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Rethinking consumer behaviour in a green digital marketing landscape

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ABSTRACT

This paper presents a comprehensive analysis of green consumer behaviour in digital environments, highlighting the increasing influence of digital marketing on sustainable consumption choices. The research uses a theory-context-characteristic-methodology (TCCM) framework, analysing 67 empirical studies published between 2002 and 2025 through various lenses (i.e., theories used, contexts studied, characteristics examined, and methodologies adopted). Employing an in-depth methodology, this study systematically reviews the academic literature to understand the current state of knowledge and identify significant gaps and future research directions. The paper reveals that green consumer behaviour research focuses primarily on specific industries and regions, which suggests a need for more diverse and cross-cultural studies. Theoretical gaps are identified, including a lack of interdisciplinary approaches and a reliance on empirical observations without robust theoretical underpinnings.

1. Introduction

Consumers and firms are simultaneously navigating the climate imperative and an always-on digital marketplace. Digital touchpoints increasingly shape how sustainability claims are discovered, assessed, and acted upon, amplifying both credible information and scepticism. For managers and policy-makers, the key question is not whether green behaviour matters, but how digital environments actually shape it, with what mechanisms, and with what level of theoretical and empirical support.

However, despite the urgency of sustainability concerns and the pervasive role of digital platforms in everyday life, knowledge about how digital environments influence sustainable consumption remains scattered and inconclusive. Studies are fragmented across industries and regions, rely on uneven theoretical foundations, and often privilege a narrow set of methods. This lack of integration risks slowing theoretical progress and limiting the usefulness of research for managers and policy makers.

In recent years, increasing pollution has become a topic of growing concern for policy-makers while also influencing market strategies and consumer choices (Nguyen et al., 2019; Risitano et al., 2023). The concern about pollution is driven by growing pressure from various actors to reduce environmentally impactful products, leading to a trend towards choosing sustainable products (Sadiq et al., 2022). This trend is further reinforced by the increasing awareness among consumers about sustainable consumption, and decisions are increasingly made on the basis of considerations of environmental sustainability (Berry and McEachern, 2005; Robichaud and Yu, 2022).

In response to these shifts in consumer behaviour, governments have implemented policies and strategies to encourage companies to produce sustainably. Such policies include offering incentives and promoting green choices among consumers through information dissemination and purchase benefits, such as reduced taxes (Teoh et al., 2022). To align with these governmental initiatives and the growing consumer demand for sustainability, companies have adapted by modifying their products, using recycled, nontoxic, and natural materials, and by shifting their marketing strategies to emphasise eco-labels and eco-brands that are perceived as environmentally healthy (Hartmann et al., 2005; Zahid et al., 2018; Nekmahmud et al., 2022).

However, companies understand that while producing green products is important, the real key to environmental protection lies in changing consumer habits and behaviours (Esty and Winston, 2009; Toni et al., 2018). Given that such behaviours are significant determinants of environmental impact, there is a pressing need to shift towards environmental sustainability (Oskamp, 2000; Lockton et al., 2008). This shift is increasingly possible due to the growing awareness among consumers about these issues, leading to changes in their values and motivating them to adopt more sustainable and environmentally respectful practices (White et al., 2019; Lavuri, 2022). The interplay among policy, consumer behaviour, and marketing strategy is central to

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driving innovative, sustainable change. This innovative focus by consumers in seeking green products and services with the aim of minimising their environmental impact has led scholars to label them 'green consumers' (Groening et al., 2018; Marde and Verite-Masserot, 2018) and to study their behaviour (Sharma, 2021; Risitano et al., 2023). A green consumer is someone who considers and assesses the potential environmental effects of a product before making a purchase decision (Haws et al., 2014; Verma, 2017; Nguyen et al., 2019). While it remains clear that consumers seek to satisfy their own needs when making purchases, they are increasingly beginning to consider the environmental impact of their choices, leading to changes in their purchasing behaviour. This shift is driven by the development of green values as knowledge and information become more widespread. Haws et al. (2014) define "green consumption values" as the effort that consumers invest, both financially and in terms of time, to purchase products with a lower environmental impact, leading them to change their habitual purchasing practices and adopt green behaviours to protect the environment (Peattie, 2010; Nekmahmud et al., 2022).

Accordingly, green consumer behaviour refers to the conscious actions taken by consumers to minimise their environmental impact throughout the lifecycle of a product, including its purchase, use, and disposal (Rustam et al., 2020; Wallace and Buil, 2023). This behaviour is guided by the values and efforts that consumers invest in choosing products that are sustainable, environmentally friendly, and ethically produced, thereby altering traditional consumption patterns to favour environmental protection (Joshi and Rahman, 2015; Gotlieb, 2019).

To facilitate this shift towards green consumer behaviour, digital media, especially social media, has become a crucial tool. Compared with traditional media, it not only is cost effective but also has the power to disseminate movement identities, beliefs, and ideas, potentially enabling the formation of lifestyle movements (Kennedy, 2011; Papaoikonomou et al., 2012; Wallace et al. 2023). The strategies carried out through these tools on electronic platforms are defined as digital marketing strategies (Krishen et al., 2021; AMA, 2024). The term "digital marketing" has gradually expanded from its original focus on marketing products and services through digital channels to a broader concept that encompasses the use of digital technologies to attract customers, shape their preferences, increase brand awareness, foster customer loyalty, and drive sales growth (Ryan, 2016; Kannan, 2017). According to the American Marketing Association's (2024) definition, digital marketing can be interpreted as "*the set of activities, institutions, and processes that leverage digital technologies to create, communicate, and deliver value to customers and other stakeholders*". Krishen et al. (2021) define digital marketing as a broad and inclusive concept that involves the use of data, ICT-based technologies, digital platforms, media, and devices to extend marketing efforts across both physical and online spaces, with the aim of enhancing customer relationships by empowering, informing, influencing, and engaging consumers (Ryan, 2016; Kannan, 2017).

The pivotal role of digital media in influencing consumer behaviour towards green products is significant (Chi, 2021; Sharma et al., 2021). Social media platforms not only serve as tools for companies to promote green products but also enable consumers to construct their virtual self-identity, often showcasing their 'conspicuous green behaviour' (Lee and Borah, 2020; Wallace and Buil, 2023). Furthermore, the impact of social media on transforming consumers' purchase intentions and attitudes is evident across various sectors, including banking, cosmetics, and consumer goods (Huang, 2016; Masuda et al., 2022).

Since digital media can be personal "showcases", consumers often want to show their "green" behaviours to gain more respectability among their peers (Haucke, 2018; Hoffmann et al., 2022). Additionally, digital media can reach large numbers of consumers at a relatively low cost (Teoh et al., 2022). Indeed, companies can use digital platforms, forums, websites, social media, and email as cutting-edge technologies to reach consumers (Bala and Verma, 2018). Moreover, the content on social media is perceived as more credible and genuine in the eyes of consumers (Hoffmann et al., 2022; Risitano et al., 2023). In line with this framework, the present study adopts a layered understanding of the digital environment to capture the diverse online contexts in which green consumer behaviour takes shape (Salem and Alanadoly, 2021; Sağkaya Güngör and Ozansoy Çadırcı, 2022). Within this environment, we distinguish between digital media—which refers to the array of digital communication channels and formats such as websites, blogs, mobile applications, email, and video platforms—and social media, which are platforms centered on user-generated content and interpersonal interaction (e.g., Instagram, TikTok, YouTube, Facebook) (Nguyen and Nguyen 2020; Qin, 2020; Risitano et al., 2023). While digital media often supports informational and promotional functions, social media plays a pivotal role in identity construction, peer validation, and interactive influence related to sustainability (Lim et al., 2019; Luo et al., 2020; Pittman et al., 2021). Throughout the manuscript, we use the term digital environment as an umbrella concept that encompasses these channels and platforms, reflecting the various technological settings where green-related digital marketing strategies are deployed and consumer engagement is observed (Krishen et al., 2021; Kumar et al., 2023).

This often leads to the dissemination and seeking of feedback and reviews on green products online, in communities and forums, which many consumers consider more reliable than communications on official sites or traditional sales channels (Nekmahmud et al., 2022; Robichaud and Yu, 2022).

Although interest in green consumer behaviour in digital contexts has grown rapidly, the literature remains fragmented. Prior studies are often concentrated in a limited set of industries and geographic regions, which restricts the generalizability of insights. Scholars have also pointed out that the theoretical foundations are uneven, with many investigations relying on established models without extending or integrating them. Methodologically, the field has been dominated by cross-sectional surveys and structural equation modelling, which provide valuable but partial perspectives. Together, these tendencies create a landscape in which knowledge is dispersed and cumulative theory-building is hindered, underscoring the need for a more integrative and comprehensive analysis. Therefore, an analysis of existing research is essential to establish trajectories for the progressive development of research and knowledge in this area. The literature includes various systematic literature reviews: some focus exclusively on sustainability, others target specific sectors, and some lack a specific framework (White et al., 2019; Hassan et al., 2022; Sağkaya et al., 2022; Vergura et al., 2023). White et al. (2019) analysed the evolution of the literature on environmental sustainability, focusing on consumer behaviour and its impact. Vergura et al. (2023) reviewed and synthesised the literature on sustainable consumer behaviour, providing effective strategies to encourage consumers to adopt more environmentally friendly behaviours. Sağkaya et al. (2022) synthesised existing knowledge on digital consumer behaviour, highlighted key areas and methodologies used, and proposed an overarching framework to guide future academic research and practical applications in digital consumerism.

This review employs a rigorous, systematic and holistic framework to analyse green consumer behaviour in the digital environment. The aim of a systematic literature review is to delve deeply into the current literature, provide detailed analysis, and identify future research directions to enhance knowledge in the field. Accordingly, following specific guidelines proposed by other scholars, the authors employed tools to develop a rigorous and robust systematic review. Initially, papers were selected and analysed via the Preferred Reporting Items for systematic reviews and *meta*-analyses (PRISMA) protocol (Moher et al., 2009), to ensure rigorous and systematic paper selection. The theory-context-characteristic-methodology (TCCM) framework for systematic literature reviews (Paul and Rosado Serrano, 2019; Rosado-Serrano et al., 2018) was subsequently adopted, allowing for a detailed examination of the field in terms of the theories adopted, empirical variables studied, and research methods applied. This systematic literature review focuses explicitly on mapping the existing literature by identifying and

categorising the key variables, theoretical frameworks, contexts, and methodologies that have been examined in relation to green consumer behaviour in digital environments. In doing so, it offers a structured understanding of the research landscape and identifies areas for future investigation, rather than providing a quantitative synthesis of empirical outcomes. In this way, the paper makes both a scholarly contribution by clarifying theoretical, contextual, and methodological blind spots and a practical one by providing insights for managers and policy makers designing credible and effective green digital strategies. The aim of this work is to review the academic literature concerning green behaviour in digital environments by analysing papers published on this topic until 2025 to answer the following research questions:

RQ 1.a: *What is the current state of the literature on green consumer behaviour in digital environments?*
RQ 1.b: *What are the theories, contexts, characteristics and methods that have been used in the study of green consumer behaviour in digital environments?*
RQ2: *What are the suggested future research directions and recommendations for deepening understanding, enhancing representation, and strengthening methodological rigour in studies of green behaviour within digital settings?*

The remainder of the paper is organised as follows: after the introduction, Section 2 explains the methodology and data collection process. Following the TCCM framework, Sections 3, 4, 5 and 6 present the findings of the analysis with an in-depth discussion of the theory-context-characteristics-methodology used by prior research in the field. Section 7 outlines the discussion and the research gaps and suggests future research directions to help advance knowledge in the field. Section 8 highlights the main implications of the work. Finally, the conclusions and limitations of the work are presented.

2. Research methodology and data analysis

2.1. Review methods

The research methodology employed in this study involves a systematic review of the academic literature carried out through a structured process consisting of several distinct steps. The decision to utilise a systematic literature review for our research topic was influenced by the findings of a prior scoping study. Our work is guided by three main objectives. First, we aim to evaluate the scope and relevance of the current literature in our subject area, establishing boundaries as suggested by Tranfield et al. (2003) and Pereira et al. (2023). Second, we seek to assess the existing level of knowledge in this field, understand the depth and breadth of the literature available, and ascertain the value of conducting a systematic literature review, in line with the approaches of Arksey and O'Malley (2005), Kraus et al. (2020), and Pereira et al. (2023). Third, following the approach of Chaudhary et al. (2021), our goal is to highlight the benefits of using systematic literature review methods. These benefits include enabling a comprehensive and transparent identification of relevant studies, offering opportunities to enrich the literature with theoretical frameworks and insights for future research, and uncovering new study perspectives that may complement or challenge existing ones. In this study, we specifically chose to adopt the TCCM framework developed by Paul and Rosado-Serrano (2019) because it offers a comprehensive approach for analysing the literature in a structured and rigorous manner (Paul et al., 2021). The TCCM framework enables us to systematically identify and evaluate key theories, contexts, characteristics, and methodologies used in prior studies within this research field. Unlike other types of reviews, such as bibliometric or narrative reviews, the TCCM framework provides a deeper examination of both the theoretical and empirical aspects of the literature, which is essential for achieving our research objectives.

Furthermore, the TCCM framework has been demonstrated to deliver a high level of clarity and coverage in systematic reviews (Paul et al., 2021). It is an effective tool for ensuring a comprehensive understanding of a specific research domain, which makes it particularly suitable for our study of green consumer behaviour in digital environments. By structuring our review with this framework, we aim to contribute valuable insights to the literature and provide a robust foundation for future research.

2.2. Review procedure

The selection of our sample was meticulously defined through a systematic, reproducible, and rigorous protocol, as outlined by Tranfield et al. (2003). This study employed a comprehensive methodology following the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) protocol, as outlined by Moher et al. (2015). Essentially, the protocol prescribes four stages for crafting a transparent and rigorous scientific review. The stages are identification, screening, eligibility, and inclusion. Fig. 1 shows the application of the PRISMA protocol. In the following sections, an explanation of each step is presented.

2.2.1. Identification

In the first phase of the PRISMA approach, the authors defined their research scope via SCOPUS, which is known for its global reach and vast collection of peer-reviewed scholarly articles. The authors used SCOPUS, a prominent international research database, to collect research on green consumer behaviour in the digital environment. This choice made SCOPUS an invaluable resource for their comprehensive literature review. They also emphasised the importance of systematically searching for keywords in paper titles and abstracts. Following the protocol for setting guidelines for a literature review (Palmatier et al., 2018; Paul and Criado, 2020; Paul et al., 2021), the authors used a set of keywords to identify and download relevant articles. In detail, the following query was used:

TITLE-ABS-KEY ("green behaviour" OR "green behavior" OR "green value" OR "green consumption value*" OR "green consumption" OR "-green consumer" OR "green intention*" OR "green attitude") AND ("digital marketing" OR "social media marketing" OR "social network" OR "consumer-online brand related activities" OR "social media" OR "digital platform*")*

The authors included both American and British English versions of the word "behaviour", in singular and plural forms, to increase the accuracy of the presented papers. This search yielded a total of 925 records.

To improve comprehensiveness and address potential omissions from the keyword strategy, the authors also conducted a citation search (both backwards and forward) on a subset of key articles already included in the sample. This step led to identifying 11 additional relevant papers, which were manually assessed and included based on the same eligibility criteria. This brought the total number of records to 936 before screening.

2.2.2. Screening

Following these queries, we proceeded to the second phase: screening. During this phase, the initial database of 936 records underwent further refinement through the application of specific exclusion criteria. These criteria encompass the exclusion of non-article document types; materials published in subject areas outside of business, management, or accounting; articles not in English; and those that were not published in peer-reviewed international journals. Moreover, to ensure uniformity and consistency in the selection process, conference papers, books, book chapters, and PhD dissertations were excluded from the sample because of their limited influence on the academic literature. The screening phase resulted in a database comprising 328 articles.

2.2.3. Eligibility

The last two phases of the PRISMA protocol for the systematic

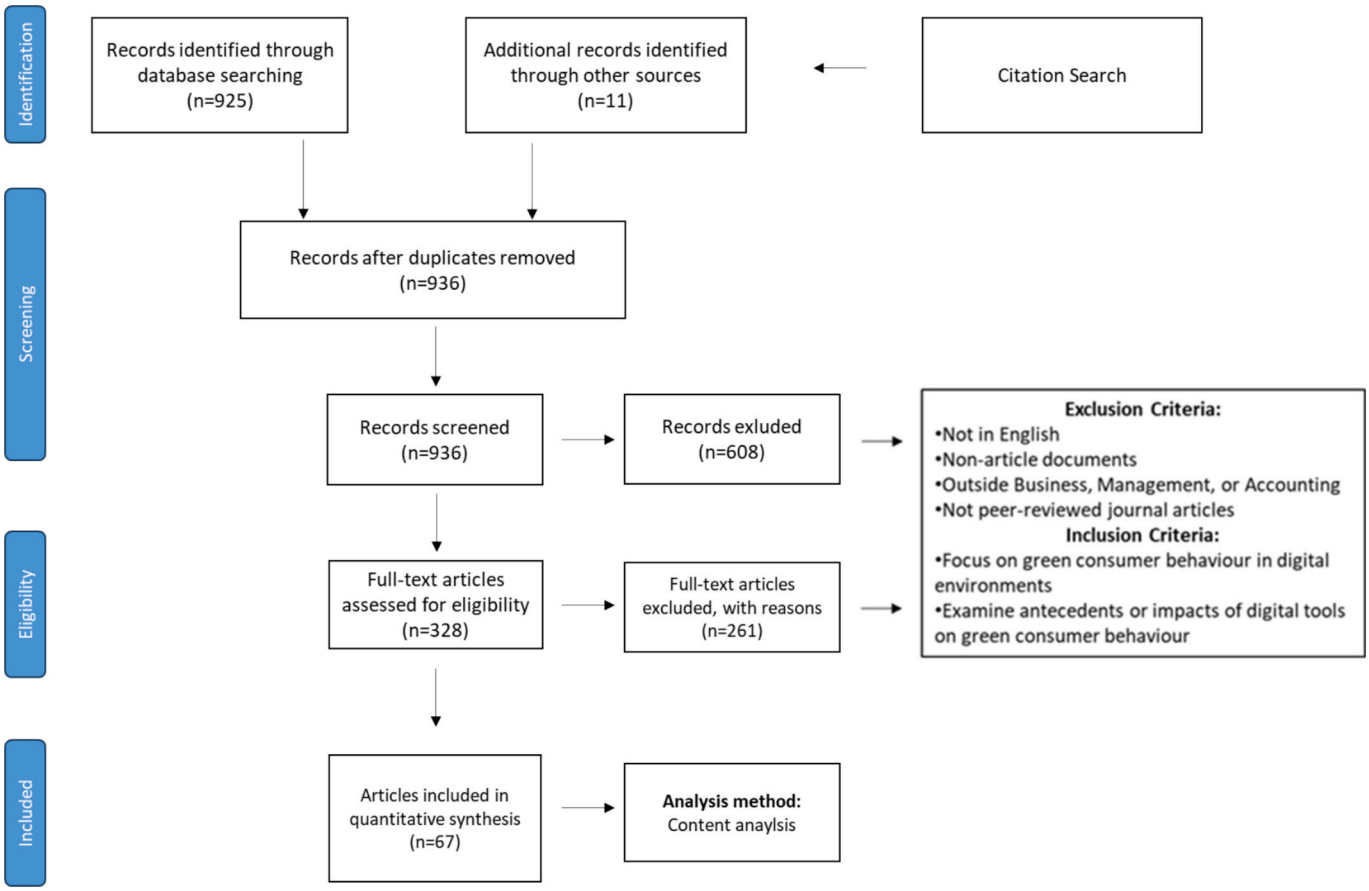

Fig. 1. The review process, according to the PRISMA guidelines.

reviews involved establishing eligibility criteria and selecting papers for the final sample. A meticulous content review was conducted to determine the eligibility of each paper. After this review, we selected only the papers that met the criteria. These papers aimed to understand green consumer behaviour in a digital environment and demonstrated a distinct connection between these elements.

Studies were included if they addressed both the environmental and digital components of our review scope. Specifically, we operationalised green consumer behaviour as including actions, intentions, attitudes, or decision-making processes aimed at reducing environmental impact (Lee, 2017; Nekmahmud et al., 2022; Kumar et al., 2023). This encompassed behaviours such as purchasing eco-friendly or sustainable products, recycling, conserving energy, supporting green brands, or engaging with environmental campaigns (Salem and Alanadoly, 2021; Sadiq et al., 2022; Seyfi et al., 2023a). On the digital side, we defined the digital environment as any online or technology-mediated context in which such behaviours are enabled, shaped or expressed (Simeone and Scarpato, 2020; Tan et al., 2022). This encompasses social media platforms, e-commerce websites, mobile or branded applications and online brand communities. Studies were excluded if they did not explicitly link consumer behaviour to environmental concerns or if they did not include interaction within a digital environment as defined above.

The eligibility and inclusion criteria can be summarised as follows:

EI1: Articles that encompass the concept of green consumer behaviour in the digital environment.

EI2: Articles that study the antecedents of green consumer behaviour and how the digital environment can affect it.

EI3: Articles that study the impact of digital tools on green consumer behaviour.

The entire process led to the exclusion of 261 articles and the creation of a sample consisting of 67 bibliographic records spanning a 24-year period, from 2002 to 2025. Table 1 synthesises the main journals from which the articles were selected, listed in order of the number of papers and shows their impact factors (Clarivate, 2024).

2.3. Data analysis and framework identification

Starting with this sample, the authors conducted a content analysis, extracting all the information related to theories, context, characteristics, and methodology. This enabled the authors to follow the TCCM framework (Paul and Rosado-Serrano, 2019) developed for systematic literature reviews. To analyse the theories used in investigating green consumer behaviour, the context in which the phenomenon was investigated, the variables used to analyse the relationship and the

Table 1
Main journals contributing to the research area.

Journal Name	Numbers of paper	Impact Factor
Journal of Cleaner Production	7	9,7
British Food Journal	4	3,4
Journal of Business Ethics	4	5,9
Journal of Fashion Marketing and Management	3	3,2
Journal of Sustainable Tourism	3	6,9
Technological Forecasting and Social Change	3	12,9
Technology in Society	3	10,1
Business Strategy and the Environment	2	12,5
International Journal of Consumer Studies	2	8,6
Marketing Intelligence and Planning	2	3,6
Social Responsibility Journal	2	2,9
Other Journals	32	
Total	**67**	

methodology employed by previous scholars were considered.

2.3.1. Overview of key constructs

Before presenting the section on the TCCM framework (Paul and Rosado-Serrano, 2019), it is important to briefly outline how the main constructs, green consumer behaviour and digital environments, are represented across the literature included in this review.

In the selected articles, green consumer behaviour is primarily operationalised through variables such as intentions to engage in environmentally friendly consumption, the actual purchase of green products, recycling and reuse behaviours, energy-conscious decisions, and attitudinal or value-based orientations toward sustainability (e.g. Haws et al., 2014; Hynes and Wilson, 2016; Lee, 2017; Salem and Alanadoly, 2021; Sağkaya Güngör and Ozansoy Çadırcı, 2022; Orea-Giner and Fusté-Forné, 2023). Depending on the theoretical lens applied, these behaviours are linked to cognitive, emotional, or behavioural drivers.

2.3.2. Digital environments operationalisations

The construct of the digital environment is addressed through various platforms and technological contexts. This includes social media (e.g., Instagram, TikTok, YouTube), e-commerce sites, mobile and branded apps, online communities, forums, and in some cases gamified environments (e.g. Luo et al., 2020; Lavuri, 2022; Singh et al., 2022; Le et al., 2025). Studies explore digital environments in terms of their affordances for engagement, influence, content sharing, or identity, showing a relationship to green behaviour.This mapping informs the theoretical lenses reviewed in the following section and helps structure the results and discussion that follow.

3. Theory

The academic literature indicates that theories are crucial for improving and nurturing knowledge. Adopting the TCCM framework (Paul and Rosado-Serrano, 2019), this review provides an overview of the theories used in past research that have been adopted in conceptual and empirical papers on green consumer behaviour in the digital environment (Table 2). The content analysis allows the authors to discover 31 different theories used in past articles. This section offers an overview of several commonly used theories in this area of research.

3.1. Theory of planned behaviour

One of the most extensively employed frameworks for investigating individual behaviour is the theory of planned behaviour (TPB) (Ajzen and Fishbein, 1988; 1991), which has been used especially to identify the drivers that motivate or push consumer intention (Ch et al., 2021; Wallace and Buil, 2023). According to the TPB, behavioural intention signifies a person's willingness and planned effort to perform a behaviour, reflecting their commitment to and evaluation of the favourability of the behaviour (Ajzen and Fishbein, 1988; Nguyen and Nguyen, 2020; Teoh et al., 2022; Wallace and Buil, 2023). Wallace and Buil (2023) used the TPB to investigate the factors influencing pro-environmental behaviours (PEBs). They specifically examined the relationships between perceived behavioural control, attitude, and subjective norms and the intention to engage in PEBs. In their study, Nguyen and Nguyen (2020) aimed to explore how TPB variables—attitude, subjective norms, and perceived behavioural control—contribute to millennials' intentions to purchase green products in gathering online information such as reviews. Teoh et al. (2022) utilised the TPB to assess the factors influencing consumers' food waste prevention behaviour and extended the model to include social media usage as a notable influencer.

3.2. Lifestyle politics theory

Lifestyle politics theory addresses the politicisation of everyday life, where individuals make ethically, morally, or politically driven

Table 2
List of theories used to understand green consumer behaviour in digital environments.

Theory	No. of articles	reference
Theory of planned behaviour	10	Kumar et al. (2023), Amoako et al. (2020), Teoh et al. (2022), Ch et al. (2021), Nguyen and Nguyen (2020), Wallace and Buil (2023), Dimitrova et al. (2022), Nekmahmud et al. (2022), Sun and Wang (2020); Nazish et al., (2025)
Lifestyle politics theory	2	Seyfi et al. (2023a), Seyfi et al. (2023b)
Social cognitive theory	2	Zhao et al. (2023), Nguyen et al. (2022)
Value-Belief-Norm (VBN) theory	2	Jaini et al. (2020), Le et al. (2025)
Broaden-and-build theory of positive emotions	1	Tosun and Tavşan (2023)
Construal level theory	1	Kapoor et al. (2023)
Ecological modernization theory	1	Ghaffar et al. (2023)
Ecological socialization theory	1	Gong et al. (2022)
Expectancy Value Attitude (EVA) theory (Vroom, 1964) and the attitude-behaviour Context (ABC) theory	1	Lavuri (2022)
Festinger's theory of cognitive dissonance	1	Cairns et al. (2022)
Institutional theory	1	Chen et al. (2022)
Knowledge attitude behaviour theory (KAB)	1	Almansour (2025)
Moral disengagement theory	1	Lim et al. (2019)
Motivation perspective	1	Chi (2021)
Norm activation theory	1	Orea-Giner and Fusté-Forné (2023)
Personality traits theory	1	Salem and Alanadoly (2021)
Regulatory focus theory	1	Codini et al. (2018)
Schwartz's theory of basic human values	1	Jasrotia et al. (2023)
Self-image/product image congruity theory along with social judgement theory	1	McLelland et al. (2022)
Social impact theory	1	Bedard and Tolmie (2018)
Social influence theory	1	Confetto et al. (2023)
Social judgement theory	1	Pittman et al. (2021)
Social norm theory and norm activation theory	1	Han et al. (2018)
Social practice theory	1	Ali (2021)
Spreading-activation theory	1	Danner and Thøgersen (2022)
The stimulus–organism–response (SOR) and ability-motivation opportunity (AMO) theories	1	Huy et al. (2022)
The stimulus–organism–response framework	1	Shen et al. (2021)
Theories of acculturation and information diffusion	1	Choudhary et al. (2019)
Theory of consumption values – altruistic–egoistic values	1	Tan et al. (2022)
Theory of reasoned action	1	Robichaud and Yu (2022)
Theory of reasoned action and prototype willingness model theory	1	Zhao et al. (2019)
Theory of reasoned action and theory of planned behaviour	1	Toni et al. (2018)
Value capture theory	1	Graciano et al. (2022)
Value oriented theories	1	Pegan et al. (2023)
Without theory	21	Casey et al. (2017), Di Iorio et al. (2023), Gummerus et al. (2017), Guiao and Lacap (2022), Haucke (2018), Hoffmann et al. (2022), Hoelscher and Chatzidakis (2021), Hynes and Wilson (2016), Khare and Kautish (2021), Khare

(continued on next page)

Table 2 (*continued*)

Theory	No. of articles	reference
		et al. (2022), Marco and Wander (2002), Lazaric et al. (2020), Lee (2017), Luo et al. (2020), Nayyar (2023), Palakshappa and Dodds (2020), Risitano et al. (2023), Serrano et al. (2021), Simeone and Scarpato (2020), Singh et al. (2022), Verma (2017)

decisions in various aspects of their lives. This theory suggests a close association between political and ideological beliefs and consumption decisions (De Moor, 2017). Lifestyle politics theory provides a framework for understanding how individuals, especially younger generations such as Gen Z, politicise their personal lives, including their consumption choices, and how digital media plays a central role in this process (Seyfi et al., 2023a; Seyfi et al., 2023b). In examining the political consumption behaviours of the Gen Z cohort in a developing country, Seyfi et al. (2023a) adopted lifestyle politics theory as a conceptual lens. This theoretical framework was leveraged to analyse how digital media contributes to shaping such behaviours, highlighting the significant role of online platforms in influencing the political consumerism of the younger generation.

3.3. Social cognitive theory

Social cognitive theory (SCT), which was proposed by Bandura (1986; 1991), states that individual behaviour is influenced by three interactive determining conditions: individual cognition, behaviour, and the external environment. Individual behaviour is impacted by both the external environment and individual cognitive factors. In particular, SCT provides a framework for understanding how individuals learn and adopt behaviours through interactions with their environment, considering cognitive factors, external influences, and personal values. Nguyen et al. (2022) applied this framework to explore how the influence of information on pro-environmental consumption intentions varies depending on consumer differences. Zhao et al. (2023) study employed SCT to introduce the concepts of co-creation efficacy and co-creation outcome expectation. They investigated the mediating role of co-creation efficacy and co-creation outcome expectations between green media communication and consumers' intentions to co-create green value. Additionally, they employed SCT to examine the relationship between green social media communication and consumers' intention to co-create green value.

3.4. Multi-theory application

Importantly, some studies have adopted different and multiple theories to develop their conceptual frameworks. For example, Zhao et al. (2019) adopted the theory of reasoned actions (Fishbein and Ajzen, 1975) (to comprehend how individuals make deliberate choices and assess sustainable apparel purchase intentions, considering the repercussions of their actions before engaging in specific behaviours) and the prototype willingness model (to elucidate the impact of social media on the purchase intentions of Chinese consumers regarding environmentally sustainable apparel). Toni et al. (2018) employed two theories to investigate the relationship between collaborative consumption and the adoption of sustainable practices from the user's perspective. In fact, to study user behaviour, they adopted the theory of reasoned action (to predict and analyse behaviour) and the theory of planned behaviour (to explain attitudes and beliefs related to ecological behaviours, travel choices, willingness to pay for environmental protection, and green consumerism) (Toni et al. 2018). Han et al. (2018) employed norm activation theory to understand and predict proenvironmental behaviour. They emphasised personal norms related to environmental responsibility and awareness of consequences. Additionally, the study applied social norm theory to investigate how personal and social norms collectively influence proenvironmental behaviour among tourists. Norm activation theory focuses on personal norms, encompassing awareness, responsibility, and internalised obligations. In contrast, social norm theory considers the impact of group expectations and social standards, encompassing both descriptive and injunctive social norms. The integration of these theories provided a comprehensive understanding of the factors influencing proenvironmental behavioural intentions among tourists in the study. Notably, a portion of the paper (i.e., 21) did not mention the use of any theory in their research.

4. Context

The following paragraphs summarise our findings on the context of green consumer behaviour in digital environments. Specifically, Table 3 details the industries investigated, and Table 4 focuses on countries prominent in this research. The study counts in the tables surpass the sample size, as some research covers multiple countries or industries.

4.1. Industries

The analysis demonstrates that green consumer behaviour in the digital environment is focused mostly on the food and fashion industry

Table 3
Industries investigated in green consumer behaviour in digital environments research.

Industry	No. Of studies	Exemplary studies
Green products	14	Marco and Wander (2002); Gummerus et al. (2017); Verma (2017); Luo et al. (2020); Nguyen and Nguyen (2020); Sun and Wang (2020); Ch et al. (2021); Guiao and Lacap (2022); Lavuri (2022); McLelland et al. (2022); Nekmahmud et al. (2022); Di Iorio et al. (2023); Kumar et al. (2023); Nazish et al. (2025).
Food	9	Hynes and Wilson (2016); Choudhary et al. (2019); Danner and Thøgersen (2022); Robichaud and Yu (2022); Singh et al. (2022); Teoh et al. (2022); Orea-Giner and Fusté-Forné (2023); Tosun and Tavşan (2023); Zhao et al. (2023).
Fashion	7	Zhao et al. (2019); Palakshappa and Dodds (2020); Khare and Kautish (2021); Salem and Alanadoly (2021); Cairns et al. (2022); Khare et al. (2022); Kapoor et al. (2023).
Hospitality and tourism	6	Han, et al. (2018); Chi (2021); Serrano et al. (2021); Huy et al. (2022); Seyfi et al., (2023a); Seyfi et al., (2023b).
Technology	6	Haucke (2018); Toni et al. (2018); Shen et al. (2021); Chen et al. (2022); Hoffmann et al. (2022); Tan et al. (2022).
Environmental Information	5	Dimitrova et al. (2022); Gong et al. (2022); Nguyen et al. (2022); Wallace and Buil (2023); Jasrotia et al. (2023).
Retail and service	4	Codini et al. (2018); Simeone and Scarpato (2020); Ghaffar et al. (2023); Le et al. (2025)
Cosmetics	2	Jaini et al. (2020); Graciano et al. (2022).
Mobility	1	Risitano et al. (2023).
Multiple not specified	2	Lee (2017); Nayyar (2023).
Not stated	12	Casey et al. (2017); Bedard and Tolmie (2018); Lim et al. (2019); Amoako et al. (2020); Lazaric et al. (2020); Ali (2021); Hoelscher and Chatzidakis (2021); Pittman et al. (2021); Confetto et al. (2023); Pegan et al. (2023).

Table 4
Global distribution of the studies.

Continent	Country	No. of Studies	%
Africa	Ghana	1	
Total Africa	–	**1**	**1 %**
Asia	China	9	
	India	9	
	Iran	2	
	Malaysia	4	
	Pakistan	3	
	Philippines	1	
	Turkey	1	
	Vietnam	4	
	South Korea	1	
Total Asia	–	**34**	**42.5 %**
Europe	Austria	1	
	Belgium	1	
	Bulgaria	1	
	Denmark	1	
	France	3	
	Germany	4	
	Hungary	1	
	Italy	7	
	Ireland	1	
	Netherlands	1	
	Finland	1	
	Romania	1	
	Spain	2	
	Sweden	1	
	Switzerland	1	
	United Kingdom	5	
Total Europe	–	**31**	**38.8 %**
North America	Canada	2	
	United States	5	
Total North America	–	**7**	**8.8 %**
South America	Brazil	1	
	Venezuela	1	
Total South America	–	**2**	**2.5 %**
Not stated	–	**5**	**6.3 %**
Total	–	**80**	**100 %**

(Table 3). This result could be expected, given that, in the food industry, green values are central in the decision-making process. McKinsey (2023) affirms that food brands and the food industry are constantly receiving requests for more sustainable products from consumers, the government, and nongovernmental organisations. In this context, we define green products as any product perceived by consumers as having a reduced environmental impact, typically characterised by features such as being eco-friendly, recyclable, or low-emission. Moreover, their report identifies five pillars of interest for the food industry, specifically, health, economy, livelihoods, the environment, and animal welfare, along with cross-cutting factors (i.e., product transparency, certification, sustainable policies, and market sustainable activities). Hynes and Wilson (2016) identify food production and consumption as one of the main industries for reducing environmental problems. They also underline the fact that consumer awareness about sustainability is increasing, but there is limited engagement in food buying, insufficient awareness of the environmental effects of food items, and varying perspectives on environmental concerns within distinct food categories. Danner and Thøgersen (2022) highlight the importance of online discussions, specifically with regard to organic food, in comprehending and shaping consumer behaviour. The emphasis on the food industry, particularly the organic food industry, arises from its prominence in online discussions, its association with sustainability, and the imperative to narrow the divide between positive attitudes and tangible purchases. The food business is the subject of Zhao et al.'s (2023) strategic approach to leveraging the media's impact in promoting green values, raising consumer awareness of environmental issues, and encouraging collective action towards sustainable outcomes.

In the KPMG (2019) report, an examination was conducted on the current understanding of sustainable fashion. The report studied strategies to promote responsible purchasing behaviour within the fashion industry, recognising its substantial contribution to climate change and biodiversity loss. This aligns with our findings that the fashion industry has focused mostly on green consumption values. In their study, Cairns et al. (2022) explored the identified tensions in consumer behaviour within the fashion industry. The authors anticipated that investigating sustainable practices in the fashion industry would yield valuable insights and contribute to a broader understanding of sustainable consumption. Kapoor et al. (2023) studied the fashion industry, examining the impact of greenfluencers' sponsored sustainability messages on followers' intentions to purchase, considering message appeal, authenticity, and product type as influential factors. Khare and Kautish (2021) examined India's rapidly expanding fashion business, which has a significant environmental impact. They investigated sustainable methods, such as working with local weavers and being circular, to determine how those approaches might affect consumer perceptions through cosmopolitanism and online communities.

The literature also revealed that green consumer behaviour in digital environments is studied in the hospitality and tourism industry. In fact, some works explore how sustainability-driven consumerism in tourism, particularly among the Gen Z cohort, is shaped by digital media engagement (Seyfi et al., 2023b). One study focused on the effectiveness of proenvironmental travel user-generated content in activating proenvironmental tourist behaviours (Han et al., 2018). Huy et al. (2022) delved into how consumers' growing preference for eco-friendly tourism products, influenced by environmental concerns, translates into positive word-of-mouth behaviour on social media.

4.2. Countries

Our analysis shows that most consumer value research in digital environments is carried out in Asia, Europe, and America (Table 4). Asia proved to be the most active in the field, accounting for 42.5 % of all the studies. China and India are the leading countries (9 studies). Europe was the second continent for research in this area, accounting for 38.8 % of all the studies. In total, 34 studies were spread across 9 Asian countries, and 31 studies were spread across 16 European countries. Among the European countries, Italy was the most active, with 7 studies, followed by the United Kingdom, with 5 studies. For the American continent, 5 studies in the field focused on the United States. The content analysis revealed that the majority of the studies were carried out in a single country (e.g., Kapoor et al., 2023; Risitano et al., 2023; Seyfi et al., 2023a). Other studies focused on different countries (e.g., Haucke, 2018; Tan et al., 2022; Orea-Giner and Fusté-Forné, 2023). In particular, only seven articles explored green consumer behaviour in digital environments, including multinational contexts or multinational respondents (e.g., Hynes and Wilson, 2016; Lee, 2017; Orea-Giner and Fusté-Forné, 2023). The focus on a single country can be driven by the fact that the analysis is carried out on social media/social networks, and it is easier to focus on the national brand page. However, the lack of cross-cultural studies can be a problem in understanding international strategies or practices that can be adopted.

5. Characteristics

Research on green consumer behaviour in digital environments has explored the use of different variables and constructs that aim to shape consumer intention and behaviour.

The authors grouped the variables in each study according to their role, distinguishing them as independent, mediating, moderating, and dependent variables (Table 5). Furthermore, within each group of variables, another classification was employed according to the consumer decision-making stage (i.e., cognitive, affective, behavioural), which is in line with the framework developed by Holbrook and Hirschman (1982).

Our classification of the cognitive variables included those that

Table 5
Variables investigated in green consumer behaviour in the digital environment.

Variables	No. Of articles	%
Independent		
Cognitive	23	42 %
Consumer values	11	20 %
Green scepticism	4	8 %
Environmental awareness	3	6 %
Green marketing	2	4 %
Green product evaluation	2	4 %
Media communication	1	2 %
Social norms	1	2 %
Affective	13	24 %
Emotion (positive)	4	8 %
Attitude towards green	3	6 %
Green attitude in online communities	3	6 %
Green attitude	2	4 %
Emotion (negative)	1	2 %
Behavioural	14	26 %
Social media usage	11	20 %
Green consumption	3	6 %
Green product choice	1	2 %
Multipath	3	6 %
Consumer values and attitude towards green products	2	4 %
Social media marketing attitude	1	2 %
Mediator		
Cognitive	15	27 %
Consumer values	6	11 %
Information seeking	4	7 %
Green Product evaluating	3	6 %
Green knowledge	1	2 %
Brand related variables	1	2 %
Affective	10	18 %
Green attitude	6	11 %
Emotion (negative)	2	4 %
Emotion (positive)	2	4 %
Behavioural	11	20 %
Green consumption	5	9 %
Green behaviour	3	6 %
Brand related variables	1	2 %
Co-creation	1	2 %
Social media usage	1	2 %
Multipath	5	9 %
Consumer value, attitude and behavioural control	1	2 %
Emotion (positive) and ethical consumption	1	2 %
Product evaluating and behavioural control	1	2 %
Social commitment and ethical consumption	1	2 %
Social media communication and green consumption	1	2 %
Moderator		
Cognitive	14	25 %
Consumer values	9	16 %
Green image	3	5 %
Environmental concerns	1	2 %
Green ability	1	2 %
Affective	1	2 %
Emotion (positive)	1	2 %
Behavioural	8	15 %
Perceived Behavioural control	2	4 %
Social media usage	1	2 %
Unethical consumption	1	2 %
eWOM	1	2 %
Perceived ease of use	1	2 %
Multipath	1	2 %
Consumer value and social media influencer	1	2 %
Other variables	4	7 %
Sociodemographic variables	5	9 %
Dependent		
Behavioural	55	100 %
Green behaviour	19	35 %
Green purchase intention	18	33 %
Green consumption intention	7	13 %
Green brand related variables	6	11 %
eWOM	4	7 %
Co-create green values	1	2 %

primarily involve the consumer's information processing capabilities (Kowalczuk et al., 2021). This includes variables that necessitate cognitive engagement for the processing and interpretation of information related to green practices and digital communication (Rauschnabel, 2018; Qin, 2020). The categorisation was based on the understanding that these variables require the consumer to employ cognitive resources to assess, compare, and integrate environmental information into their decision-making processes (Esty and Winston, 2009; Gifford and Nilsson, 2014). The affective variables were categorised on the basis of their influence on consumers' emotions and feelings (Hartmann et al., 2005; Lim et al., 2019; Lavuri et al., 2022). This category included how emotional responses to digital media communications and green marketing initiatives affect consumer attitudes towards sustainability and environmental responsibility. Affective responses are pivotal, as they can greatly influence preferences, satisfaction, and, ultimately, consumer loyalty. The behavioural variables focused on the direct actions taken by consumers, such as purchasing eco-friendly products, engaging with green content on digital platforms, or adopting sustainable practices (Sadiq et al., 2022). These variables represent the culmination of the cognitive and affective influences, reflecting the tangible consumer actions observable within the digital environment (e.g. Bedard and Tolmie, 2018; Chi, 2021; Nayyar, 2023). Variables that span multiple decision-making stages were placed in the "multipath" category, acknowledging their complex and overlapping impacts across cognitive, affective, and behavioural dimensions. The sample considered for this analysis comprised 55 empirical studies. The following findings provide theoretical contributions that can help in theory advancement and development for future studies (Paul and Rosado-Serrano, 2019; Chen et al., 2022; Hassan et al., 2022). For clarity, it's important to note that terms which might seem similar were actually treated as distinct constructs based on their operational definitions. For example, "green consumer value" was consistently categorised under the cognitive stage because it reflects internalised evaluations and belief systems that guide environmentally conscious preferences. Conversely, "green consumption" was categorised under the behavioural stage as it involves observable actions, such as purchasing eco-friendly products or recycling (Haws et al., 2014). This categorisation aligns with the decision-making stage classification outlined by Holbrook and Hirschman (1982). Furthermore, some studies mentioned "green products" as key outcomes or examples of behaviour, though often using the term generically without specifying product categories. In our framework, this label encompasses any product perceived by consumers as having a reduced environmental impact, characterised by features such as being eco-friendly, recyclable, or low-emission. Additionally, in accordance with Albarracin and Shavitt (2018), who define attitudes as evaluative responses indicating favour or disfavour toward an object, the studies reviewed predominantly operationalised attitudes through affective components, such as emotional evaluations or feelings towards sustainability. Hence, we categorised them under the affective stage, which is consistent with the Holbrook and Hirschman (1982) framework.

5.1. Independent variables

Table 5 shows the different independent variables typically studied in green consumer behaviour in the digital environment, and they are subgrouped according to their decision-making stage. The cognitive-related variables included various dimensions related to green consumer behaviour, with 23 studies (42 %) adopting them as independent variables. These variables included consumer values (11 studies; 20 %), green scepticism (4 studies; 7 %), and environmental awareness (3 studies; 5 %). The studies that considered affective-related variables (13 studies; 24 %) included 4 works (7 %) that explored the role of positive emotion. The behaviour-related variables (14 studies; 25 %), which highlighted an increased use of social media (11 studies; 20 %), were used as independent variables. Consumer values were found to influence

green purchase decisions directly, especially when consumers encounter brand messaging on sustainability (Gong et al., 2022; Pegan et al., 2023; Risitano et al., 2023). Tan et al. (2022) aimed to understand how consumer values impact consumers' decisions and behaviours in the context of sustainable consumption. Risitano et al. (2023) explored consumer values as a central role in understanding the behaviour of environmentally conscious consumers. Pegan et al. (2023) analysed green values and religious beliefs in the context of predicting pro-environmental behaviour and green purchase decisions. Understanding consumer values is critical in predicting and explaining green consumer behaviours such as sustainable resale practices, contributing to a deeper understanding of green consumption (Gong et al., 2022; Tan et al., 2022; Pegan et al., 2023; Risitano et al., 2023). Green scepticism was found as a barrier to trust in digital marketing (Luo et al., 2020). In the realm of green consumerism, consumers develop scepticism about brand promises, leading to mistrust in companies' advertisements and social media communication (Luo et al., 2020). Green scepticism plays a pivotal role, significantly influencing consumer behaviour within the context of green business practices and environmental marketing (Lavuri, 2022; Singh et al., 2022). Green scepticism, intensified by deceptive green advertising, diminishes consumer trust in environmentally friendly products; impacts purchase intentions and underscores the imperative for transparent, reliable messaging in green marketing (Luo et al., 2020; Lavuri, 2022; Singh et al., 2022). The results appeared to be coherent. In fact, environmental awareness resulted in the use of another independent variable. For example, Han et al. (2018) explored the impact of environmental awareness, responsibility, and proenvironmental travel user-generated content engagement on tourists' behavioural intentions, emphasising the crucial role of norms in sustainable tourism. When an argument is based on the environment, consumer emotions may be positive (Gummerus et al., 2017; Tosun and Tavşan, 2023) or negative (Pittman et al., 2021). The literature has delved into how environmental awareness plays a pivotal role in shaping consumer happiness, underscoring the profound impact of positive emotions, hope, and green consumption on the formation of brand admiration and loyalty (Gummerus et al., 2017; Tosun and Tavşan, 2023). In the contemporary digital era, social media has emerged as a pivotal channel that influences consumer behaviour and shapes green consumption intentions (Chi, 2021). Some studies emphasise the transformative role of social media usage (cognitive) in shaping consumers' attitudes and purchase intentions towards green products, offering valuable insights into the dynamic interplay among social media, green marketing, and sustainable consumption behaviours. These insights are explored in various contexts, including ecotourism destinations (Chi, 2021), online ethical consumption (Nayyar, 2023), and specific age categories, such as millennials' green purchase intentions (Bedard and Tolmie, 2018).

5.2. Mediating variables

With respect to the mediating variables, 36 out of the 55 quantitative papers included them. The analysis revealed that 15 studies (27 %) could be categorised as involving a cognitive stage, 10 studies (18 %) utilised affective-related variables, and 11 studies (20 %) were associated with a behavioural stage.

In particular, 6 studies adopted consumer values as a cognitive-related variable. In the marketing literature, consumer values act as a mediator, connecting consumers' green knowledge to their actual green product purchases (Amoako et al., 2020). Furthermore, pro-environmental beliefs serve as mediators influencing consumers' green cosmetics purchase behaviour (Jaini et al., 2020). From a brand management perspective, consumers are increasingly prioritising environmentally friendly products, demonstrating a notable willingness to pay more (Risitano et al., 2023). Brands are adapting their marketing strategies to align with consumer values in the growing green product market (McLelland et al. 2022). In the context of the affective-related variables, green attitudes emerged as a key mediator, which was evident in six studies (11 % of the total). In the literature, green attitudes can play a crucial role as a mediator in enhancing green purchase intentions (Nekmahmud et al., 2022). Huy et al. (2022) utilised green attitudes as a mediator, influencing tourists' engagement in eco-friendly (electronic word-of-mouth) eWOM on social media and establishing a link between attitudes and behaviours. Lavuri (2022) identified green attitudes as a mediating factor that plays a positive role in shaping connections between environmental considerations and the intention to purchase green products. With respect to the behavioural mediator variables, green consumption was the most commonly used (5 studies; 9 %). Engaging in online communities cultivates a consumer's consciousness, offering valuable insights and social connections that shape green consumption choices and reinforce commitment to responsible purchasing practices (Gummerus et al., 2017). Additionally, consumers' utilisation of second-hand P2P platforms is mediated by green consumption values, addressing the intention–behaviour gap in sustainable consumption (Tan et al., 2022).

5.3. Moderating variables

Only 29 studies out of 55 quantitative papers included moderating variables. The analysis revealed that 14 studies (25 %) could be categorised in the cognitive stage, 1 study (2 %) in the affective stage, 8 studies (15 %) in the behavioural stage, and 1 study (2 %) in the multipath stage. Moreover, 5 studies (9 %) adopted sociodemographic variables as moderators. Among the cognitive variables, the most commonly used were consumer value (9 studies; 16 %) and green image (3 studies; 5 %). With respect to the cognitive stage, consumer values were the most commonly used. Tosun and Tavşan (2023) explore the moderating role of consumer values (e.g., idealism; relativism) in shaping individual green responses and perceptions. While their hypotheses were not supported, the study highlights the theoretical interest in how personal moral philosophies may interact with green messaging strategies. Nguyen et al. (2022) demonstrate that authority-based and money-based egoistic values significantly moderate the relationship between environmental information and pro-environmental personal norms. Specifically, authority-based egoistic values negatively moderate the effect of action-related information but positively moderate effectiveness-related information. In contrast, money-based egoistic values positively moderate action-related information but negatively moderate effectiveness-related information. These results highlight the nuanced and differentiated role of egoistic values in shaping the impact of environmental messaging. Bedard and Tolmie (2018) tested Hofstede's cultural dimensions as moderators and found that femininity–masculinity significantly moderated the relationship between social media influence and green purchase intentions, with feminine cultures strengthening this link. In contrast, individualism–collectivism did not show a significant moderating effect. With respect to the affective stage, Lavuri (2022) shows that environmental protective emotions moderate the relationship between green attitudes and organic green purchase intentions. Interestingly, this emotional moderator weakens the positive effect, suggesting that even when consumers hold favourable attitudes, intense emotional concern may not always translate into stronger green purchase intentions. In the behavioural stage, the role of word-of-mouth, social media usage, and perceived behavioural control proved to be crucial moderators. Specifically, Jaini et al. (2020) found that eWOM strengthened the positive relationship between personal norms and green purchase behaviour. Similarly, Nekmahmud et al. (2022) reported that high social media usage amplified the link between green attitudes and green purchase intention. Furthermore, Wallace and Buil (2023) demonstrated that perceived behavioural control significantly moderated the effect of both environmental concern and attitude on green purchase intentions, suggesting that consumers with stronger perceived control are more likely to translate positive attitudes and concerns into actual purchase

intentions.

5.4. Dependent variables

Finally, the dependent variables were investigated. The analysis revealed that 55 papers (100 % of the sample) adopted variables within the behavioural stage. Specifically, the focus areas are green behaviour in 19 studies (Toni et al., 2018; Lim et al., 2019; Teoh et al., 2022). For instance, Toni et al. (2018) examined green behaviour within the tourism context, operationalising it through self-reported adoption of sustainability practices such as waste separation, water and energy saving, and use of low-emission transport during travel. Lim et al. (2019) examined green behavioural engagement in social media environments, operationalised through platform-specific actions such as liking, sharing, and commenting on green-themed apparel campaigns. Teoh et al. (2022) measured green behaviour through consumers' participation in digital green marketing initiatives, such as engaging with eco-labels, sustainability claims, and environmentally themed content during food purchasing decisions on online platforms. "Other key focus areas include green purchase intention (18 studies) and green consumption intention (7 studies) (Pittman et al., 2021; Kapoor et al., 2023; Pegan et al., 2023; Le et al., 2025). Pittman et al. (2021) measured green purchase intention as the likelihood of purchasing environmentally friendly products after exposure to fear-based or information-based green advertising on social media platforms. Kapoor et al. (2023) investigated green consumption intentions in a digital context by examining how consumers respond to brand transgressions and recovery efforts on social media. Their experimental design assessed how greenwashing and apology strategies affect consumers' willingness to support the brand, highlighting the importance of transparent online communication in shaping green responses. Pegan et al. (2023) examined green consumption intentions within the context of digital environments, analysing how exposure to virtual green influencers on Instagram affects user perceptions and behavioural intentions toward sustainable consumption.

Green brand-related variables were investigated in 6 studies (Guiao and Lacap, 2022; Confetto et al., 2023; Tosun and Tavşan, 2023). Guiao and Lacap (2022) investigated green brand equity in a digital context by analysing consumer interactions on Facebook fan pages of eco-friendly fast-food brands. They found that green brand image positively influenced brand equity, with brand loyalty and awareness emerging as the strongest dimensions. Similarly, Confetto et al. (2023) investigated green brand engagement among Italian Millennials, operationalised through likes and comments on Instagram posts. Their experimental findings revealed that narrative and aesthetically rich green storytelling significantly enhanced perceived brand authenticity and emotional brand connection in a digital context.

Next, eWOM was present in 4 studies (Salem and Alanadoly, 2021; Huy et al., 2022; Risitano et al., 2023; Almansour, 2025). For instance, Salem and Alanadoly (2021) operationalised eWOM intention through consumers' likelihood to share positive or negative comments about eco-friendly fashion brands on social media platforms, following exposure to green advertising appeals. Risitano et al. (2023) examined eWOM in digital environments by analysing how green consumption values influence consumers' likelihood to share brand-related content online. The study revealed that green values significantly predict positive eWOM intentions through enhanced brand engagement and trust. Almansour (2025) examined eWOM as a dependent variable in the form of consumers' willingness to share environmentally friendly brand information with others, particularly through digital platforms. The study operationalised eWOM with the intention of recommending and disseminating green product information online, finding that this behaviour is significantly mediated by green purchase intentions and driven by environmental concern.

Finally, value co-creation was investigated in one study (Zhao et al., 2023). Zhao et al. (2023) conceptualised value co-creation as consumer participation in online green brand communities, where interactive behaviours such as commenting, liking, and co-developing green ideas contributed to perceived value, highlighting digital engagement as a driver of sustainable value generation. This breakdown demonstrates a predominant focus on consumer behaviours related to environmental consciousness, reflecting an evolving trend in recent years. In line with Holbrook and Hirschman's (1982) consumer decision-making framework, we classified intentions, such as green purchase intention or intention to eWOM, within the behavioural stage. This approach is consistent with how the reviewed studies conceptualised intentions as outcome variables and reflects common practice in the cognitive-affective-behavioural literature (e.g., Bedard and Tolmie, 2018; Salem and Alanadoly, 2021; Pegan et al., 2023), where intentions represent the final phase in the psychological progression toward action. Furthermore, challenges in measuring these variables, such as the indirect impact of green behaviours on long-term consumer decisions and the difficulty in quantifying eWOM, are acknowledged. Collectively, these studies aim to delve deeper into understanding and evaluating the complex dimensions of consumer behavioural decisions in the context of green sustainability.

6. Methodology

Methodology represents the nature of the empirical evidence upon which studies are predicated. This review considers two major attributes that characterise the 67 articles under investigation: research methods and analytic techniques. In examining the literature's methodology, we analysed 67 empirical studies, categorising them by their research approach (qualitative or quantitative) and the analytical techniques employed to explore the pertinent relationships. Table 6 summarises the findings.

6.1. Research methods

Our review highlights that quantitative methods are predominant in the field, with 55 articles employing them, compared with 11 studies that adopt a qualitative methodology. Additionally, one study used mixed methods. The most commonly adopted data collection technique

Table 6
Research approach and methods in green consumer behaviour in digital environment research.

Research approach and methods	No. of articles	Exemplary studies
Quantitative approach	**55**	
Structural equation modelling (CB SEM = 25, PLS-SEM = 12)	37	Toni et al. (2018); Zhao et al. (2019); Amoako et al. (2020); Sun and Wang (2020); Risitano et al. (2023); Almansour (2025); Le et al. (2025); Nazish et al. (2025)
Regression analysis (hierarchical = 2, logistic = 1, multiple = 3, OLS = 2)	8	Hynes and Wilson (2016); Bedard and Tolmie (2018); Chen et al. (2022)
Experiment (Single = 3, Multiple = 3)	6	Lim et al. (2019); Pittman et al. (2021); Kapoor et al. (2023)
Cluster Analysis	2	Lazaric et al. (2020); Graciano et al. (2022).
Multi-Agent Models	1	Marco and Wander (2002)
Binary Probit Model	1	Simeone and Scarpato (2020).
Qualitative approach	**11**	
Thematic analysis	6	Cairns et al. (2022); Jasrotia et al. (2023); Seyfi et al., (2023a).
Ethnographic	2	Casey et al. (2017); Hoelscher and Chatzidakis (2021).
Content Analysis	1	Lee (2017)
Semantic Analysis	1	Serrano et al. (2021)
Case Study analysis	1	Palakshappa and Dodds (2020).
Mixed method	**1**	McLelland et al. (2022)
Total of the articles	**67**	

was the survey. In particular, surveys were conducted online with stratified random sampling (Risitano et al., 2023; Zhao et al., 2023) via platforms such as Prolific (Kapoor et al., 2023) or face-to-face (Salem and Alanadoly, 2021; Tosun and Tavşan, 2023). In most cases, the sample consisted of a heterogeneous group of consumers. However, in some instances, convenience samples, such as students (Hynes and Wilson, 2016) or respondents from mall centres (Amoako et al., 2020), were used. In most cases, they were distributed online (Verma, 2017; Jaini et al., 2020), and in only a few instances, the authors printed and disseminated them themselves (Ali, 2021). Surveys were predominantly analysed using statistical models such as structural equation modelling (SEM) or regression, and therefore provide correlational rather than causal insights. Only a small subset of studies (e.g., Zhao et al., 2023) employed experimental designs, which are better suited to establishing causal relationships between variables. Subsequently, interviews were used in 6 studies (Simeone and Scarpato, 2020; Cairns et al., 2022). Other methodologies employed to collect data included ethnography studies (Casey et al., 2017; Hoelscher and Chatzidakis, 2021), firm observations (Chen et al., 2022), and focus groups (Jasrotia et al., 2023).

6.2. Analytics methods

In this field, researchers use various analytic methods. In our review, since the majority of the studies in our sample were quantitative, structural equation modelling (SEM) was revealed to be the most frequently used method. Specifically, some studies adopted covariance-based structural equation modelling (CB-SEM) (Nguyen and Nguyen, 2020; Robichaud and Yu, 2022; Kumar et al., 2023; Le et al., 2025), whereas others preferred to use partial least squares structural equation modelling (PLS-SEM) (Dimitrova et al., 2022; Nekmahmud et al., 2022; Risitano et al., 2023; Nazish et al., 2025). Regression analysis is another method that is often used. In particular, multiple linear regression (Zhao et al., 2023), logit/logistic regression (Lazaric et al., 2020), stepwise regression (Verma, 2017) and two-step hierarchical regression (Pegan et al., 2023) were used to explain how green consumer behaviour can be influenced by digital usage. In experimental studies, ANCOVA/ANOVA was often used as a method (Lim et al., 2019; Danner and Thøgersen, 2022). In addition to conventional methods, a few studies employed other techniques, such as factor and cluster analysis (Graciano et al., 2022), latent class multinomial logit (Danner and Thøgersen, 2022), and multi-agent models (Marco and Wander, 2002). Our sample also included qualitative studies in which the authors primarily used content analysis (Hoelscher and Chatzidakis, 2021), thematic analysis (Jasrotia et al., 2023), and sentiment analysis (Serrano et al., 2021).

7. Discussion and directions for future research

Sustainability and digitalisation are key topics in research literature, businesses, and governments (Broccardo et al., 2023). Indeed, numerous initiatives have been aimed at reducing environmental impact by intersecting with the new interests of consumers, who are increasingly connected in this digitally defined world (Zhao et al., 2019; Xu et al., 2022; Risitano et al., 2023). However, it is evident that the literature lacks a holistic view, resulting in fragmented knowledge (White et al., 2019). To facilitate an understanding of the current state of the literature, this review offers an overview of research on green behaviour in the digital environment, highlighting the evolving landscape of green consumer behaviour in the digital environment.

Our analysis underscores the critical role of digital media (e.g., social media) in shaping and influencing consumer decisions towards sustainable practices. As companies increasingly adopt digital marketing strategies to promote green products, these platforms not only enhance brand visibility but also foster consumer engagement by facilitating the exchange of information, feedback, and reviews (Sun and Wang, 2020; Nekmahmud et al., 2022; Tan et al., 2022). This interaction between consumers and digital platforms has proven to be instrumental in building trust and authenticity, which are key drivers of green consumer behaviour (Sun and Wang, 2020; Seyfi et al., 2023a).

Through a systematic literature review, we analysed the literature in this research area. The process began with a sample of 936 scientific articles across various fields and contexts (911 articles through the research and 11 added with citation search). Through the analysis, we selected 67 articles that focused specifically on green behaviour in digital environments within the fields of business, management, and accounting. The journal that emerged as the largest contributor was the Journal of Cleaner Production, followed by the British Food Journal, the Journal of Business Ethics and other key journals. Furthermore, following the guidelines of previous reviews (Paul and Rosado-Serrano, 2019), a detailed analysis was proposed to understand the theories used in the studies, the examined contexts and their characteristics, and the methodologies adopted to investigate the relationships. Moreover, the review reveals significant variations in the focus of the research across different industries, with the food, fashion, and tourism sectors receiving the most attention (e.g. Simeone and Scarpato, 2020; Salem and Alanadoly, 2021; Danner and Thøgersen, 2022). This suggests a growing recognition in these industries of the impact of consumer behaviour on environmental sustainability (Gotlieb, 2019; White et al., 2019; Danner and Thøgersen, 2022). The global distribution of the research, which is predominantly concentrated in Asia, Europe, and the United States, indicates a regional focus that may limit the generalizability of the findings. Furthermore, the overreliance on quantitative methods, particularly surveys and structural equation modelling, indicates the need for a broader methodological approach, including qualitative and experimental studies, to capture the nuanced and dynamic nature of green consumer behaviour (Almansour, 2025; Le et al., 2025; Nazish et al., 2025). The integration of various theoretical frameworks, such as the theory of planned behaviour, social cognitive theory, and lifestyle politics theory, demonstrates the complexity of understanding green consumer behaviour in digital environments (Ch et al., 2021; Nguyen and Nguyen, 2020; Wallace and Buil, 2023; Zhao et al., 2023; Seyfi et al., 2023a). To provide a comprehensive overview of the existing knowledge, the author proposed a framework that graphically summarises the findings (see Fig. 2). This framework elucidates the concepts that are crucial for understanding the current literature on green consumer behaviour in digital environments. It includes the most frequently used theories, relevant methodologies, and the contexts in which these constructs are investigated. Starting with the TCCM, it was possible to map the literature according to the various levels, as follows: a) The business contexts in which the topic was studied (e.g., the food industry, the fashion industry) were highlighted. b) The variables used in the selected papers were analysed and coded according to their level in the decision-making process (i.e., pre-decision-making, decision-making, and post-decision-making). The variables were further categorised to highlight the stage of the response system impacted by the variables (i.e., cognitive, affective, and behavioural) according to Holbrook and Hirschman (1982). Notably, some variables are considered multipaths, meaning that they can be represented in two or more stages (e.g., an emotion (affective) can impact both predecision-making and decision-making). Furthermore, the post-decision-making stage is characterised primarily by behavioural information, as the consumer is at the point of usage, consumption, intention to share with others, etc. (Holbrook and Hirschman, 1982; Kowalczuk et al., 2021; Viglia et al., 2023). The arrow indicates that the process is iterative, meaning that after postdecision-making, the consumer journey can start again by reevaluating newly acquired information. c) The TCCM framework allowed for understanding which variables can moderate the effects classified by the response system. d) The main theories presented in the literature were highlighted. e) Empirical analyses and key methods were reported.

Starting from what is present in the literature and how it has been approached, this review offers insights for future research for the advancement of the field. This review not only maps the current state of research on green consumer behaviour in digital environments but also

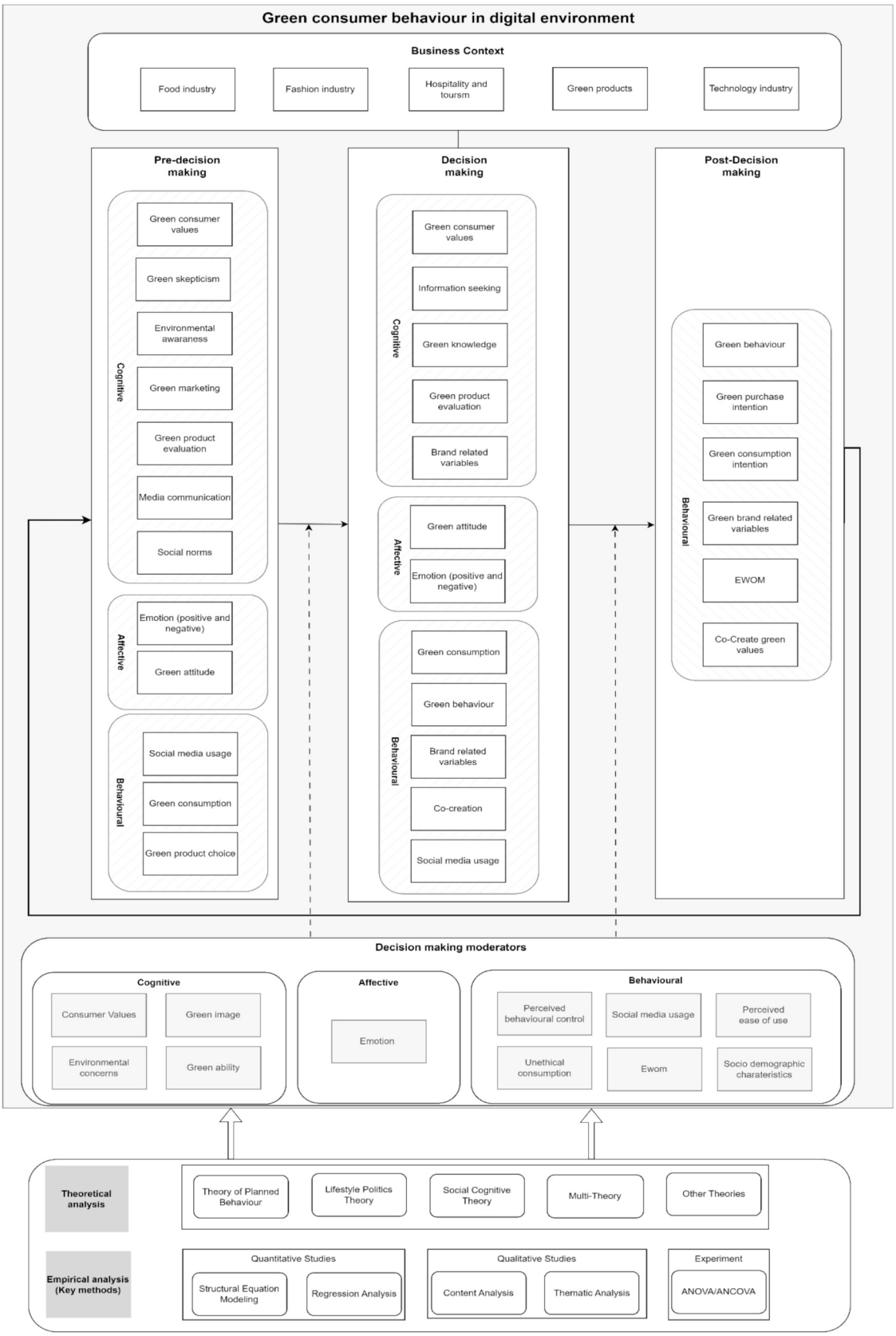

Fig. 2. Green consumer behaviour in the digital environment: Mapping existing literature. **Note***: Variables appearing in multiple decision-making stages reflect their multipath nature.*

identifies key gaps and future research directions. By addressing these gaps, future studies can contribute to a more comprehensive understanding of the intersection between digital engagement and sustainability, ultimately guiding businesses and policy-makers in fostering greener consumer practices.

In the following paragraphs, following the protocol, new research ideas are proposed, distinguishing among theory, context, characteristics, and methodology. By offering research directions in which many studies can be elaborated, it is important to note that presenting research questions could be limiting.

7.1. Theoretical directions for future research

The theories used in studies on green consumer behaviour in digital settings are wide and diverse, with many scholars opting for multidimensional theoretical approaches (e.g., Zhao et al., 2019). However, there are significant theoretical gaps in this research area in terms of comprehensiveness, depth, and levels of analysis. This has made it clear that the application of theories to understand digital consumer behaviour and sustainability is often tentative. The theoretical underpinnings are either lacking or relatively superficially examined in numerous cases. For example, while some research rigorously utilizes theories such as the theory of planned behaviour (e.g. Kumar et al., 2023; Amoako et al., 2020; Teoh et al., 2022) and lifestyle politics theory (Seyfi et al., 2023a; Seyfi et al., 2023b), others lack a clear theoretical foundation and instead rely on empirical observations without theoretical support (Khare et al., 2022; Singh et al., 2022; Nayyar, 2023; Vergura et al., 2023). While our analysis identifies a lack of robust theoretical underpinnings in some studies, it is important to acknowledge that this may reflect an "empirics-first" approach to knowledge generation rather than a theoretical deficiency. As Golder et al. (2023) argue, empirics-first research—which originates from real-world phenomena, involves data analysis, and produces valid insights without necessarily testing theory—can be a valuable pathway to knowledge creation, particularly in emerging or rapidly evolving domains like green consumer behaviour in digital environments. Several studies in our review (e.g., Gong et al., 2022; Risitano et al., 2023) exemplify this approach by starting with empirical observations of digital consumer interactions with green content and deriving insights that could later inform theory development. This empirics-first approach is especially relevant in the digital marketing context, where novel data sources and methods can reveal consumer behaviours that existing theories may not adequately explain. Future research could benefit from explicitly recognising theory and empirics-first approaches as complementary paths to advancing knowledge in this field.

While several studies in our review employed traditional theoretical frameworks such as the Theory of Planned Behaviour and Social Cognitive Theory, we also observed recurring themes related to consumers' active use of digital media—especially social media—for information, social signalling, and identity expression (Han et al., 2018; Simeone and Scarpato, 2020). These behaviours suggest that many digital interactions are not merely passive but reflect specific motivations and gratifications sought by consumers (Gummerus et al., 2017; Confetto et al., 2023). This observation indicates the potential relevance of communication-based theories that can better capture the dynamic nature of digital engagement in the sustainability domain.

In light of these observations, uses and gratifications theory (UGT) (Katz et al., 1973) emerges as a particularly relevant framework for future research. UGT, which originated in the field of communication science, offers an in-depth perspective on why and how consumers actively interact with specific media to satisfy specific needs (Boudkouss and Djelassi, 2021). UGT promotes customers' proactive participation as they seek fulfilment through media interaction (Ruggiero, 2017; Qin, 2020). As a result, this theory may provide a new perspective on the complex interplay among consumers, digital channels, and sustainability, thereby addressing the theoretical gaps identified in this analysis. Future studies may explore several aspects of green consumer behaviour in digital contexts via UGT. This would involve investigating how consumers prefer specific types of digital media according to their environmental interests, as well as how these platforms respond to their sustainability-related needs and gratifications. Examining the relationship between the intensity of media consumption and the adoption of green practices, for example, can demonstrate how digital involvement translates into concrete sustainable behaviours. Notably, the literature emphasises the importance of utilitarian, hedonic, sensual, social, and self-expressive gratifications in shaping consumer intentions (Rauschnabel, 2018; Boudkouss and Djelassi, 2021). These gratifications influence how consumers interact with digital media, particularly in the context of green consumer behaviour. Understanding these elements is critical for developing digital experiences that effectively engage consumers while also encouraging green behaviours. Additionally, exploring the distinction between utilitarian and hedonic gratifications within UGT can elucidate whether consumers are driven more by practical benefits or emotional rewards when interacting with green content online. Furthermore, UGT may direct research towards the long-term influence of digital media interaction on long-term green consumer behaviour. This entails determining whether continuous exposure to sustainability-related content through digital media leads to a more profound and long-term commitment to green behaviours. These insights could be valuable in developing digital marketing strategies to encourage green consumption, ensuring that the content matches the gratifications desired by green consumers (do Paço et al., 2019; Risitano et al., 2023).

7.2. Contextual directions for future research in social influence research

With respect to the contexts investigated, this review emphasises that studies on green behaviours in the digital environment are focused on specific industries (e.g., food, fashion, hospitality and tourism). Many industries where sustainability is a key factor are underinvestigated in the literature. For example, the automotive sector, where the attention of many stakeholders is on sustainability, is analysed in only one study (Risitano et al., 2023). The automotive industry is making its products increasingly sustainable to meet market needs and the new interests of green consumers (McKinsey, 2021). Another gap that emerged from the contextual analysis of the literature is the limited exploration of certain consumer segments and product categories. While industries such as food, fashion, and tourism were well represented, we observed a lack of focus on sectors where consumption is often driven by symbolic, emotional, or hedonic motivations (Robichaud and Yu, 2022; Simeone and Scarpato, 2020; Orea-Giner and Fusté-Forné, 2023). This absence is particularly notable in the luxury sector, which was not represented among the studies identified in our review. As a category typically associated with hedonic consumption and status signalling, luxury products present a unique challenge for sustainability research. This opens an opportunity to examine whether and how green values influence consumer decision-making in high-involvement or status-oriented domains. Future research could analyse how strong green values reduce consumers' responsiveness to conventional luxury appeals and whether digital media—particularly sustainability framing and influencer cues—can shift perceptions toward environmentally responsible luxury purchases.

Additionally, this review shows that studies on green behaviour in digital environments are predominantly conducted in Europe (e.g., Italy) and Asia (e.g., India and China), whereas research on the American continent is limited. Given that North America comprises highly digitalised and developed markets, there is an urgent need for additional research on this topic. Similarly, in Latin America, where sustainability is a key concern, more research is expected. Future studies should investigate the antecedent drivers and consequences of green behaviour in various markets to generalise the results and understand how cultural, technological, and contextual differences can influence the system.

Cross-cultural studies are limited (e.g., Lee, 2017), so future research should explore how individual values (Schwartz, 2012) can be crucial in understanding green behaviours and the extent to which consumers are willing to make monetary, time, and research efforts for products and services that have a lesser environmental impact.

This topic is particularly important as digital media and involved actors (e.g., green influencers) can alter consumer values, pushing them towards green practices. Consequently, interest in this topic has led academics to observe the scarcity of studies in this area, resulting in several calls for papers. The Journal of Business Research recently published a call for papers on influencer marketing and its implications for consumers and society, with a focus on sustainability. Similarly, the Journal of Marketing Analytics has opened a special issue concerning how digitalisation and sustainability affect consumers, firms, and policymakers.

7.3. Characteristic directions for future research

This study demonstrates that research on green behaviour in digital environments is undertaken via diverse approaches, employing explanatory factors that examine the consumer decision-making process at various stages. The study identified cognitive, affective, and behavioural factors, as well as their functions as independent variables, mediators, moderators, and dependents. The review reveals that the majority of variables are consumer-related (Pegan et al., 2023), with fewer studies investigating brand-related elements (McLelland et al., 2022). Future studies might look into ways to use brand image, knowledge, and trust to push consumers to buy green products. Furthermore, studying the dynamic interaction between digital media strategies and green consumer values may provide insights into effective green marketing practices. This could involve examining how digital marketing campaigns, platforms, and content creation influence consumer perceptions and behaviours towards green products. Furthermore, the role of green influencers in the purchasing process and their relevance under different brand values could be fruitful areas of study. Another potential research direction could involve understanding how widely popular media phenomena can motivate and generate green behaviours among consumers. The review's results emphasise the frequent use of green consumer values as antecedents in research (e.g Risitano et al., 2023). Future studies could analyse constructs to understand how to generate or modify green values in consumers who currently do not consider environmental protection in their purchases. Given that green behaviour is an ethical topic, adopting behavioural variables as dependent variables could lead to data falsification, as interviewed consumers might alter their responses to appear more "ethical" (Gifford and Nilsson, 2014). In light of the evolving digital landscape, future studies should investigate how emerging technologies such as augmented reality, virtual reality, and artificial intelligence can be used to enhance green consumer engagement and experiences. This could include studying the effectiveness of these new technology applications in creating immersive and interactive experiences that educate and motivate consumers about sustainable practices. While our review identified several gaps and opportunities for future exploration, it also uncovered theoretical tensions and empirical ambiguities that warrant targeted replication. For instance, studies on consumer trust toward green brand messaging via digital media reported varied and context-sensitive outcomes, raising questions about generalizability and theoretical robustness (e.g., Luo et al., 2020; Lavuri, 2022; Singh et al., 2022). Future studies might look into ways to use brand equity, knowledge, and trust to push consumers to buy green products (Sun and Wang, 2020; Risitano et al., 2023). Moreover, the role of green scepticism merits deeper exploration, specifically to understand if and how it is moderated or mediated by consumers' existing green knowledge or their internalised green values (e.g., Haws et al., 2014; Luo et al., 2020; Singh et al., 2022). Such studies could clarify whether increasing consumer education or reinforcing green values through digital channels can reduce scepticism and enhance trust toward sustainable product offerings (Hynes and Wilson, 2016; Dimitrova et al., 2022). Following the recommendations from Isager et al. (2023), targeted replication studies addressing these ambiguities could solidify the boundaries and explanatory power of the theoretical frameworks reviewed, thus enhancing both theoretical clarity and managerial relevance.

7.4. Methodological directions for future research

In conclusion, regarding the methodologies adopted in the field, there is a clear predominance of quantitative studies. Data are often collected through surveys or questionnaires and subsequently analysed via techniques such as SEM and regression analysis (e.g., multiple regression; logit regression) (e.g. Almansour, 2025; Le et al., 2025; Nazish et al., 2025). Few studies have utilised experiments, leaving the hypothesis open for future research to adopt this type of methodology (e.g. Lim et al., 2019; Pittman et al., 2021; Kapoor et al., 2023). Future research could use experiments to better understand whether the decisions of green consumers can be influenced in the digital environment and whether these decisions translate into real-world purchase decisions. Specifically, using a randomised controlled experiment for testing in digital environments or controlled laboratory experiments could be used to isolate and measure specific factors influencing green consumer decisions. Additionally, conducting longitudinal studies to determine whether certain strategies and/or digital practices have developed or created green values in consumers who previously did not possess them could be useful for verifying the effectiveness of such strategies. In these longitudinal studies, a focus on tracking the presence of green values and behavioural changes over time is crucial. This could involve monitoring changes in purchasing habits, consumption patterns, and digital engagement related to green products. Qualitative studies made up a smaller portion of the sample in this review (Hoelscher and Chatzidakis, 2021; Jasrotia et al., 2023). Through content analysis of the social media of a green influencer, consumers can be tracked over time to see how and if their behaviour changes, especially those who initially appear to be less green. Expanding this approach to include a broader range of digital influencers, not only green influencers, could yield insights into the comparative impact of different types of influencers on consumer attitudes and behaviours. With advanced techniques and tools, sentiment analyses could be conducted to identify latent constructs in consumers. The use of natural language processing techniques for sentiment analysis could provide a more nuanced understanding of consumer sentiment and attitudes towards green products in the digital environment. Furthermore, integrating big data analytics and machine learning algorithms could enhance the analysis of consumer behaviour patterns in digital environments. Predictive modelling based on customer interactions with digital platforms such as e-commerce websites, forums, and different types of social media could provide an in-depth perspective on consumer behaviour. A summary of future research directions is presented in Table 7.

8. Implications of the study

This study has several important implications for both academics and practitioners. First, by employing the TCCM framework and analysing green consumer behaviour in digital environments, this study contributes to a deeper theoretical understanding of how digital platforms influence green consumer decisions. Second, the study highlights the need for cross-disciplinary approaches that integrate insights from environmental psychology, digital marketing, and consumer behaviour. This integration is crucial for developing more comprehensive theories that can address the complexity of green consumer behaviour in the digital age. By mapping the relevant literature, this study identifies key gaps in current research, particularly in underexplored industries such as the automotive and luxury goods sectors. These gaps present opportunities for future research to develop more targeted theoretical models that can

Table 7
Future research directions based on the TCCM framework.

TCCM Dimension	Key gaps	Suggestions for Future Research
Theory (T)	- Utilization of diverse theoretical frameworks such as the Theory of Planned Behaviour and Lifestyle Politics Theory. - Issues with superficial applications and inconsistent theoretical foundations.	- Explore Uses and Gratifications Theory to examine proactive consumer interactions with digital media. - Integrate Technology Acceptance Model to investigate how perceived usefulness and ease of use influence the adoption of digital platforms for sustainable products. - Utilize Value–Belief–Norm to explore how personal values, environmental beliefs, and perceived norms drive sustainable purchasing decisions in digital environments. - Investigate the long-term effects of sustained digital engagement on consumers' sustainability practices and lifestyle choices.
Context (C)	- Research predominantly focuses on food, fashion, and tourism industries. - Geographic concentration in Europe and Asia with limited studies in the Americas.	- Broaden studies to include underresearched industries like automotive and luxury goods, identifying specific sustainability challenges and opportunities. - Conduct comprehensive cross-cultural studies to analyse how cultural factors influence the effectiveness of digital green marketing across different regions.
Characteristic (C)	- Studies emphasize cognitive, affective, and behavioural dimensions. - Consumer values frequently investigated as antecedents to behaviour. - Limited focus on brand-related factors.	- Investigate the influence of brand image and consumer trust on purchasing green products. - Assess the effectiveness of green marketing strategies and the role of green influencers. - Investigate specific brand equity elements like brand associations and perceived quality in driving green purchasing decisions
Methods (M)	- Predominance of quantitative methods such as surveys and structural equation modelling. - Few experimental or longitudinal studies employed.	- Utilize controlled experiments to isolate the effects of specific digital marketing strategies on consumer green behaviour - Utilize longitudinal studies to track changes in green values and behaviours over time.

explain green consumer behaviour across different contexts.

The findings of this study provide valuable insights for marketers and businesses seeking to engage with green consumers. Understanding the critical role of digital platforms in shaping sustainable consumer behaviour can help companies design more effective digital marketing strategies that not only promote green products but also build brand trust with their target audience. Businesses can leverage the study's insights to refine their digital marketing strategies, focusing on social media engagement, consumer feedback mechanisms, and the promotion of transparency in green branding. These strategies are essential for fostering consumer trust and driving sustainable purchasing behaviours.

Finally, this study can aid policy-makers in understanding how digital platforms can be harnessed to promote sustainable consumption on a broader scale. By recognising the factors that influence green consumer behaviour, policy-makers can develop targeted initiatives that encourage sustainable practices, such as digital campaigns that raise awareness about the environmental impact of consumer choices.

9. Limitations and conclusions

This work provides a comprehensive analysis of green consumer behaviour in digital environments; however, there are inherent limitations that future research should address to enhance understanding in this field. First, the systematic literature review was limited to the SCOPUS database. While SCOPUS offers extensive coverage, it does not encompass all available publications, particularly those from journals not indexed within its system. Future studies could improve the breadth and depth of the review by incorporating additional databases such as EBSCO, Web of Science, and Google Scholar, thus capturing a more diverse array of studies and potentially uncovering new insights. Second, the scope of the research was confined to the business, management, and accounting fields. This focus, while necessary for maintaining thematic coherence, may have excluded pertinent interdisciplinary contributions from areas such as environmental science, sociology, and information technology, which also examine aspects of green consumer behaviours. Future reviews could benefit from a broader interdisciplinary approach, integrating insights from economics, environmental studies, and social sciences to provide a more holistic view of the factors influencing green consumer behaviour.

Third, despite efforts to construct a rigorous and inclusive search string based on established SLR protocols, some relevant studies may have been inadvertently excluded due to limitations in keyword selection. While the query was updated to account for both British and American English and covered a wide range of terms, it may not have captured all the terminology used across diverse research areas. To mitigate this limitation, a backward and forward citation search was conducted, resulting in the inclusion of 11 additional papers that aligned conceptually with the scope of the review. Nonetheless, the exclusion of studies due to keyword or indexing limitations remains a constraint. Future research should consider revising and expanding the keyword list to cover a broader range of terminology. Including a variety of document types and employing more inclusive selection criteria would enrich the findings and provide a more comprehensive understanding of the field.

Moreover, some specific topics, such as green influencer marketing, emerged during the review process, even though they were not part of the initial research scope or search string design. While these themes may hold growing relevance in the context of green digital marketing, retroactively expanding the inclusion criteria would have compromised the systematic rigor of the study. Future reviews could explicitly incorporate these and other emerging dimensions to enrich the field further.

This paper thoroughly analyses academic studies on green consumer behaviour in the digital environment. The key findings reveal that consumers are increasingly influenced by digital marketing strategies in their sustainable choices, highlighting the importance of digital engagement in promoting green behaviour. Employing a methodology that allows for an in-depth understanding of the phenomenon identified gaps in the research and offered reflections on future research directions. This approach opens new avenues for developing knowledge of the analysed phenomenon in the future. Specifically, gaps were identified at both the theoretical and empirical levels by analysing in detail the relationships between constructs and the contexts of their study/application, thereby offering solutions and approaches for future use. One notable theoretical gap is the need to integrate more interdisciplinary approaches, combining insights from environmental psychology, digital marketing, and consumer behaviour theories. In addition to its numerous theoretical analyses, this paper also provides valuable insights for managers. The findings underscore the importance of companies determining how marketing strategies must adapt to digital

channels to effectively engage consumers and better understand their needs. In a constantly evolving digital landscape, it is essential to proactively embrace the future by developing solutions that leverage cutting-edge technologies like artificial intelligence and virtual reality to address specific industry challenges.

CRediT authorship contribution statement

Giuseppe La Ragione: Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Marcello Risitano:** Writing – review & editing, Supervision.

Appendix

1. Ali (2021)
2. Almansour (2025)
3. Amoako et al. (2020)
4. Bedard and Tolmie (2018)
5. Cairns et al. (2022)
6. Casey et al. (2017)
7. Ch et al. (2021)
8. Chen et al. (2022)
9. Chi (2021)
10. Choudhary et al. (2019)
11. Codini et al. (2018)
12. Confetto et al. (2023)
13. Danner and Thøgersen (2022)
14. Di Iorio et al. (2023)
15. Dimitrova et al. (2022)
16. Ghaffar et al. (2023)
17. Gong et al. (2022)
18. Graciano et al. (2022)
19. Guiao and Lacap (2022)
20. Gummerus et al. (2017)
21. Han et al. (2018)
22. Haucke (2018)
23. Hoelscher and Chatzidakis (2021)
24. Hoffmann et al. (2022)
25. Huy et al. (2022)
26. Hynes and Wilson (2016)
27. Jaini et al. (2020)
28. Jasrotia et al. (2023)
29. Kapoor et al. (2023)
30. Khare and Kautish (2021)
31. Khare et al. (2022)
32. Kumar et al. (2023)
33. Lavuri (2022)
34. Lazaric et al. (2020)
35. Le et al. (2025)
36. Lee (2017)
37. Lim et al. (2019)
38. Luo et al. (2020)
39. Marco and Wander (2002)
40. McLelland et al. (2022)
41. Nayyar (2023)
42. Nazish et al. (2025)
43. Nekmahmud et al. (2022)
44. Nguyen and Nguyen (2020)
45. Nguyen et al. (2022)
46. Orea-Giner and Fusté-Forné (2023)
47. Palakshappa and Dodds (2020)
48. Pegan et al. (2023)
49. Pittman et al. (2021)
50. Risitano et al. (2023)
51. Robichaud and Yu (2022)
52. Salem and Alanadoly (2021)
53. Serrano et al. (2021)
54. Seyfi et al. (2023a)
55. Seyfi et al. (2023b)
56. Shen et al., 2021)
57. Simeone and Scarpato (2020)
58. Singh et al. (2022)
59. Sun and Wang (2020)
60. Tan et al. (2022)
61. Teoh et al. (2022)
62. Toni et al. (2018)
63. Tosun and Tavşan (2023)
64. Verma (2017)
65. Wallace and Buil (2023)
66. Zhao et al. (2019)
67. Zhao et al. (2023)

Data availability

No data was used for the research described in the article.

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