in the digital age. First, the S-O-R and TPB models need to be recalibrated to accommodate the role of technology and social interactions in shaping green awareness. Variables such as digital literacy, algorithmic transparency, and AI trust are now integral parts of modern consumer behavior ([Dwivedi et al., 2023](#)). Second, consumer engagement and brand authenticity theories need to be further developed to explain the dynamics between emotional experiences, trust, and digital participation ([Pichierri & Belk, 2026](#)). Studies such as

Samala & Rawas (2024) and Ju et al. (2024) confirm that meaningful digital engagement can only be built if brands demonstrate moral values that align with consumers' ecological identities. Third, there is a need for a new theory that explains the relationship between AI-mediated morality and consumer ethical decisions, given that algorithms now play a role as "social actors" in determining green purchasing behavior (Li et al., 2023). These implications open up opportunities for the development of an interdisciplinary conceptual framework that combines technology ethics, prosocial behavior, and digital sustainability into a single behavioral ecology.

From a practical perspective, the results of this study provide strategic guidance for companies and policymakers to develop more effective and responsible green marketing strategies. First, companies must strengthen digital transparency by providing tangible evidence of sustainability practices through interactive reports and two-way communication on digital platforms (Dwivedi et al., 2021). Second, the integration of AI personalization must be balanced with data ethics so that consumers feel secure and valued in the decision-making process (Alabed et al., 2022). Third, the use of virtual influencers needs to be regulated ethically through industry guidelines that ensure digital identity transparency and social responsibility (Ju et al., 2024). In addition, governments and regulatory agencies need to build a digital ecosystem that supports green behavior through incentives for sustainable companies and education for consumers (Szakal et al., 2024). A collaborative approach between the public, private, and digital communities will strengthen the shift towards digital sustainability governance, where green behavior becomes a social norm internalized in everyday practices (Pichierri & Belk, 2026; Samala & Rawas, 2024).

Methodologically, research in this field shows an increase in the quality and diversity of approaches. The use of Partial Least Squares Structural Equation Modeling (PLS-SEM) remains dominant in testing causal relationships between psychological variables, but the latest trend is toward mixed methods approaches that combine quantitative and qualitative data. Additionally, experimental approaches based on eye-tracking (Kirk & Rifkin, 2020), sentiment analysis using machine learning (Monge & Soriano, 2024), as well as the exploration of visual cognition through neuromarketing (Alabed et al., 2022), further enrich the interpretation of digital green behavior. This new approach not only deepens our understanding of what consumers do, but also why they do it, opening up space for the development of a more comprehensive theory about human-technology relationships in the context of sustainability (Dwivedi et al., 2023). However, there are still geographical and methodological gaps that need to be addressed, particularly the lack of longitudinal and cross-cultural studies that can explain the temporal dynamics of green behavior in various socioeconomic contexts (Kaiser et al., 2025).

Finally, these results provide a strong basis for the development of a future research agenda in the study of digital green consumer behavior. First, there is a need for in-depth exploration of the role of AI ethics and algorithmic bias in shaping green decisions, especially as digital recommendation systems begin to subliminally influence consumer choices (Li et al., 2023). Second, further research should focus on digital moral fatigue—a condition in which consumers lose motivation to act green due to an overload of normative sustainability messages (Samala & Rawas, 2024). Third, comparative cross-cultural studies are needed to understand how collectivism and individualism values shape interpretations of digital sustainability (Szakal et al., 2024; Zhang et al., 2023). Fourth, integrating digital identity theory with sustainability theory can open new insights into how consumers use green behavior as a form of self-expression and moral politics in the digital space (Ju et al., 2024). Thus, future research should move beyond behavioral analysis toward an ontological understanding of how technology, values, and humans mutually construct the meaning of sustainability in an increasingly dynamic digital world (Dwivedi et al., 2023).

The overall discussion confirms that the evolution of green consumer behavior in the digital age is a multidimensional phenomenon that encompasses psychological, social, and technological aspects. Sustainability is now not only a matter of ethical choice, but also about digital experiences that shape collective ecological awareness (Pichierri & Belk, 2026). These findings confirm that green consumer behavior has evolved from individual behavior to digitally mediated moral behavior, where sustainability values are built through social interaction, AI personalization, and transparent ethical narratives (Ju et al., 2024; Samala & Rawas, 2024). Therefore, future marketing

research and practice need to adopt an interdisciplinary approach that integrates technological, ethical, and social behavioral dimensions to create a green consumption ecosystem that is not only sustainable but also digitally fair and inclusive (Dwivedi et al., 2021; Monge & Soriano, 2024). In this way, the digital era is no longer merely a medium for marketing, but a space for moral and social transformation that redefines the relationship between humans, brands, and the planet.

## CONCLUSION

This study traces the evolution of green consumer behavior in the digital age using a Systematic Literature Review (SLR) approach based on the PRISMA 2020 protocol. Of the total 2,804 documents identified in the Scopus database (2010–2025), 124 articles met the initial synthesis criteria, and 36 final articles were analyzed in depth. The results show that digitalization, artificial intelligence, and social media play a major role as catalysts in shaping sustainable consumption behavior. Consumers now evaluate products not only based on function, but also on digital authenticity, brand ethics, and environmental contribution. Theoretically, this study integrates the Theory of Planned Behavior (TPB) and Stimulus–Organism–Response (S–O–R) with contemporary concepts such as digital authenticity and AI-mediated trust. The practical implications emphasize the importance of green marketing strategies based on transparency and digital ethics. Future research is recommended to explore the role of big data, cross-cultural factors, and ethical algorithms in understanding digital sustainability behavior in real-time.

## REFERENCES

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational behaviour and human decision processes*, 50 (2), 179–211.
- Alabed, A., Javornik, A., & Gregory-Smith, D. (2022). AI anthropomorphism and its effect on users' self-congruence and self-AI integration: A theoretical framework and research agenda. *Technological Forecasting and Social Change*, 182. <https://doi.org/10.1016/j.techfore.2022.121786>
- Anwar, D., Faizanuddin, M., Rahman, F., & Dayal, R. (2025). Analyzing Consumer Behavior in E-Commerce: Insights from Data-Driven Approaches. *Management (Montevideo)*, 3. <https://doi.org/10.62486/agma2025127>
- Bajrami, S. M., Baruti, B. H., & Arifaj, A. H. (2025). UTILISING ARTIFICIAL INTELLIGENCE IN DIGITAL MARKETING STRATEGY: OPPORTUNITIES AND CHALLENGES FOR MARKETERS. *Corporate and Business Strategy Review*, 6(2), 130–136. <https://doi.org/10.22495/cbsrv6i2art13>
- Beyari, H., Hashem, T. N., & Alrusaini, O. (2024). Neuromarketing: Understanding the effect of emotion and memory on consumer behavior by mediating the role of artificial intelligence and customers' digital experience. *Journal of Project Management (Canada)*, 9(4), 323–336. <https://doi.org/10.5267/j.jpm.2024.9.001>
- Campagna, C. L., Donthu, N., & Yoo, B. (2023). Brand authenticity: literature review, comprehensive definition, and an amalgamated scale. *Journal of Marketing Theory and Practice*, 31(2), 129–145. <https://doi.org/10.1080/10696679.2021.2018937>
- Cárdenas, J. C., Zabelina, E., Guadalupe-Lanas, J., Palacio-Fierro, A., & Ramos-Galarza, C. (2021). COVID-19, consumer behavior, technology, and society: A literature review and bibliometric analysis. *Technological Forecasting and Social Change*, 173. <https://doi.org/10.1016/j.techfore.2021.121179>
- Cui, Y., Shi, Y., Chen, J., & Zhu, J. (2025). Impact of Covert Advertising Characteristics in Short Video E-Commerce on Impulse Buying Behavior: A Dual-Drive Mechanism of Emotion and Cognition. *Journal of Global Information Management*, 33(1). <https://doi.org/10.4018/JGIM.389668>
- Diwanji, V. S. (2026). Should your brand hire virtual influencers? How realism and gender presentation shape trust and purchase intentions. *Journal of Retailing and Consumer Services*, 88. <https://doi.org/10.1016/j.jretconser.2025.104491>

- Domenico, G. Di, & Visentin, M. (2020). Fake news or true lies? Reflections about problematic contents in marketing. *International Journal of Market Research*, 62(4), 409–417. <https://doi.org/10.1177/1470785320934719>
- Dwivedi, Ismagilova, E., Hughes, L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A. S., Kumar, V., Rahman, M. M., Ramakrishnan, R., Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G. A., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59. <https://doi.org/10.1016/j.ijinfomgt.2020.102168>
- Dwivedi, Y. K., Hughes, L., Wang, Y., Alalwan, A. A., Ahn, S. J., Balakrishnan, J., Barta, S., Belk, R., Buhalis, D., Dutot, V., & Others. (2023). Metaverse marketing: How the metaverse will shape the future of consumer research and practice. *Psychology & Marketing*, 40(4), 750–776. <https://doi.org/10.1002/mar.21767>
- Espinoza, A., & García, C. A. P.-. (2024). (Counter)marketing and misinformation: a cross-platform study. *Cogent Business and Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2398713>
- Jacobson, J., Gruzd, A., & Hernández-García, Á. (2020). Social media marketing: Who is watching the watchers? *Journal of Retailing and Consumer Services*, 53. <https://doi.org/10.1016/j.jretconser.2019.03.001>
- John, J. K., Kilumile, J. W., Makorere, R., Hudson Mrisha, S., Nyagawa, M., & Miraji Hussein, M. (2025). From business-to-consumer interactions to brand equity: driving social commerce purchase intentions. *Cogent Business and Management*, 12(1). <https://doi.org/10.1080/23311975.2025.2494064>
- Ju, N., Kim, T., & Im, H. (2024). Fake human but real influencer: the interplay of authenticity and humanlikeness in Virtual Influencer communication? *Fashion and Textiles*, 11(1), 16. <https://doi.org/10.1186/s40691-024-00380-0>
- Juanim, J., Alghifari, E. S., & Setia, B. I. (2024). Exploring advertising stimulus, hedonic motives, and impulse buying behavior in Indonesia's digital context: demographics implications. *Cogent Business and Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2428779>
- Kaiser, C., Manewitsch, V., & Schallner, R. (2025). Designing Influence: How Cartoonish and Humanlike Characters Shape Consumer Decisions. *NIM Marketing Intelligence Review*, 17(1), 48–53. <https://doi.org/10.2478/nimmir-2025-0008>
- Karunanayaka, K. O., Jahankhani, H., El-Deeb, S., Will Arachchige, I. S., & Amin Metwally Hussien, O. A. (2024). Artificial Intelligence in Digital Marketing: The Ethical Implications of Digital Influence on Markets and Consumer. In *Market Grooming: The Dark Side of AI Marketing* (pp. 173–197). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-83549-001-320241009>
- Kirk, C. P., & Rifkin, L. S. (2020). I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic. *Journal of Business Research*, 117, 124–131. <https://doi.org/10.1016/j.jbusres.2020.05.028>
- Lazarte, C. M.-, Jiménez, A. G.-, Grundl, A. G.-, Morales, X. Y.-, & Lopez, V. B.-. (2025). Virtual brand communities unveiled: A comprehensive bibliometric exploration. *Digital Business*, 5(2). <https://doi.org/10.1016/j.digbus.2025.100122>
- Li, C.-Y., Fang, Y.-H., & Chiang, Y.-H. (2023). Can AI chatbots help retain customers? An integrative perspective using affordance theory and service-domain logic. *Technological Forecasting and Social Change*, 197. <https://doi.org/10.1016/j.techfore.2023.122921>
- Makrides, A., Vrontis, D., & Christofi, M. (2020). The Gold Rush of Digital Marketing: Assessing Prospects of Building Brand Awareness Overseas. *Business Perspectives and Research*, 8(1), 4–20. <https://doi.org/10.1177/2278533719860016>
- Minh, V. M. V., Duy Khuong, B., Yen Nhi, L., Gia Han, L., Minh Giau, T., & Thi Tuyet Ngoan, N. (2024). The impact of food reviewers on purchase intention in the food and beverage industry: the mediating role of user interaction. *Cogent Business and Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2425706>
- Monge, E. C.-, & Soriano, D. R.-. (2024). The role of digitalization in business and management: a systematic literature review. *Review of Managerial Science*, 18(2), 449–491. <https://doi.org/10.1007/s11846-023-00647-8>

- Mude, G., & Undale, S. (2023). Social Media Usage: A Comparison Between Generation Y and Generation Z in India. *International Journal of E-Business Research*, 19(1). <https://doi.org/10.4018/IJEER.317889>
- Nair, S. R., & Little, V. J. (2016). Context, culture and green consumption: a new framework. *Journal of International Consumer Marketing*, 28(3), 169–184. <https://doi.org/10.1080/08961530.2016.1165025>
- Nguyen, N. V., Dang, T. L. P., & Phuong, N. T. (2025). Behavioral Intentions in Cashless: The Role of Green Finance Perception in the Vietnamese Market. *International Journal of Analysis and Applications*, 23. <https://doi.org/10.28924/2291-8639-23-2025-3>
- Pichierri, M., & Belk, R. W. (2026). Virtual characters, virtual influence? Assessing the efficacy of virtual and human influencers and the influence of need for interaction and consumer envy. *Journal of Retailing and Consumer Services*, 88. <https://doi.org/10.1016/j.jretconser.2025.104486>
- Poncin, I., & Mimoun, M. S. Ben. (2014). The impact of “e-atmospherics” on physical stores. *Journal of Retailing and Consumer Services*, 21(5), 851–859. <https://doi.org/10.1016/j.jretconser.2014.02.013>
- Rana, S. M. S., & Solaiman, M. (2023). Moral identity, consumption values and green purchase behaviour. *Journal of Islamic Marketing*, 14(10), 2550–2574. <https://doi.org/10.1108/JIMA-01-2021-0030>
- Riswanto, A. L., Ha, S., Lee, S., & Kwon, M. (2024). Online Reviews Meet Visual Attention: A Study on Consumer Patterns in Advertising, Analyzing Customer Satisfaction, Visual Engagement, and Purchase Intention. *Journal of Theoretical and Applied Electronic Commerce Research*, 19(4), 3102–3122. <https://doi.org/10.3390/jtaer19040150>
- Samala, A. D., & Rawas, S. (2024). From Likes to Buys: Unveiling the Impact of Social Media Influencers on Consumer Behavior and Market Dynamics. *TEM Journal*, 13(3), 2156–2161. <https://doi.org/10.18421/TEM133-43>
- Sarkis, N., Jabbour Al Maalouf, N., & El Lakiss, R. (2024). Examining influencer marketing: the roles of para-social relationships, unpaid collaborations, and trustworthiness in shaping consumer buying behavior. *Cogent Business and Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2419501>
- Sherief, A. R., Tarofder, A. K., Ibrahim, A. M., Sabir, R. I., Ahmad, M., & Rahman, A. U. (2025). Bibliometric analysis of social media persuasiveness and influence: a comprehensive review from 2010 to 2023. *Cogent Business and Management*, 12(1). <https://doi.org/10.1080/23311975.2024.2449247>
- Sivarajah, R. (2024). Exploring the impact of psychological and social factors on green consumer behaviour: a comprehensive review of green marketing tactics. *SN Business & Economics*, 4(12), 157. <https://doi.org/10.1007/s43546-024-00756-w>
- Szkal, A. C., Brătucu, G., Nichifor, E., Chițu, I. B., Mocanu, A. A., Balasescu, M., & Ialomițianu, G. (2024). Evaluating the Impact and Perception of Influencer Marketing Among Romanian Consumers—Insights from Quantitative Research. *Administrative Sciences*, 14(11). <https://doi.org/10.3390/admsci14110276>
- Vardikou, C., Konidaris, A., & Kavoura, A. (2025). Nudges in email marketing campaigns: The role of the authority principle and time-sensitive dynamics. *Electronic Commerce Research and Applications*, 73. <https://doi.org/10.1016/j.elerap.2025.101534>
- Zhang, P., Chao, C.-W. F., Chiong, R., Hasan, N., Aljaroodi, H. M., & Tian, F. (2023). Effects of in-store live stream on consumers’ offline purchase intention. *Journal of Retailing and Consumer Services*, 72. <https://doi.org/10.1016/j.jretconser.2023.103262>