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Determinants of green consumption: a systematic literature review using the TCCM approach

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Introduction: Over the past decade, there has been growing research into the consumption of environmentally friendly products, driven by heightened environmental concerns and a shift towards more conscientious purchasing. Despite generally favorable attitudes towards green products, actual purchase rates remain low, creating a gap between attitudes and behavior. Existing studies present a mixed picture, with some findings conflicting and others consistent, underscoring the need for a thorough review of the literature on green consumption. This study aims to assess the existing literature on green consumption by examining major theoretical frameworks, socio-demographic characteristics, and geographic contexts of green consumers, as well as the most studied product categories. It also explores the antecedents and consequences of green product purchases, the mediators and moderators affecting these relationships, and the methodologies used by scholars in this field.

Methods: Using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) and TCCM (Theory-Context-Characteristics-Methodology) frameworks, the study systematically searches, selects, and synthesizes relevant data, providing a comprehensive mapping of research. This approach allows for a critical evaluation of theoretical foundations, diverse contexts of green consumption, key variables, and the methodologies employed in previous studies.

Results and discussion: The findings indicate that social psychology theories are prevalent in green consumption research and highlight the need to expand the field's theoretical base. By identifying underexplored product categories, socio-demographic groups, and geographic regions, marketers can more effectively target new segments. The review also identifies major enablers and barriers to green product purchases and suggests further investigation into underexplored variables to develop more effective marketing strategies. To advance the study of consumer behavior regarding green products, the review advocates for the use of mixed-method and qualitative approaches. This comprehensive approach is essential for gaining a deeper understanding of consumer behavior and improving strategies to promote green purchasing and enhance market penetration.

KEYWORDS

green consumption, consumption, eco-friendly product, sustainable behavior, collaborative consumption, sustainable fashion consumption, organic food consumption

1 Introduction

Green consumption refers to the use of products and services that meet basic needs while minimizing harmful environmental impacts, ensuring that future generations can meet their own needs without compromise (United Nations, 1987; Ministry of Environment Norway, 1995). The environmental impact of unsustainable production and consumption habits, combined with the unequal distribution of resources among consumers, necessitates a shift to green consumption (Peattie and Collins, 2009). Green consumption involves using products and services that meet basic needs while minimizing harmful environmental impacts (Ministry of Environment Norway, 1995) However, the concept of green consumption is contentious, as the term "green" connotes the preservation of natural resources, whereas "consumption" is typically associated with their depletion or degradation (Peattie, 2010). Typically, when consumption is discussed, it is in the context of purchasing (Peattie and Collins, 2009). Green products are predominantly purchased by highly educated, young, female consumers with high family incomes (Lazaric et al., 2020; Severo et al., 2021) and good environmental knowledge (Testa et al., 2019). These consumers tend to prioritize social and environmental well-being (Stolz et al., 2013) and exhibit a positive attitude towards eco-friendly products (Laureti and Benedetti, 2018). Nevertheless, many users perceive green products as expensive (Pagiaslis and Krontalis, 2014; Echegaray and Hansstein, 2017), posing a significant barrier to adoption by price-sensitive consumers Wang et al. (2021).

Numerous studies have shown that consumers generally hold a positive attitude toward green products, but their actual purchase remains low (Johnstone and Tan, 2015; Duong, 2022). This inconsistency is referred to as the attitude-behavior gap (Park and Lin, 2020), intention-behavior gap, or green gap (Nguyen et al., 2019). Consequently, the gap poses challenges for the marketing and adoption of green products among a significant portion of the population. Extensive research has identified several drivers of green purchase behavior, such as values (Stolz et al., 2013; Dangelico et al., 2021), attitude (Testa et al., 2019; Nguyen and Nguyen, 2021) subjective norm (Lee et al., 2015; Frommeyer et al., 2022), and others. Various theories and antecedents have been employed to assess green purchase behavior across diverse contexts. However, these studies have produced contradictory findings. For instance, Becker-Leifhold (2018) discovered that egoistic values motivate consumers' green purchase behavior while Septianto and Kemper (2021) found that altruistic value motivates consumers' green purchase behavior. Variability has also been observed within different age groups of consumers. For instance, Islam et al. (2022) found that young consumers are more involved in green purchases, whereas Carrero et al. (2016) reported that older consumers are more involved in green purchases. Additionally, the findings of studies exhibit inconsistency across different product categories. For instance, Ali et al. (2019) concluded that egoistic consumers are more involved in the purchase of eco-friendly cars, whereas Thøgersen et al. (2016) suggested that altruistic consumers are more involved in the purchase of organic food. Considering the wide array of interpretations found in these diverse studies, our objective is to identify the primary drivers and barriers influencing the purchase of green products. The review shall prove beneficial for marketers and researchers in bridging the green gap and effectively targeting their products toward specific segments of the population.

Numerous review papers have been published on the subject; however, the number of analyzed papers and study durations remains limited. For instance, Wijekoon and Sabri (2021) conducted a six-year review to investigate the intention and behavioral drivers of green purchasing, while Testa et al. (2021) focused exclusively on papers to understand drivers of green consumption. Notably, the review excluded experimental and qualitative studies as well as literature centered on organic food. Furthermore, ElHaffar et al. (2020) narrowed their focus to papers with a core green attitude and behavior gap, excluding those addressing reasons and barriers to green behavior. Finally, the study conducted by Sharma K. et al. (2022) analyzed 151 papers to study the intention behavior gap in the purchase of green products. The study lacks a comprehensive analysis of the theories used in the existing literature. The research also omits the consideration of socio-demographic characteristics and has majorly focused on papers with green purchase intention and green purchase behavior potentially limiting insights into the phenomenon under investigation. The present review provides a systematic consolidation of 207 articles focusing on the buying behavior of green consumers from 1993 to 2023. The study uses the Theory-Context-Characteristics-Methodology (TCCM) review framework by Paul and Rosado-Serrano (2019). Given the existing limitations in the literature on green consumption, we aim to address several critical research questions. Specifically, the review focuses on the purchase behavior of green products and seeks to answer the following question:

RQ1: What are the major theoretical frameworks used in the purchase of green products?
RQ2: What are the socio-demographic characteristics and geographic contexts of green consumers, and which product categories have been mostly researched in this context?
RQ3: What are the antecedents and consequences involved in the purchase of green products, and what are the mediators and moderators used in determining the relationship between antecedents and consequences?
RQ4: What methods have been applied by existing scholars to study the purchase of green products?

This study makes several significant contributions to the literature on green consumption. Existing literature on green consumption has predominantly surveyed young, educated, urban, and women consumers, leading to a skewed representation of the sample population and limited variation in the results. To address these gaps, the paper recommends future scholars to incorporate economic theories, theory of basic emotion, and health belief theory in their research. Equal representation of samples from diverse genders, income groups, and educational backgrounds could provide more comprehensive insights into the topic. Furthermore, conducting studies across various product categories will help to map which green products are motivated by specific values. Additionally, exploring rural areas, underdeveloped, and developing countries will assist marketers in tailoring their strategies to target these segments of the population effectively. The subsequent sections of this paper are organized as follows. Section 2 provides an overview of the research methodology applied in the research. Specifically, it delineates the steps involved in the review process, including search strategy, selection criteria, data extraction, and data synthesis. Section 3 provides a summary of the literature review. Section 4 scrutinizes prior studies using the Theory-context-characteristics-methodology (TCCM) framework. Section 5 delineates potential research gaps and

future research directions in this field. Finally, Section 6 offers concluding remarks, contribution, theory-based agenda for future research, and limitations and future research avenues.

2 Research methodology

Following the systematic reviews undertaken by Rosado-Serrano et al. (2018) and Roy Bhattacharjee et al. (2022), we gather the data for this research from Scopus. Scopus and Web of Science are the most popular databases for finding quality journals because of their large collection of academic articles from interdisciplinary domains. Scopus has a wider range of subject areas than the Web of Science, so researchers can better find journals relevant to their interests. Scopus contains more publications than any other database in the fields of Social Sciences, Arts, and Management (Paul et al., 2021).

In the first phase of data collection, we conducted a keyword search in the Scopus database using "green consumption" OR "sustainable consumption" OR "eco-friendly product" OR "green consum*" OR "green purchase." The keywords were searched in the title, abstract, and keywords field under Business, Management, and Accounting categories. The inclusion criteria of this research comprise peer-reviewed academic journals from 1993 to 2023. The period 1993–2023 was chosen because the first article (Lai, 1993) on green consumption was published in 1993. By 2000, only three articles had been published. As shown in Figure 1, the majority (87% of all articles) were published after 2010. The sample was limited to journal articles and excluded book chapters, conference papers, editorials, notes, and short surveys as suggested by (Keupp and Gassmann, 2009). The initial search yielded 1,389 peer-reviewed journal articles. Figure 2 shows the process used to obtain the final journal articles, including the data collection and filtering stages.

In the next phase of data filtration, the study included articles with A and A* ratings from the Australian Business Deans Council Journal ranking list (ABDC ranking) and articles with 4* and 4 ratings from the Chartered Association of Business Schools (CABS ranking list). The selection of high-quality journals was predicated on two reasons, first, the research published in these journals is likely to contain ideas that are carefully examined, thoroughly evaluated, and expanded upon in future studies, second, these journals serve as scholarly evidence and have significant impact on the field (Podsakoff et al., 2005; Sharma N. et al., 2022). The ABDC JQL and the CABS AJG journal rankings are chosen because they are the most popular and reliable sources of journal rankings in the management discipline (Paul and Criado, 2020; Paul et al., 2021). For the final selection, we read the abstracts and titles of the remaining articles and discarded those that were not focused on the buying behavior of green products. The exhaustive research process resulted in a final subset of 207 articles focusing on the buying behavior of consumer.

The study analyzed 207 articles using the Theory-Context-Characteristics-Methods (TCCM) framework. This framework helps examine the theories, contexts, variables, and methodologies employed in existing literature. From this analysis, a conceptual model was developed, highlighting the major variables commonly used in these studies and suggesting additional variables for future research. The paper also identifies research gaps in the current studies, categorized by theory, context, characteristics, and methods according to the TCCM framework. Following the discussion on research gaps, the paper concludes by outlining the study's conclusions, contributions, theory-based agenda for future research, and limitations and future research avenues.

3 Literature review

The first definition of green consumption was given in the Brundtland Report (United Nations, 1987) as consumption that meets the needs of the present without compromising the ability of future generations. Since, the first definition, many definitions of green consumption have emerged. Ministry of Environment Norway (1995), defined green consumption as consumption that involves using products and services that meet basic needs while minimizing harmful

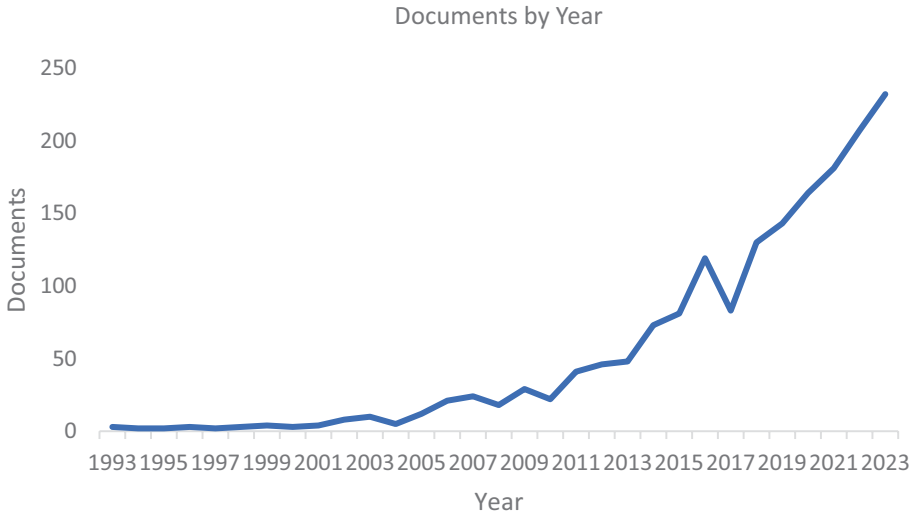

FIGURE 1
Publication trend in green consumption research.

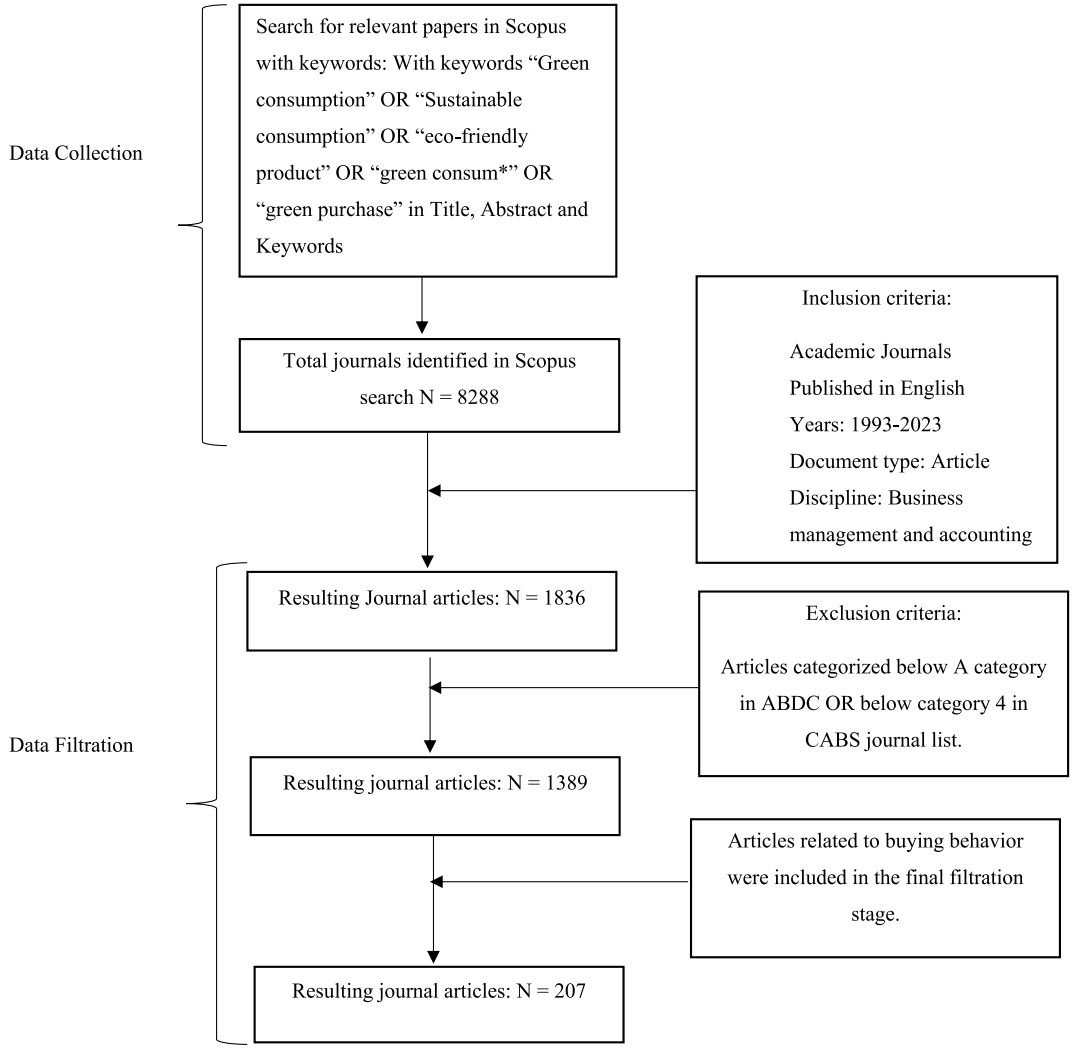

FIGURE 2
Article selection process for the review.

environmental impacts. According to Dolan (2002), green consumption is consumption that seeks to present a solution to address the ecological problems associated with industrial economic production. Likewise, Mont and Plepys (2008), defined green consumption as the type of consumption that not only includes buying environmentally sound products and services but also finding happiness in less material ways of living. Later, Lee et al. (2015), defined green consumption as being environmentally conscious through the consumption (purchase and use) of greener or environmentally friendly products and following anti-consumption and disposal practices of rejecting, reusing, reducing, and recycling. Furthermore, Watkins et al. (2016), defined green consumption as consumption that includes behaviors that extend consideration beyond an individual's green product choices and include value-based behaviors such as vegetarianism, energy conservation, and transportation choices.

However, the concept of green consumption is problematic as green suggests environmental conservation while consumption implies the use of resources (Peattie, 2010). Consumption is the rational satisfaction of needs to maximize the utility (Prothero and Connolly, 2003). It is influenced by various factors and can be seen as an economic, physical, and social process. It is shaped by individual characteristics, such as nature, circumstances, and psychology, as well as societal aspects, including geography, culture, laws, politics, and infrastructure (Peattie, 2010).

The literature on green consumption offers valuable insights about eco-friendly products. Eco-friendly products are environmentally friendly products that are designed to benefit the environment throughout their entire lifecycle, including considerations of raw materials and manufacturing processes (Sun and Yoon, 2022). These eco-friendly products are priced higher and are generally purchased by high-income and well-educated individuals (Laureti and Benedetti, 2018; Lazaric et al., 2020; Kumar and Yadav, 2021). Women and young consumers are more likely to purchase eco-friendly products compared to men (Bulut et al., 2017; Laureti and Benedetti, 2018; Iran et al., 2019; Lazaric et al., 2020; Borau et al., 2021; Yan et al., 2021). Consumers with a green self-identity understand the reciprocal relationship between their activities and the environment (Lin and Niu, 2018; Sharma et al., 2020). This awareness fosters a sense of environmental responsibility (Chen, 2020) and motivates values related to the concern for others and the environment (Kadic-Maglajlic et al., 2019). This eco-friendly attitude

influences their purchasing decision for eco-friendly products (Jacobs et al., 2018).

Family members and peer influence significantly motivate individuals to purchase eco-friendly products (Bhardwaj et al., 2023). Quality is also a guiding factor. High-quality eco-friendly products build trust (D'Souza et al., 2020). Credible production processes further motivate consumers (Ahmad and Zhang, 2020), while ecolabels enhance purchase intention by indicating minimal environmental impact (Chekima et al., 2016).

Some barriers have also been recognized which hinder the purchase of eco-friendly products. High prices deter consumers who prefer to allocate their budget to multiple ordinary products rather than a few expensive ones (Sun et al., 2021). Skepticism towards the environmental claims and greenwashing negatively impacts purchase intention, as misleading claims undermine trust (Mostafa, 2006; Ahmad and Zhang, 2020).

Sustainable behavior refers to decision made to benefit the environment or minimize the negative effect on it (Trudel, 2019). These behaviors are called by many other names like pro-environment behavior, environment-friendly behavior, green behavior, sustainable behavior, responsible behavior, and conservation behavior (Osbaldiston and Schott, 2012). Sustainable behavior includes a wide range of activities like energy conservation, waste reduction, recycling, green purchase, sustainable transportation, water conservation (Kollmuss and Agyeman, 2002).

The existing literature identifies numerous enablers and barriers influencing the purchase of eco-friendly products, yet none offers a comprehensive analysis of the contradictory findings regarding these factors. This research aims to provide a holistic review of existing studies, synthesizing their findings to identify major factors that influence both the purchase behavior and purchase intentions of green products.

4 Analysis of the existing literature based on the theory-context-characteristics-methods framework

The present study undertakes a systematic review of the extant literature on green consumption by employing the theory-context-characteristics-methods (TCCM) framework proposed by Paul and Rosado-Serrano (2019). TCCM is a comprehensive mapping of research, allowing for critical evaluation of theoretical foundations, diverse contexts of green consumption, key variables within the domain and their relationships, and the methodologies employed in prior studies (Ghorbani et al., 2022). The rationale for adopting the TCCM framework stems from its ability to measure both theoretical and empirical aspects of a research domain. As such, this approach effectively overcomes the limitations of more narrowly focused reviews, such as domain-based reviews (Canabal and White, 2008), theory-based reviews (Gilal et al., 2019), method-based reviews (Voorhees et al., 2016), and bibliometric reviews (Randhawa et al., 2016).

4.1 TCCM: "methods"

This section of the study presents an assessment of the research design and analytical techniques employed by the existing studies to evaluate key relationships. The predominant quantitative method utilized across the studies is surveys accounting for 143 studies. Experiments are the second most commonly used method (37 studies), followed by mixed method (15 studies), and qualitative (14 studies). Table 1 gives a summary of the approaches used to collect the data in Green Consumption research.

The predominant data analysis technique employed in green consumption research is structural equation modeling (SEM), utilized in 99 studies. Other commonly employed techniques include regression (33 studies), Analysis of variance (ANOVA) (29 studies), and logistic regression (10 studies). ANOVA is frequently employed in experiments to compare different groups, as seen in 29 studies, with 20 of them specifically based on experiments. Additional analytical techniques employed in green consumption literature include the multilevel random effect model (Laureti and Benedetti, 2018), MANOVA (Hoffmann and Schlicht, 2013), correlation (Olson, 2022), welch brown Forsythe (Shiel et al., 2020), probit model (Olson, 2022), hierarchical Bayesian estimation model (Heinzle and Wüstenhagen, 2012),

TABLE 1 Approaches used to collect data in green consumption research.

Research Design	No. of studies	Description	Examples
Survey	143	A survey is a method of gathering information from or about individuals to describe their attitudes and behaviors.	Minton et al. (2015), Wu et al. (2016), Rezvani et al. (2018), Joshi et al. (2021), Severo et al. (2021)
Experiments	37	Experimental research is a scientific method that involves manipulating variables to determine their effect on a dependent variable and establish cause-and-effect relationships.	Hoffmann and Schlicht (2013), Miniero et al. (2014), Chang et al. (2019), Salmivaara and Lankoski (2021), Septianto and Kemper (2021)
Mixed Method	15	Uses qualitative and quantitative methodology for comprehensive understanding of the subject.	Barbarossa and De Pelsmacker (2016), Marde and Verite-Masserot (2018), Roos and Hahn (2019), Hosta and Zabkar (2021), Bhardwaj et al. (2023)
Qualitative	14	Provide in-depth understanding of people's experience	Johnstone and Tan (2015), Perera et al. (2018), Torres-Ruiz et al. (2018), McNeill and Venter (2019), Cairns et al. (2022)

TABLE 2 Techniques used in green consumption research.

Techniques	No. of studies	Description	Description of techniques used in existing studies	References
SEM	99	It's a data analysis techniques to estimate multiple inter-relationship among latent constructs simultaneously within a model	9 used SEM with ANOVA, 9 used it with bootstrapping, 8 with factor analysis, 4 with qualitative studies, 1 with experiment, and 3 with regression, 49 studies used covariance-based SEM, 17 used PLS-SEM,	Cheung and To (2019), Kautish et al. (2019), Panda et al. (2020), Patel et al. (2020), Dhir et al. (2021)
Regression	33	Regression is a statistical method used to determine the strength and character of the relationship between a dependent variable and one or more independent variables.	9 studies used regression with CFA, 6 used regression with bootstrapping	Costa Pinto et al. (2016), Geng et al. (2017), Lazaric et al. (2020), Valor et al. (2020), Dixon and Mikolon (2021)
Anova	29	Anova evaluates whether the differences between the means of more than two groups are statistically significant or merely due to random chance.	9 studies used ANOVA with SEM, 5 studies used ANOVA with regression, 4 studies used it with logistic regression, 11 studies used ANOVA exclusively.	Hoffmann and Schlicht (2013), Miniero et al. (2014), Chang et al. (2019), Iran et al. (2019), Septianto and Kemper (2021)
Logistic regression	10	It is a statistical technique used to model the relationship between a binary dependent variable and one or more independent variables, predicting the likelihood of a specific outcome.	3 studies used logistic regression with ANOVA, 3 studies used it with factor analysis, and 3 studies used t-test with logistic regression.	Salazar et al. (2013), Minton et al. (2015), Jansson et al. (2017), Lazaric et al. (2020), Septianto and Kemper (2021)

wald test (van Tonder et al., 2020), mann whitney U test (Torres-Ruiz et al., 2018), conjoint analysis (Heinzle and Wüstenhagen, 2012), fuzzy cognitive map (De-Magistris and Gracia, 2016), latent class modeling (De-Magistris and Gracia, 2016), FIMIX PLS (Bulut et al., 2017), kruskal wallis test (Eberhart and Naderer, 2017), K means clustering (Eberhart and Naderer, 2017), and latent Dirichlet allocation algorithm (Danner and Thøgersen, 2022). Table 2 gives a brief description of the techniques used to collect the data in green consumption research.

The current state of research on green consumption is characterized by a dearth of qualitative studies. Nonetheless, the few qualitative studies that have been conducted in this field have employed a range of methodological techniques such as case study, laddering, ethnographic study, focus group discussion, in-depth interviews, photo-elicitation techniques, and observing through eye tracking glasses.

4.2 TCCM: "Theory"

In recent years, the exploration of green consumption has captured significant interest, delving into a range of theoretical perspectives to illuminate its consequential impacts. Researchers investigating green consumption behaviors have commonly integrated theoretical frameworks rooted in social psychology. These frameworks help uncover the diverse factors that drive individuals towards environmentally conscious buying decisions. This paper aims to delve into the extensively studied theories that have been employed in green consumption literature.

4.2.1 Theory of planned behavior and theory of reasoned action

The theory of planned behavior (TPB) is the most prominent theoretical framework applied to understand green consumption behavior (40 studies). TPB is an extension of the Theory of Reasoned Action (TRA) by the addition of perceived behavioral control Hill et al. (1977). TPB postulates three independent determinants of intention. First is attitude, which refers to the degree of favorable or unfavorable evaluation of behavior. The second is the subjective norm, which refers to the perceived social pressure to perform or not to perform the behavior. The third antecedent is perceived behavioral control (PBC), which refers to the perceived ease or difficulty of performing the behavior (Ajzen, 1991). PBC, along with behavioral intention is used to directly predict behavioral achievement. The research focused on green consumption behavior has employed the TPB and TRA by extending them, using them exclusively, and integrating them with other theories. Table 3 below presents a classification of studies that have utilized the TPB theory. The table reveals that a majority of these studies have extended the TPB theory by introducing additional variables.

4.2.2 Cognitive theories

Many scholars in the field of green consumption have examined how consumers learn and make purchase decisions using diverse cognitive models. Table 4 summarises the numerous theoretical frameworks that investigate the influence of cognitive processes on consumer behavior. The results indicate that despite the utilization of a range of cognitive theories in this domain, their combined impact encompasses a mere 9.5% of the entire pool of scrutinized articles. This underscores the need for a more cohesive integration and enhanced application of these frameworks in forthcoming research endeavors.

TABLE 3 Classification of studies using TPB theory in green consumption.

Classification of studies using TPB theory	Number of studies	References
TPB extended by adding other variables in green consumption research.	12	Laureti and Benedetti (2018), Nguyen et al. (2018), Judge et al. (2019), Kautish et al. (2019), Roos and Hahn (2019), Liu et al. (2020), Panda et al. (2020), Amit Kumar (2021), Hosta and Zabkar (2021), Carrión Bósquez and Arias-Bolzmann (2022), Mazhar et al. (2022), Sun et al. (2022)
TPB used with other theory in green consumption research.	10	Roos and Hahn (2017), Becker-Leifhold (2018), Torres-Ruiz et al. (2018), Yin et al. (2018), Rustam et al. (2020), Hamzah and Tanwir (2021), Rahman and Luomala (2021), Riva et al. (2022), Srivastava and Gupta (2022), Bhardwaj et al. (2023)
TPB used exclusively in green consumption research.	16	Geng et al. (2017), Marde and Verite-Masserot (2018), Maxwell-Smith et al. (2018), Chang et al. (2019), Emekci, 2019, Iran et al. (2019), McNeill and Venter (2019), Testa et al. (2019), Yarimoglu and Binboga (2019), Chen (2020), Patel et al. (2020), Sharma et al. (2020), Dangelico et al. (2021), Nguyen and Nguyen (2021), Frommeyer et al. (2022), Haj-Salem et al. (2022)
TRA extended by adding other variables in green consumption research.	1	Rausch and Kopplin (2021)
TRA used with other theories in green consumption research.	3	Chan (2001), Ghazali et al. (2018), Roh et al. (2022)
TRA used exclusively in green consumption research.	2	Chan and Lau (2000), Minton et al. (2018)
Total	44	

TABLE 4 Cognitive theories used in green consumption literature.

Cognitive Theory	Description of the theory	Number of papers	References
Social cognitive theory (Bandura, 1991)	Individuals' green consumption behavior is influenced by observing others.	4	Lin and Hsu (2015), Johnstone and Hooper (2016), Jahari et al. (2022), Roxas and Marte (2022)
Construal level theory (Trope and Liberman, 2003)	Investigates the relationship between psychological distance and the extent to which individuals consider the abstract or concrete nature of an object. People who have abstract goals tend to be more inclined towards green consumption.	2	Ramirez et al. (2015), Yang et al. (2015)
Cognitive dissonance theory (Festinger, 1957)	Refers to a situation wherein individuals encounter conflicting attitudes and beliefs during the decision-making process. Consumers experience a sense of guilt when confronted with the environmental consequences associated with non-green consumption.	1	Cairns et al. (2022)
Appraisal Theory (Lazarus, 1991)	The assessment of past experiences significantly influences both current and future green consumption behaviors.	1	Rowe et al. (2019)
Elaboration likelihood model (Petty et al., 1983)	In context of green consumption, information processing involves central and peripheral routes. The altruistic nature of green products leads consumers to opt for peripheral routes in the purchase of green product.	1	Wang et al. (2020)
Dual system theory (West and Stanovich, 2000)	The consumption of green products is routed through cognitive and intuitive systems. The cognitive system is used to evaluate a problem, while the intuitive system is quick and automatic.	1	Cairns et al. (2022)
Reciprocal determinism theory (Bandura, 1978)	Green consumption is influenced by personal and environmental factors. Psychological, social, and interpersonal factors play a role in shaping green behavior.	1	Joshi et al. (2021)
Theory of embodied cognition (Gibson, 1979)	Thoughts are shaped by the interaction of the body with the outside world. For instance, the shape of brand logos influences consumers' green behavior. Rounded brand logos are considered more feminine and warm compared to angular brand logos.	1	Meiting and Hua (2021)
Spreading activation theory (Collins and Loftus, 1975)	Priming a topic increases consumers' likelihood of being involved more in green consumption behaviors by encoding information into cognitive units.	1	Danner and Thøgersen (2022)
Total		13	

4.2.3 Value theories

This section provides an overview of the value theories employed in green consumption literature. Table 5 lists the value theories along with the number of articles and the references that have used these theories in green consumption literature. The table highlights the role of value systems in shaping consumer behavior and their potential impact on environmental sustainability. The table shows that the collective contribution of all the value theories is good, however, their individual contribution is less.

4.2.4 Identity theories

Identity theories suggest that an individual's self-concept influences their consumption behavior. Empirical studies have employed diverse identity-based frameworks to explore how self-identity connects with the purchase of green products. Table 6 summarizes the identity theories applied in the green consumption literature, along with the number of articles that have used these theories. The table highlights that the cumulative effect of various identity theories is low, accounting for only 7 studies.

4.2.5 Motivation theories

Various theoretical frameworks have been utilized to elucidate the motivations behind consumers' engagement in sustainable consumption practices. In summary, Table 7 provides an overview of the motivation theories that have been utilized in studies of green consumption, along with the number of articles that have employed these theories. The analysis of relevant literature shows that the collective contribution of motivation theories in green consumption research is significant, accounting for 27 studies. However, it is noteworthy that the individual theories categorized under the umbrella of motivation theories have received relatively little attention. This finding highlights the potential for further exploration and integration of specific motivational theories.

4.2.6 Other theories

We explored various other theories that have been employed to understand the factors influencing green consumption behavior. Table 8 provides an overview of the other theories employed in the literature and the number of articles that have considered them. The table elucidates the comparatively diminished contribution of alternative theories within the domain of green consumption literature thereby emphasizing the imperative for subsequent scholars to devote additional scrutiny and contemplation towards this aspect in their forthcoming investigations.

4.3 TCCM: "Context"

In this study, a comprehensive analysis was conducted to explore the socio-demographic characteristics, products, countries, and places of the surveyed population. The inclusion of sociodemographic characteristics was deemed crucial given their demonstrated influence on consumer behavior (Getzner and Grabner-Kräuter, 2004). Notably, a combination of psychographics and socio-demographic characteristics was found to yield superior insights for green segmentation (Patel et al., 2017).

4.3.1 Gender

According to Borau et al. (2021), there exists a prevalent perception among consumers that associates green products with feminine traits. This gendered association has been identified as a deterrent for male consumers, resulting in a lack of engagement in the purchase of green products. In support of this notion, a comprehensive review of the literature on green consumption reveals that women are more involved in the purchase of green products. Specifically, of the 29 studies included in this analysis, the majority (19 studies) (Liobikienė et al., 2017; Feil et al., 2020; Borau et al., 2021; Kumar and Yadav, 2021; Pegan et al., 2023) have reported a greater level of involvement in green purchases among women, while 5 studies have

TABLE 5 Value theories used in green consumption literature.

Value theories	Description of the theory	Number of studies	References
Value attitude behavior (Homer and Kahle, 1988)	The theory posits that the influence of individuals' values on their green behavior is mediated indirectly by their attitude.	10	Chan (2001), Mostafa (2007a), Jacobs et al. (2018), Yin et al. (2018), Cheung and To (2019), Le et al. (2019), van Tonder et al. (2020), Amit Kumar (2021), Lavuri (2022), Segev and Liu (2022)
Theory of consumption values (Sheth et al., 1991)	The theory states that consumer choice is a function of functional value, social value, emotional value, epistemic value, and conditional value. These values influence green consumption.	8	Koller et al. (2011), Biswas and Roy (2015), Lee et al. (2015), De Watanabe et al. (2020), Cao et al. (2021), Jose et al. (2022), Roh et al. (2022), Srivastava and Gupta (2022)
Value belief norm theory (Stern, 2000)	The theory posits that a moral responsibility towards environmental issues serve as a driving force, compelling consumers to participate in behaviors aligned with green values.	7	Roos and Hahn (2017), Becker-Leifhold (2018), Trivedi et al. (2018), Han (2020), Rahman and Luomala (2021), Jahari et al. (2022), Kautish et al. (2022)
Schwartz theory (Schwartz, 1994)	The theory proposes 10 fundamental values that are categorized into two groups namely values related to personal interest and those related to the well-being of others. These values motivate green consumption.	6	Stolz et al. (2013), Thøgersen et al. (2016), Jacobs et al. (2018), Yin et al. (2018), Yarimoglu and Binboga (2019), Halder et al. (2020)
	Total	31	

TABLE 6 Studies using identity theories in green consumption literature.

Identity Theories	Description of the theory	Number of studies	References
Social identity theory (Tajfel et al., 1979)	Consumer identities are formed based on the groups to which they belong. Those who are more involved in green consumption are perceived as more feminine by both males and females.	2	Brough et al. (2016), Islam et al. (2022)
Self-concept theory (Sirgy, 1982)	Green consumption is driven by an individual's moral self-identity and the ability to express themselves confidently through apparel.	1	Legere and Kang (2020)
Self-signaling theory (Bodner and Prelec, 2003)	The green consumption is driven by people's self concept.	1	Dixon and Mikolon (2021)
Self-image congruency theory (Sirgy, 1982)	Green consumption is driven by the self-image of people. Consumers respond positively to brands that have a similar image to theirs.	1	Dai and Sheng (2022)
Identity-based motivation theory (Oyserman, 2009)	People exhibit green behaviors due to their self-identities.	1	Costa Pinto et al. (2019)
Self-licensing theory (Monin and Miller, 2001)	Increased self-confidence in one's self-image could lead to consumers engaging in green behaviors.	1	Parguel et al. (2017)
	Total	7	

reported higher engagement among men (Mostafa, 2007b; Jansson et al., 2017; Coderoni and Perito, 2020; Duong, 2022; Salciuviene et al., 2022). These findings suggest the importance of recognizing gender-based perceptions and stereotypes in shaping consumer behavior toward sustainable products.

4.3.2 Age group

The current study aims to offer a comprehensive overview of participants' age demographics within green consumption literature. Through an extensive literature review, we identified the age ranges of individuals studied in the context of green consumption. Our findings highlight a prevailing emphasis on young participants aged 18 to 35 years, accounting for 90 studies. Some studies have explored middle-aged consumers, and a smaller number have investigated older consumer groups aged 50 years and above. Additionally, only two studies examined adolescents below 18 years (Lee, 2011; Geng et al., 2017).

An in-depth literature analysis of the findings of the existing literature suggests a high involvement of young people (18–35 years) and students in green product consumption. This is supported by 8 of 12 studies that focused on age demographics in green consumption literature. However, 5 studies indicated older individuals favor the purchase of green products. In a broader context, prevailing literature leans towards examining younger participants, notably students, in purchasing green products. Expanding research into various age cohorts for green purchases could augment comprehension and contribute to the formulation of green consumption strategies.

4.3.3 Income

In green consumption, a notable proportion of studies have focused on investigating the influence of income on the purchase of environmentally sustainable products (Johnstone and Tan, 2015; Carrero et al., 2016; Jansson et al., 2017; Carrión Bósquez and Arias-Bolzmann, 2022). A total of 15 studies have tackled this subject matter. The majority of these studies, specifically 11 out of the 15, have indicated that green products are commonly regarded as costly, rendering them primarily attainable by affluent consumers. This implies that the perception of high prices could serve as a barrier to the adoption of green consumption practices among individuals with limited financial means.

4.3.4 Education

In the context of green consumption, many studies have focused on participants' education. 105 studies included college-educated participants in their research, while only 12 involved high school graduates or higher. Some studies did not reveal education levels. Overall, these findings imply that higher education links to more eco-friendly consumption. None of the existing research shows greater green interest among lower-educated individuals. This highlights the role of high education in shaping consumer behavior for eco-conscious practices.

4.3.5 Products

In the domain of green consumption, a majority of studies (99) have not focused on specific product categories. Our findings reveal that among the remaining studies, organic foods are the predominant product category (25; Paul and Rana, 2012; Khan et al., 2023), followed by apparel (15; Wei et al., 2018; Cairns et al., 2022), electric/alternative fuel vehicles (9; Pagiaslis and Krontalis, 2014; Ní Choisdealbha et al., 2020), packaging (4; Trivedi et al., 2018; Kautish et al., 2022), and others (55). Research outcomes in green consumption vary based on these product categories. Given that a significant portion of research publications in this area emphasize the role of values as motivators for green product purchases, our study aims to assess metrics across major product categories used in green consumption. Regarding organic food, six studies show that individuals who prioritize both altruistic and egoistic values are more involved in purchasing organic food (Paul and Rana, 2012; Dorce et al., 2021; Septianto and Kemper, 2021; Dong et al., 2022; Lavuri, 2022; Mazhar et al., 2022), four studies indicate that consumers who prioritize altruistic values are more engaged in buying organic food (Thøgersen et al., 2016; Nosi et al.,

TABLE 7 Motivation theories used in green consumption literature.

Motivation theories	Description of the theory	Number of studies	References
Stimulus organism response theory (Mehrabian and Russell, 1974)	Behaviors are influenced by stimuli, which can originate from both external and internal sources. The behavior related to the green consumption arise as a consequence of individuals' internal assessments in response to various stimuli.	4	Ahmad and Zhang (2020), Dhir et al. (2021), Kumar et al. (2021), Han et al. (2022)
Means end theory (Gutman, 1982)	Green products serve as a means to achieve the specific goal of engaging in more green consumption behavior.	3	Eberhart and Naderer (2017), Torres-Ruiz et al. (2018), Hur (2020)
Self-determination theory (Steenhaut and Van Kenhove, 2006)	Individuals are propelled by three intrinsic psychological needs—autonomy, competence, and relatedness—that drive green consumption behavior.	3	Minton et al. (2015), Dong et al. (2018), Tandon et al. (2020)
Goal framing theory (Lindenberg and Steg, 2013)	Normative, hedonic, and gain goals motivate consumers to engage in green consumption activities.	3	Liobikienė et al. (2017), Koch et al. (2022), Khan et al. (2023)
Theory of love (Sternberg, 1986)	Consumers possessing passion, intimacy, and commitment to the environment, and products, exhibit a propensity to engage in green behaviors.	2	Dong et al. (2018, 2020)
Norm activation theory (Schwartz, 1977)	Personal norms, ascription of responsibility, and awareness of consequences influence people to engage in green consumption.	2	Joanes (2019), Han (2020)
Motivation opportunity ability framework (Maclnnis et al., 1991)	Food and environmental concerns motivate people to engage in green consumption behavior, with perceived knowledge and trust in the food supply chain mediating this effect.	1	Dong et al. (2022)
Shopping motivation theory (Black and Westbrook, 1985)	Hedonic and utilitarian motivations motivate consumers to engage in green consumption.	1	Kumar and Yadav (2021)
Push-pull mooring theory (Bansal et al., 2005)	Push factors exert a negative influence on green consumption, whereas pull factors contribute positively.	1	Perez-Castillo and Vera-Martinez (2020)
Psychological reactance theory (Brehm, 1966)	When individuals sense a threat to their freedom and control, they strive to reclaim it by behaving oppositely. The threat of gender identity dissuades male consumers and propels women toward embracing green consumption.	1	Septianto and Kemper (2021)
Regret Theory (Loomes and Sugden, 1982)	Negative emotions are experienced by individuals when their choices conflict with their ethical goals, and a strong symbolized moral identity promotes commitment to green consumption.	1	Salciuviene et al. (2022)
Virtue Theory (Drucker, 2006)	Green products are considered virtuous due to their minimal environmental impact. The virtuousness of these products compels individuals of strong moral character to engage in green consumption.	1	Spielmann (2021)
Socio-technical theory (Emery and Trist, 1960)	The social and technological suitability of green products motivate consumers to enagage in green consumption.	1	Dabbous and Tarhini (2019)
Social exchange theory (Homans, 1958)	In the green consumption context, the relationship between two individuals is characterized as an exchange process to maximize profits and minimize costs.	1	Wang et al. (2019a,b)
Thaler's acquisition and transaction theory (Thaler, 1985)	Consumers engage in green consumption considering both the functional and emotional aspects of the product.	1	Yuan et al. (2022)
Consumer Theory of Lancaster (Lancaster, 1966)	In the green consumption context, consumers demand goods because of their characteristics and properties.	1	Jacobs and Hörisch (2022)
	Total	27	

2020; Cao et al., 2021; Lavuri, 2022), while two studies emphasize that those who prioritize egoistic values (Basha and Lal, 2019; Singh and Verma, 2017) are more involved in the purchasing organic food. Altruistic values indicate a greater concern for others' welfare over personal gain while egoistic values emphasize more on personal pleasure. Two studies show that people with altruistic values have a strong propensity for purchasing environmentally friendly packaging (Testa et al., 2020; Koch et al., 2022). For electric or alternative fuel vehicles, three studies indicate that consumers who prioritize altruistic values are more involved in their purchase (Koller et al., 2011; Pagiaslis and Krontalis, 2014; Hamzah and Tanwir, 2021), while two studies show that those with egoistic values are more involved in buying electric vehicles (Dong et al., 2018; Ali et al., 2019). Regarding sustainable clothing, three studies (Wei et al., 2018; Park and Lin, 2020; Rausch and Kopplin, 2021) indicate that consumers with altruistic values are involved in the purchase, while three studies

TABLE 8 Other theories used in green consumption literature.

Other theories	Description of the theory	Number of papers	References
Practice Theory (Schatzki, 2001)	People's habits are formed as a result of prior experience of their engagement in green consumption influencing their unconscious conduct.	3	Fuentes (2014), Perera et al. (2018), Retamal (2019)
Social dilemma theory (Messick and Brewer, 2005)	In the green consumption context, consumers face a conflict between their short-term self-interest and long-term communal interest.	2	Barbarossa and De Pelsmacker (2016), Sun et al. (2021)
Prospect theory (Kahneman and Tversky, 2013)	In the green consumption context, consumers value gains and losses differently with losses looming larger than gains.	1	Crosno and Cui (2018)
Hunt and Vitell's ethics theory (Hunt and Vitell, 1986)	Cultural factors and personal values shape consumers' ethical beliefs about green consumption.	1	Lu et al. (2015)
	Total	7	

TABLE 9 Countries surveyed in green consumption.

Country	No. of studies
China	44
USA	24
Germany	20
India	18
Australia	10
Italy and UK	09 studies each
Spain	08
France	6 studies
New Zealand, Malaysia	5 studies each
Portugal, Sweden, Vietnam	4 studies each
Brazil, Turkey, Korea, Malaysia, Norway, Egypt, Finland	3 studies each
Pakistan, Japan	2 studies each
Iran, Bangladesh, UAE, Philippines, Canada, Greece, Austria, Netherlands, Switzerland, Thailand, Czech Republic	1 study each
Multi-country studies	18

(Becker-Leifhold, 2018; Jacobs et al., 2018; Iran et al., 2019) show that consumers with egoistic values are involved in purchasing sustainable clothes.

4.3.6 Countries

The exploration of green consumption literature has garnered considerable research interest, primarily within developed countries (133 studies) among the total empirical investigations. A substantial share of the total empirical studies is attributed to developing countries (62 studies), whereas underdeveloped nations have contributed comparatively fewer studies, accounting for only 5 studies. A comprehensive overview of studies conducted across different countries is provided in Table 9. It is worth highlighting that 18 studies were carried out in multiple countries. For instance, Shiel et al. (2020), examined sustainable consumer behavior in England and Portugal. Van Tonder et al. (2020), investigated the green consumption behavior of consumers in the USA and South Korea. Stolz and Bautista (2015) explored sustainable consumption patterns in Germany and Spain, (Ganglmair-Wooliscroft and Wooliscroft, 2022) conducted a study in Austria and New Zealand and Kadic-Maglajlic et al. (2019) examined sustainable consumption behavior in Croatia and Slovenia.

There is a paucity of research on green consumption in rural settings, except for a study conducted by Wang et al. (2014). Most studies have primarily focused on urban areas, particularly looking at individuals with higher education and higher income levels.

4.4 TCCM: "Characteristics"

Green consumption research broadly examines the factors that enable or hinder the acquisition of environmentally friendly products. Scholarly investigations have explored a range of consumer psychographic variables that impact their inclination toward the purchase of green products. We have grouped these variables based on their roles in the particular study, with a clear differentiation between independent, dependent, mediating, and moderating variables. Furthermore, within each category of variables, we have made a further distinction between those that act as enablers and those that act as barriers to the purchase of green products.

4.4.1 Independent variables

The analysis of independent variables (191 studies) shows that the bulk of research has employed independent variables.

The majority of studies support the idea that people with values related to concern for others such as altruism (Yarimoglu and Binboga, 2019), biospheric (Mishra et al., 2022), collectivism (Yang et al., 2015), self-transcendence (Jacobs et al., 2018), universalism (Eberhart and Naderer, 2017), Indian values (Sharma and Jha, 2017) are more involved in green consumption, while some studies are also of the view that values related to concern for self, like egoistic value (Becker-Leifhold, 2018), and individualism (Lu et al., 2015), are also linked with green consumption behavior. People who care more about the environment (Leary et al., 2014), have high personal norms (Moser, 2015), possess environmental knowledge (Stolz et al., 2013), and are concerned about their social salience from their peers, family members, and neighbors (Johansson et al., 2020), possess a favorable or pro-social attitude (Bailey

et al., 2016) towards the green product. Such people believe that their actions can bring about a significant change in the environment (Chen, 2020; Park and Lin, 2020). Factors like time, inconvenience (Hume, 2010), unavailability (Mishra et al., 2022), institutional pressure (Roxas and Marte, 2022), skepticism (Mostafa, 2006), price (Marde and Verite-Masserot, 2018), greenwash (Testa et al., 2020), distance, and travel time (Ní Choisdealbha et al., 2020) acts as a barrier in the purchase of green products while some contextual factors like environmental pollution (Hoffmann and Schlicht, 2013), pandemic (Severo et al., 2021), technology (Dabbous and Tarhini, 2019) encourages its consumption.

Various factors motivate consumers toward sustainable consumption. These factors include self-identity (Chen, 2020), fashion involvement and status consumption (Becker-Leifhold, 2018), trends (Joshi et al., 2021), health benefits (Feil et al., 2020), consumer self-confidence (D'Souza et al., 2020), emotional attachment to product and nature (Hou et al., 2020; van Tonder et al., 2020), autonomy, affiliation, and control of the product (Dong et al., 2018), feeling of guilt due to unsustainable consumption (Antonetti and Maklan, 2014), long term orientation (Miniero et al., 2014), man nature orientation (Chekima et al., 2016), low power condition (Yan et al., 2021), and past sustainable behavior (Rowe et al., 2019).

Attributes of a product like its functional value (Dangelico et al., 2021), quality (Li et al., 2016), certification (Thompson et al., 2010), ecolabel (Heinzle and Wüstenhagen, 2012), durability (Sun et al., 2021), exclusivity, authenticity, localism (Jung and Jin, 2022), and brand value (Park and Kim, 2016) encourage consumers in their purchase behavior.

Consumers get information about the benefits of green products from many information channels, like newspapers (Simeone and Scarpato, 2020), media (Lin and Hsu, 2015), social groups (Salazar et al., 2013), and campus advertisements (Jahari et al., 2022). This information creates a positive perception of the benefits of green products (Torres-Ruiz et al., 2018). The perception creates a preference for local and organic food (Li et al., 2016; Simeone and Scarpato, 2020) and used products (Crosno and Cui, 2018). Table 10 summarizes the findings of studies that have examined the impact of enablers of green consumption. Enablers are the factors that facilitate purchase behavior, while barriers are those that hinder purchase behavior (Swinburn et al., 2019). The table delineates the description of the variables, number of studies that have reported a positive/negative/insignificant influence of these variables on green purchase, and the references of the high cited studies that have used these variables. The table highlights that eco-friendly attitudes, values related to the concern for others and the environment, social influence, environmental knowledge, perceived behavioral control, green self-identity, attributes of product, ecolabel, trust, perceived consumer effectiveness, and emotional attachment to product, nature, and brand are the major antecedents in the purchase of green products.

Table 11 summarizes the findings of studies that have examined the impact of barriers on green consumption. The table highlights that high prices, unavailability of the product, skepticism, long distance, time and inconvenience, and greenwash are the major barriers to the purchase of green products.

4.4.2 Dependent variable

The investigation of dependent variables pertaining to green product consumption has been broadly categorized into two categories, namely, (1) intention or behavioral engagements, (2) relationship-based outcomes. A total of 87 studies and 70 studies have been conducted on purchase behavior and purchase intention, respectively. These studies have primarily focused on the customer's intention to purchase green products (Liang et al., 2019; Kumar and Yadav, 2021), and their actual consumption or purchase behavior (Testa et al., 2019; Duong, 2022). A small proportion of studies (5 studies) have explored relationship-based outcomes such as brand loyalty and brand love (Kumar and Yadav, 2021; Rizomyliotis et al., 2021).

Table 12 provides a concise overview of the dependent variables utilized in the present study. As indicated in the table, the examined dependent variables primarily comprise consumption behavior, purchase behavior, or actual purchase and purchase intention. These variables have been more commonly investigated in green consumption.

4.4.3 Mediating variables

A mediator is a variable that helps to explain the relationship between the predictor and the outcome (Baron and Kenny, 1986). Our analysis reveals that 114 studies have explored the effects of mediating variables. Most of the studies have used environmental attitude (Wu et al., 2016; Le et al., 2019), or behavioral/purchase intention (Duong, 2022) as a mediator variable in their studies.

Several factors influence consumers' engagement in environmentally responsible consumption activities. Environment concerns (Emekci, 2019), awareness of the consequences of unsustainable consumption (Rezvani et al., 2018), and a sense of responsibility towards the environment prevent consumers from engaging in harmful activities. Additionally, social influence from peers and family members (Biswas and Roy, 2015), personal norms (Roos and Hahn, 2017), and green consumption values (Do Paço et al., 2019) motivate consumers in their purchase decisions.

Consumers are also motivated by various utilitarian and hedonic benefits, such as economic and functional value (Koller et al., 2011), acquisition and transaction utility (Yuan et al., 2022), and positive emotions (Spielmann, 2021) associated with the purchase of green products. Moreover, consumers' connection with the brand (Lin et al., 2017), face consciousness (Yin et al., 2018), marketplace influence (Kautish et al., 2022), online reviews (Nguyen and Nguyen, 2021), love for nature and material things (Dong et al., 2018, 2020), eco-behavioral goals (Roxas and Marte, 2022), locus of control (Sharma K. et al., 2022), compassion for altruistic claims (Septianto and Kemper, 2021), and pride in past sustainable behavior (Rowe et al., 2019) also impact their willingness to engage in environmentally responsible behaviors.

Consumers experience a "warm glow" consumption experience when purchasing green products (Tezer and Bodur, 2021), resulting in their engagement in pro-environmental activities (Kadic-Maglajlic et al., 2019). Factors such as knowledge about the food supply chain (Dong et al., 2022), the propensity to gather additional information (Testa et al., 2020), transparency in the production process (Kumar et al., 2021), trust in the product and brand (Mezger et al., 2020a), and commitment to the place (Lee et al., 2016) further motivate consumers to engage in the purchase of green products.

As green products are priced higher compared to conventional products, people who are motivated to save (Johansson et al., 2020; Wang et al., 2021) or satiated (Hou et al., 2020) are less involved in green consumption activities. Table 13 gives an overview of the mediating variables used in green consumption research. The table highlights that environmental attitude, purchase intention, subjective

TABLE 10 Enablers to the purchase of green products.

Variable	Description	Number of studies having a positive/negative/ insignificant influence on the dependent variable	References
Ecofriendly or pro-environmental attitude	Attitude represents an individual's favorable or unfavorable viewpoint on a subject, influenced by their perceptions, emotions, and readiness to engage with their surroundings.	59 studies reveal a positive impact and 3 studies reveal an insignificant impact on the dependent variable	Biswas and Roy (2015), Lu et al. (2015), Chekima et al. (2016), Jansson et al. (2017), Do Paço et al. (2019)
Values related to concern for others and the environment	Values that prioritize the well-being of others are known as altruistic values, while those that prioritize environmental concern are termed biospheric values.	57 studies revealed a positive influence, 1 study revealed a negative affect, and 2 studies were found to have an insignificant influence on the dependent variable.	Koller et al. (2011), Pagiaslis and Krontalis (2014), Yang et al. (2015), Jacobs et al. (2018), Park and Lin (2020)
Social influence	Refers to the individuals' perceptions of the social pressures that encourage or discourage certain behaviors. These perceptions are shaped by close relationships and broader societal influences such as media and education, and they reflect consumers' judgments about what is morally right and socially desirable.	49 studies suggest a positive influence, while 9 studies suggest an insignificant influence on the dependent variable.	Salazar et al. (2013), Lin and Hsu (2015), Lin and Niu (2018), Roos and Hahn (2019), Park and Lin (2020)
Environmental knowledge	Refers to an individual's understanding of the interplay between humans and the environment, shaping their sense of responsibility and influencing their environmental behaviors.	26 studies were found to have a positive influence, while 1 study suggested a negative influence on the dependent variable.	Emekci (2019), Johnstone and Tan (2015), Park and Kim (2016), Lin and Niu (2018), Sun et al. (2019)
Perceived Behavioral Control (PBC)	Refers to the perception of how easy or difficult it is to engage in a behavior. PBC is influenced by past experiences.	23 studies demonstrate a positive influence, 2 studies reveal an insignificant influence, and 1 study demonstrates a negative influence on the dependent variable.	Laureti and Benedetti (2018), Testa et al. (2019), Chen (2020), Hosta and Zabkar (2021), Nguyen and Nguyen (2021)
Green self identity/ Self image congruence	A pro-environmental self-identity refers to a person seeing themselves as environmentally conscious, engaging in eco-friendly behaviors, and purchasing green products that align with their self-image.	20 studies were found to have a positive influence, while 2 studies revealed a negative influence on the dependent variable	Johnstone and Hooper (2016), Binder and Blankenberg (2017), Kadic-Maglajlic et al. (2019), Chen (2020), Legere and Kang (2020)
Information availability	In the context of green consumption, information about the production process of eco-friendly products and the environmental impact of unsustainable practices is provided to consumers via media, newspapers, and the Internet.	16 studies demonstrated a positive influence on the dependent variable.	Michaud and Llerena (2011), Gleim et al. (2013), Dabbous and Tarhini (2019), Testa et al. (2020), Kumar and Yadav (2021)
Attribute of product	Refers to the quality, functional value, uniqueness, usefulness, exclusivity, and authenticity of the product.	13 studies suggested a positive influence on the dependent variable	Lee et al. (2015), Li et al. (2016), Ali et al. (2019), D'Souza et al. (2020), Hou et al. (2020)
Ecolabel	Ecolabels are market tools that provide information about a product's eco-friendliness, helping consumers make informed decisions at the point of sale.	11 studies were found to have a positive influence, while 1 study revealed a negative influence on the dependent variable.	Horne (2009), Thompson et al. (2010), Heinzle and Wüstenhagen (2012), Chekima et al. (2016), Coderoni and Perito (2020)
Trust	Green trust is the willingness to rely on a product, service, or brand based on its perceived environmental credibility, benevolence, and performance.	10 studies were found to have a positive influence on the dependent variable.	Park and Kim (2016), Dabbous and Tarhini (2019), Vega-Zamora et al. (2019), Mezger et al. (2020a,b)
Perceived consumer effectiveness	Perceived Consumer Effectiveness (PCE) is the belief that an individual's actions can positively or negatively bring change in a situation.	10 studies revealed a positive influence, while 1 study revealed a negative influence on the dependent variable.	Yarimoglu and Binboga (2019), Hou et al. (2020), Park and Lin (2020), Hosta and Zabkar (2021), Joshi et al. (2021)
Emotional attachment with product/ nature/ brand	Emotional value refers to the feelings and affective responses of a product, nature, and brand.	10 studies were found to have a positive influence on the dependent variable.	Lee et al. (2015), Kadic-Maglajlic et al. (2019), Gustavsen and Hegnes (2020), Hou et al. (2020), van Tonder et al. (2020)

(Continued)

TABLE 10 (Continued)

Variable	Description	Number of studies having a positive/negative/ insignificant influence on the dependent variable	References
Man-nature orientation	Man-nature orientation is defined as the friendly and protective behaviors humans exhibit toward nature, driven by a love for and commitment to preserving the natural environment.	5 studies suggested a positive influence on the dependent variable	Chan and Lau (2000), Chan (2001), Chekima et al. (2016), Sreen et al. (2018), Yin et al. (2018)
Moral Emotion	Moral emotions pertain to feelings and reactions that consider the well-being and interests of society as a whole.	5 studies revealed a positive influence, while 1 study suggested a negative influence on the dependent variable.	Antonetti and Maklan (2014), Wang and Wu (2016), Liang et al. (2019), Rowe et al. (2019), Haj-Salem et al. (2022)
Contextual factors (pandemic, pollution)	To mitigate the negative impacts of the pandemic like COVID and soil and air pollution, people are increasingly engaging in green consumption practices.	5 studies were found to have a positive influence on the dependent variable	Laureti and Benedetti (2018), Liang et al. (2019), Sun et al. (2019, 2022), Severo et al. (2021)
Materialism	Materialistic consumers prioritize products that signal social status and this preference strongly influences their satisfaction with such items.	5 studies were found to have a positive influence, while 3 studies suggested a negative influence on the dependent variable	Fuentes (2014), Dong et al. (2018), Yin et al. (2018), Ali et al. (2019), Dangelico et al. (2021)
Consumer self-confidence	Consumer self-confidence in decision-making is the belief in one's ability to identify, evaluate, and accurately discern the reliability of information and manufacturers' claims.	3 studies revealed a positive influence on the dependent variable.	Crosno and Cui (2018), D'Souza et al. (2020), Legere and Kang (2020)

TABLE 11 Barriers to the purchase of green products.

Variable	Description	Number of studies having a positive/ negative/insignificant influence on the dependent variable	References
High Price	Green products are generally priced higher compared to conventional products.	13 studies were found to have a negative influence, while 5 studies suggested a positive influence on the dependent variable	Gleim et al. (2013), Johnstone and Tan (2015), Li et al. (2016), Torres-Ruiz et al. (2018), Wang et al. (2019a,b)
Unavailability of product	Since green products are costly and typically bought by niche consumers, they are less commonly available in stores.	4 studies revealed a negative influence on the dependent variable.	De-Magistris and Gracia (2016), Yin et al. (2018), Perez-Castillo and Vera-Martinez (2020), Mishra et al. (2022)
Skepticism	refers to the natural tendency of consumers to doubt environmental claims unless they have reliable evidence to evaluate those claims.	4 studies were found to have a negative influence on the dependent variable	Mostafa (2006), Chen (2020), Carrión Bósquez and Arias-Bolzmann (2022), Lavuri (2022)
Greenwash	Greenwashing is a deliberate tactic employed by companies to make misleading statements about their environmental efforts to improve their public image.	2 studies revealed a negative influence on the dependent variable	Ahmad and Zhang (2020), Testa et al. (2020)

norm, and values are the most used mediating variables in most of the existing studies.

4.4.4 Moderating variable

A moderator is a variable that influences the direction or strength of the relationship between an independent variable and a dependent variable (Baron and Kenny, 1986). Based on our analysis of the available literature, it appears that only 62 studies evaluated the moderating effects. Several factors were identified as motivators for consumers to purchase green products including values related to the benefit of others and the environment (Chou et al., 2020; Haj-Salem et al., 2022), high status and fashion consciousness (Park and Kim, 2016; Han et al., 2022), self-concept clarity (Dixon and Mikolon, 2021), young generation (Severo et al., 2021), commitment to belief (Maxwell-Smith et al., 2018), moral emotions (Islam et al., 2022), females, high education, high income (Chekima et al., 2016), materialism (Ali et al., 2019), environment knowledge (Rustam et al., 2020), attributes of product like the quality, functional value, newness (Koller et al., 2011), contextual factors like availability, government intervention (Zhang et al.,

TABLE 12 Dependent variables used in green consumption.

Dependent Variable	Description	Number of studies	References
Consumption/ Purchase/Actual purchase behavior	Purchase behavior, or actual purchase, refers to the decisions and actions individuals or groups take when acquiring products or services for personal or collective use. Consumption includes activities such as recycling, reusing, anti-consumption, ethical consumption, and purchasing, though our focus here is primarily on the purchasing aspect of consumption.	87	Chan and Lau (2000), Chan (2001), Mostafa (2007b), Lee (2011), Wei et al. (2018)
Purchase intention	Refers to the level of willingness and inclination customers have to purchase a product within a specific timeframe.	70	Sreen et al. (2018), Judge et al. (2019), Ahmad and Zhang (2020), Liu et al. (2020), Hamzah and Tanwir (2021)
Brand loyalty and brand love	Brand love signifies the deep emotional attachment a customer has towards a specific brand, while brand loyalty represents the consistent preference for and repeated choice of a preferred product or service	4	Park and Kim (2016), Panda et al. (2020), Kumar et al. (2021), Rizomyliotis et al. (2021)

TABLE 13 Mediating variables used in green consumption.

Mediating variables	Number of studies	References
Enabler		
Environmental attitude	35	Chan (2001), Mostafa (2007a), Sreen et al. (2018), Trivedi et al. (2018), Cheung and To (2019)
Purchase/behavioral intention	29	Nguyen et al. (2018), Patel et al. (2020), Amit Kumar (2021), Hamzah and Tanwir (2021), Bhardwaj et al. (2023)
Subjective Norm	12	Roos and Hahn (2019), Patel et al. (2020), Amit Kumar (2021), Mazhar et al. (2022), Sun et al. (2022)
Values	12	Koller et al. (2011), Roos and Hahn (2017), Becker-Leifhold (2018), Do Paço et al. (2019), Panda et al. (2020)
Trust	9	Leary et al. (2014), Lin et al. (2017), Meiting and Hua (2021), Hou and Sarigöllü (2022), Riva et al. (2022)
Perception	7	Leary et al. (2014), Lin et al. (2017), Dixon and Mikolon (2021), Meiting and Hua (2021), Riva et al. (2022)
Self-identity	3	McNeill and Venter (2019), Chen (2020), Sharma et al. (2020)
Knowledge	3	Pagiaslis and Krontalis (2014), Dong et al. (2022), Roxas and Marte (2022)
Emotions	3	Koller et al. (2011), Rowe et al. (2019), Spielmann (2021)
Information	2	Han (2020), Testa et al. (2020)
Love for nature & material things	2	Dong et al. (2018, 2020)
Belief	2	Pagiaslis and Krontalis (2014), Lu et al. (2015)
Perceived Consumer effectiveness	1	Antonetti and Maklan (2014)
Others	94	Geng et al. (2017), Yarimoglu and Binboga (2019), Nguyen and Nguyen (2021), Spielmann (2021), Riva et al. (2022)
Barriers (High Price)	2	Dekhili and Achabou (2013), Srivastava and Gupta (2022)

2019), long term orientation (Miniero et al., 2014), prevention focus (Sun et al., 2021) and consumer self-confidence (D'Souza et al., 2020) motivate consumers in their purchase of green products. Conversely, high prices (Srivastava and Gupta, 2022), greenwash (Wei et al., 2018), and skepticism (Hou and Sarigöllü, 2022) were found to act as barriers to its purchase. Table 14 gives a summary of the moderating variables used in green consumption. The table highlights that values, identity, and sociodemographic characteristics are the most used moderating variables in green consumption.

A concise representation of the main variables used in research concerning green consumption is depicted in Figure 3. This diagram illustrates the major theories, context, characteristics, and the methodoly that have been used in the existing studies. The characteristics represents the primary independent, mediating, moderating, and dependent variables identified in the literature. It outlines the relationship between the independent and dependent variables, listing the major variables used in existing research. Among the independent variables, enablers exert a positive influence on the dependent variable, whereas barriers have a negative impact. The relationship between independent and dependent variables is mediated by factors such as attitude, purchase intention, subjective norm, values, and trust. Enablers positively influence these mediators, while barriers negatively affect them. The mediators, in turn, positively influence the dependent variable. This relationship is further enhanced by the inclusion of moderator variables.

TABLE 14 Moderating variables used in green consumption.

Moderating variables	Number of studies	References
Enablers		
Values	15	Stolz et al. (2013), Sharma and Jha (2017), Rizomyliotis et al. (2021), Septianto and Kemper (2021), Yan et al. (2021)
Identity	7	Yang et al. (2015), Costa Pinto et al. (2016, 2019), Judge et al. (2019), Dixon and Mikolon (2021)
Gender, income, age, education	7	Koller et al. (2011), Chekima et al. (2016), Coderoni and Perito (2020), Kumar and Yadav (2021), Salciuviene et al. (2022)
Social influence	4	Salazar et al. (2013), Ali et al. (2019), Tezer and Bodur (2021), Sun et al. (2021a)
Environment knowledge	4	Park and Kim (2016), Sharma and Jha (2017), Rustam et al. (2020), Hamzah and Tanwir (2021)
Attributes of product	2	Cheung and To (2019), Riva et al. (2022)
Attitude	3	Koller et al. (2011), Sharma and Jha (2017), Danner and Thøgersen (2022)
Long term orientation	1	Miniero et al. (2014)
Prevention focus	1	Sun et al. (2021b)
Self-confidence	1	D'Souza et al. (2020)
Belief	2	Maxwell-Smith et al. (2018), Yan et al. (2021)
Perceived consumer effectiveness	2	Zhao et al. (2014), Sharma and Jha (2017)
Barrier (High price, skepticism, greenwash)	4	Chekima et al. (2016), Wei et al. (2018), Hou and Sarigöllü (2022), Srivastava and Gupta (2022)

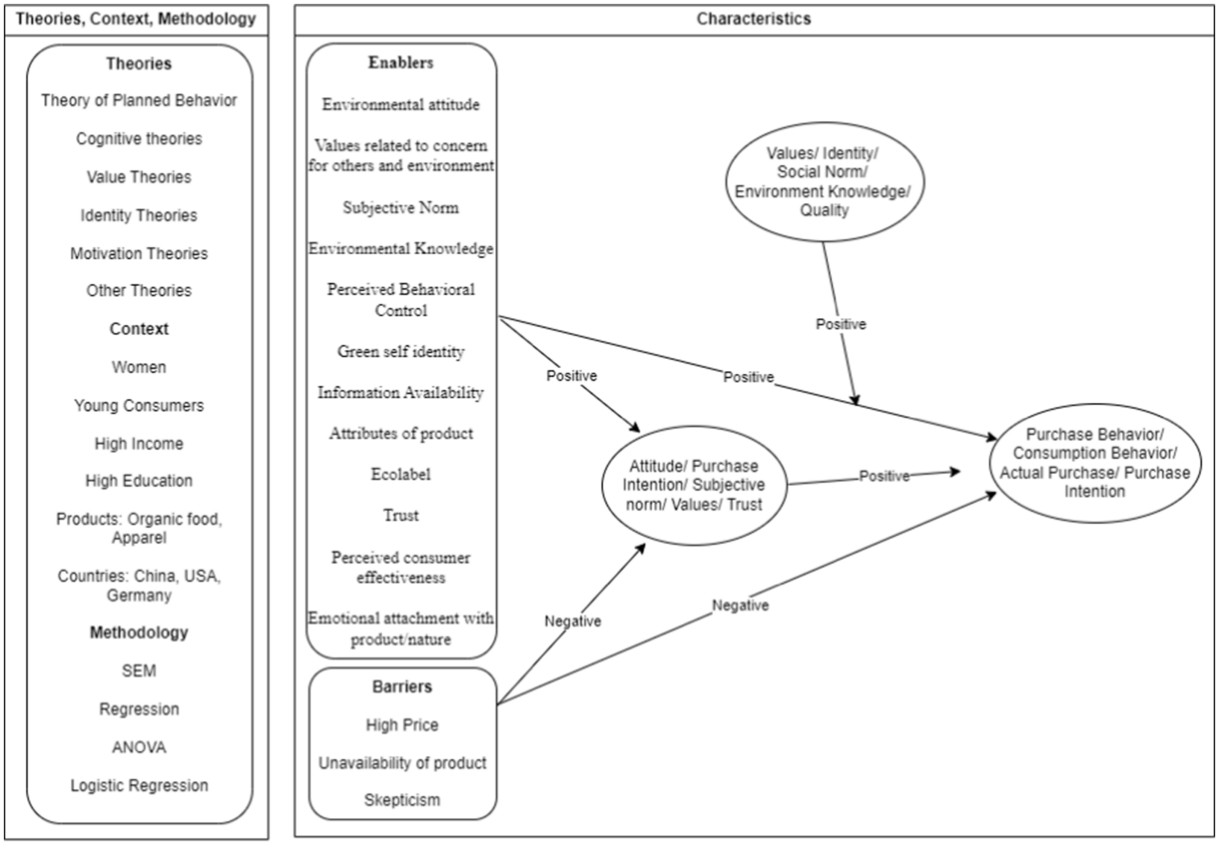

FIGURE 3
Overview of the existing theories, context, characteristics, and methodology used in the existing studies.

5 Research gaps and future research directions

Based on the TCCM framework (Paul and Rosado-Serrano, 2019), this study has identified several gaps in the current literature regarding green consumption. Research gaps are defined as specific topics or areas where the existing evidence is inadequate, making it difficult to draw definitive conclusions for particular research questions (Wong et al., 2021).

5.1 TCCM: "Theory"

The application of social psychology has dominated the field of green consumption. Economic theories that emphasize the perceived utility of green products have received less attention in this area of research. Therefore, future researchers can use Thaler's acquisition and transaction utility theory (Thaler, 1985). The utility theory is useful as it postulates that buyers engage in the mental tradeoff between benefits and prices, thereby enhancing their overall evaluation of purchase (Yuan et al., 2022). A few studies have explored moral emotions in the context of green consumption research. However, the role of basic emotions remains insufficiently addressed. Moral emotions pertain to emotional responses that arise in events that stimulate individuals toward action (Kroll and Egan, 2004). They can be categorized into two types: negatively valenced moral emotions, which include shame, guilt, and embarrassment, and positively valenced moral emotions, which include pride, gratitude, and elevation (Tangney et al., 2007). In contrast, basic emotions are the emotions found in most human cultures and species. They are considered to be innate and universal (Ekman, 1992) and can be classified into two types: negative emotions, which include anger, fear, sadness, and shame, and positive emotions, which include contentment, happiness, love, and pride (Laros and Steenkamp, 2005). The influence of basic emotions plays a significant role in the purchasing process, as consumers' current buying choices are often shaped by the emotional consequences of their prior purchase decisions. Moreover, a substantial number of consumers opt for green products due to health concerns. Non-green products are often associated with potential health risks. However, this aspect remains unexplored in existing literature, offering a promising avenue for future exploration. The Health Belief Theory (HBM) proposed by (Rosenstock, 1974) emerges as a fitting framework. The HBM proposes that an individual's perception of health threats significantly shapes their health-related behaviors. By adopting this model researchers can delve into how consumer perceptions regarding health risks tied to non-green products impact their purchase choices and consumption behaviors. This study proposes that future researchers focus on the utility theory, moral and basic emotions, and health beliefs as key factors influencing green consumption behavior.

5.2 TCCM: "Context"

In the context of green consumption, the research has identified significant gaps in sociodemographic characteristics, products, countries, and places of the surveyed population. These gaps will help in generating new knowledge, leading to a deeper understanding of the topic (Verbeke, 2005; Roy Bhattacharjee et al., 2022).

5.2.1 Products

The field of green consumption research has witnessed a substantial body of literature that lacks specificity concerning product categories. While some studies have focused on particular product categories (Hamzah and Tanwir, 2021; Septianto and Kemper, 2021), the majority of the literature is broadly concerned with sustainable consumption in general, without delving into the specifics of different products. Notably, among the studies that have targeted particular product categories, organic food, and apparel have emerged as the most frequently studied categories. Future researchers should investigate various product categories to fill the gaps in green consumption research. Areas that have received little attention include packaging, used goods, alternative fuels, durable goods, and daily grocery items like soap, toothpaste, and skincare products. Additionally, certain categories such as herbal medicines, herbal cigarettes, sustainable sanitary alternatives, herbal fertilizers, and pesticides have not yet been explored.

5.2.2 Socio-demographics

The current body of literature on green consumption has focused primarily on millennials, with a particular emphasis on individuals aged between 18 and 35 years (Stolz and Bautista, 2015; Yuan et al., 2022). While some studies have explored the attitudes and behaviors of middle-aged consumers, little attention has been given to older consumer demographics. Additionally, only two studies have investigated the adolescent group (Lee, 2011; Geng et al., 2017). Therefore, there is a significant research gap in understanding the green consumption behavior of the older population and adolescents. Specifically, longitudinal studies are needed to examine the development and changes in green consumption behavior across the lifespan and to identify the factors that influence the adoption and maintenance of sustainable consumption practices of consumers of different age groups.

Despite the existing research on the relationship between green products and income, there is still a gap in understanding how green product purchasing behavior varies across different income groups. Dekhili and Achabou (2013) and Stolz and Bautista (2015), have established that green products are often considered as high-cost items. As a result, individuals with higher incomes are more inclined to purchase them, as suggested by Carrero et al. (2016). Some researchers also suggest that individuals from lower socioeconomic backgrounds purchase green products (Elliott, 2013).

The field of green consumption research has predominantly focused on surveying individuals with college degrees and interviewing college students. This has resulted in a body of literature indicating that highly educated consumers are more likely to purchase green products, as evidenced in studies conducted by (Pagiaslis and Krontalis, 2014) and (Salazar et al., 2013). However, the impact of environmental deterioration is pervasive and has affected individuals from all sections of society (Díaz et al., 2019)

5.2.3 Countries

The examination of green consumption behavior has predominantly occurred in developed nations, with China emerging as a primary contributor to such research among developing countries (Chan, 2001; Cheung and To, 2019). While a limited

number of studies have been conducted in India, Pakistan, Bangladesh, and other underdeveloped and developing nations (Kautish et al., 2019; Mazhar et al., 2022), there remains a significant gap in our understanding of green consumption practices in these regions. Furthermore, only a few researchers have explored green consumption behavior across various countries.

5.2.4 Place of surveyed population

Green consumption research has primarily focused on urban consumers, with metropolitan areas receiving the most attention (Dong et al., 2020). There is a dearth of research in the green consumption literature that investigates the rural context, except for one study conducted by (Wang et al., 2014). Furthermore, the impact of pollution in cities has resulted in increased interest in eco-friendly products among consumers (Sun et al., 2019). As such, understanding the divergent green consumption practices of consumers residing in high and low-pollution cities is limited in the existing studies.

This study proposes to fill the gaps in green consumption research by investigating specific product categories that have received little attention, such as packaging, used goods, alternative fuels, durable goods, and daily essentials. Additionally, it aims to explore the green consumption behaviors of various socio-demographic groups, including older adults and adolescents, across different income levels and educational backgrounds. Furthermore, future research can also examine how cultural values and beliefs influence green consumption in underdeveloped and developing countries and investigate the divergent practices of consumers in urban, rural, high-pollution, and low-pollution areas.

5.3 TCCM: "Characteristics"

The examination of the characteristics within the existing literature on green consumption has revealed a notable disparity in the attention afforded to enablers and barriers (Testa et al., 2021). While the former has been the focus of most studies, less attention has been given to the latter. Additionally, research gaps have been identified across independent, mediating, moderating, and dependent variables analyzed in green consumption research.

5.3.1 Independent variables

The identification of the independent variable indicates that the majority of research on green consumption has been centered on the examination of altruistic values like environmental attitudes and values, particularly those that pertain to the care and preservation of the natural environment and its inhabitants, and their effect on consumers' purchasing behaviors. However, there is a dearth of literature that seeks to comprehend the influence of egoistic values like the perceived usefulness of green products, as evaluated by consumers, the level of concern individuals have for their own well-being and that of their families, and the impact of prior purchase experiences like satisfaction, dissatisfaction, and post-purchase regret on consumers' future buying decisions. Additionally, the research on green consumption has not given due attention to the potential health-related risks that motivate consumers to choose environmentally friendly products. Some studies have indicated that consumer purchase decisions are more significantly influenced by egoistic values as opposed to altruistic values (Yadav, 2016). Therefore, it is crucial to comprehend the impact of these egoistic factors on consumer purchasing decisions.

5.3.2 Mediating variables

Mediating variables pertaining to attitudes and purchase intentions have been a common focus in the majority of studies in green consumption research. However, there has been relatively less investigation into the potential role of hedonic and utilitarian benefits of the product as mediating variables. The inclusion of hedonic and utilitarian aspects as mediating variables is significant due to the fact that consumers' purchase decisions are fundamentally influenced by their perception of the product's value and the overall experience they derive from it (Maehle et al., 2015).

5.3.3 Moderating variables

The use of moderating variables in research has predominantly focused on examining values, identity, and demographic factors. However, there is a notable paucity of studies that have investigated how product attributes, self and family care, brand influence and loyalty, retailer relationships, discounts, end-of-season sales, perceived health benefits, and health motivation may function as moderating variables. The use of moderators helps in providing a more refined understanding of a causal relationship between independent and dependent variables (Wu and Zumbo, 2008).

5.3.4 Dependent variables

The prevailing body of literature on green consumption has primarily focused on investigating green or sustainable consumption behavior, purchase behavior, actual purchase, and purchase intention as dependent variables (Liobikienė et al., 2017; Dhir et al., 2021; Bhardwaj et al., 2023). Despite its crucial significance, the exploration of consumer brand loyalty has been comparatively underrepresented in the literature. Furthermore, there appears to be a notable dearth of research that has delved into the consumption experience of being happy, unhappy, satisfied, or unsatisfied, warranting further investigation in this area.

This study proposes to address the gaps in green consumption research by exploring the influence of egoistic values, such as perceived usefulness and personal well-being, on consumer purchasing decisions. Future research can also investigate the role of hedonic and utilitarian benefits as mediating variables, and how product attributes, brand loyalty, and health motivation function as moderating variables. Additionally, future research can emphasize underrepresented areas like consumer brand loyalty and consumption experience.

5.4 TCCM: "Methods"

The field of green consumption research has been primarily dominated by quantitative studies, with a scarcity of qualitative and mixed-methods research. The predominant analytical tools employed in this field are structural equation modeling (SEM), confirmatory factor analysis (CFA), and regression analysis. In experimental studies, analysis of variance (ANOVA) has been widely utilized to compare the consumption patterns of two groups within the study population. Qualitative studies, on the other hand, have mainly relied on in-depth interviews and focus group discussions as the primary

data collection methods. It is worth noting that the underrepresentation of qualitative and mixed-methods studies in green consumption research implies a potential gap in the literature that merits further exploration. Qualitative studies, in particular, are invaluable in providing an in-depth understanding of people's experiences, yielding much richer information about a phenomenon compared to quantitative research. Quantitative methods, by contrast, can answer only a finite set of questions and offer little room for open-ended exploration (Jackson et al., 2007). Mixed-method research, on the other hand, has the potential to bridge the quantitative and qualitative methodological divide and unify dissimilar areas of the discipline, thus offering a comprehensive understanding of the subject matter (Dunning et al., 2008).

Therefore, it is advisable for forthcoming research to incorporate a greater diversity of methodologies, with a particular emphasis on mixed methods and qualitative research. Some qualitative techniques, such as photo elicitation, Z-MET analysis, and observation through eye-tracking glasses, are also suggested as useful tools for observing and analyzing the behavior of participants in such studies.

6 Conclusion

Green consumption encompasses purchasing, recycling, reduced consumption, ethical consumption, and anti-consumption. Existing studies mainly focus on green purchase intentions and behaviors through the lens of social psychology theories. However, economic theories, moral and basic emotion theories, and the Health Belief Theory have received less attention. Current research predominantly focuses on young, educated, urban, and female consumers, leading to a skewed representation. To gain comprehensive insights, future studies should include underexplored product categories, diverse genders, income groups, educational backgrounds, and populations from rural and developing areas. Additionally, examining egoistic values, hedonic and utilitarian benefits, and underexplored moderating variables such as product attributes, self and family care, brand influence and loyalty, retailer relationships, discounts, end-of-season sales, perceived health benefits, and health motivation motivations will enhance the understanding of green consumption. The field needs more qualitative and mixed-methods research to complement the existing quantitative studies and provide richer insights.

The paper is a significant attempt to synthesize the existing research on green consumption and highlight the research gaps to set future research agendas. As such, future researchers and marketers will benefit from the review in the following ways.

6.1 Theoretical-based agenda for future research

This study makes a significant theoretical contribution by identifying the predominant focus on social psychology theories (Lavuri, 2022; Sun et al., 2022), and highlighting the critical gap left by the limited attention to economic theories (Yuan et al., 2022), moral and basic emotion theories (Liang et al., 2019; Wang et al., 2022), and Health Belief Theory (Alagarsamy and Mehrolia, 2023). Figure 4 summarizes the gaps in current research and proposes directions for future studies. It highlights the need to integrate Thaler's Acquisition and Transaction Utility theory, Theory of Basic Emotion, and Health Belief theory. Advocating for a multidisciplinary approach underscores the importance of integrating these underutilized theories to provide deeper insights into cost–benefit analyses, ethical considerations, emotional responses, and health-related motivations in green consumption. By encouraging the integration of these diverse theoretical perspectives, this study encourages future research to adopt a more holistic view of green consumption. Additionally, ensuring diverse representation across gender, age, income, education, product categories, countries, and survey locations may reveal new perspectives on green consumption. Utilizing the underexplored variables and employing mixed methods and qualitative studies can also provide a more thorough understanding of the subject.

6.2 Practical contributions

This study offers valuable practical contributions to the field of green consumption by identifying overlooked areas and providing marketers with opportunities to develop eco-friendly products in underexplored categories. By focusing on sustainable packaging, used goods, alternative fuels, durable goods, and daily groceries like soap, toothpaste, and skincare products, as well as herbal medicines, herbal cigarettes, sustainable sanitary alternatives, herbal fertilizers, and pesticides, marketers can cater to environmentally conscious consumers and meet the growing demand for sustainable solutions.

Additionally, the study highlights the need for equal representation of diverse genders, income groups, and educational backgrounds, suggesting a more comprehensive approach to understanding consumer behaviors. Including older and adolescent consumer groups can offer even deeper insights. This can help marketers and policymakers develop more inclusive and effective strategies tailored to various demographic segments, including those in rural and developing areas.

The emphasis on underexplored egoistic values such as perceived usefulness and personal well-being, alongside altruistic values like environmental attitudes, offers a balanced perspective that can enhance marketing campaigns. Companies can leverage this insight to address both environmental benefits and personal advantages of green products, thereby broadening their appeal.

Addressing the high prices, limited availability, and skepticism towards green products can help rebuild consumer trust. By focusing on these issues, businesses can improve their product offerings and communication strategies to better meet consumer expectations.

The study also underscores the importance of exploring hedonic and utilitarian benefits as mediating variables, which can inform product development and marketing strategies to enhance consumer satisfaction and purchase intentions.

Furthermore, by identifying gaps in the examination of moderating variables such as product attributes, brand influence and loyalty, retailer relationships, discounts, perceived health benefits, and health motivation, the study provides a roadmap for future research. This can help businesses better understand the factors that influence green consumption and develop targeted interventions to promote sustainable behaviors.

Finally, the call for more qualitative and mixed-methods research highlights the need for richer, more nuanced insights into green consumption. This can lead to more effective and tailored

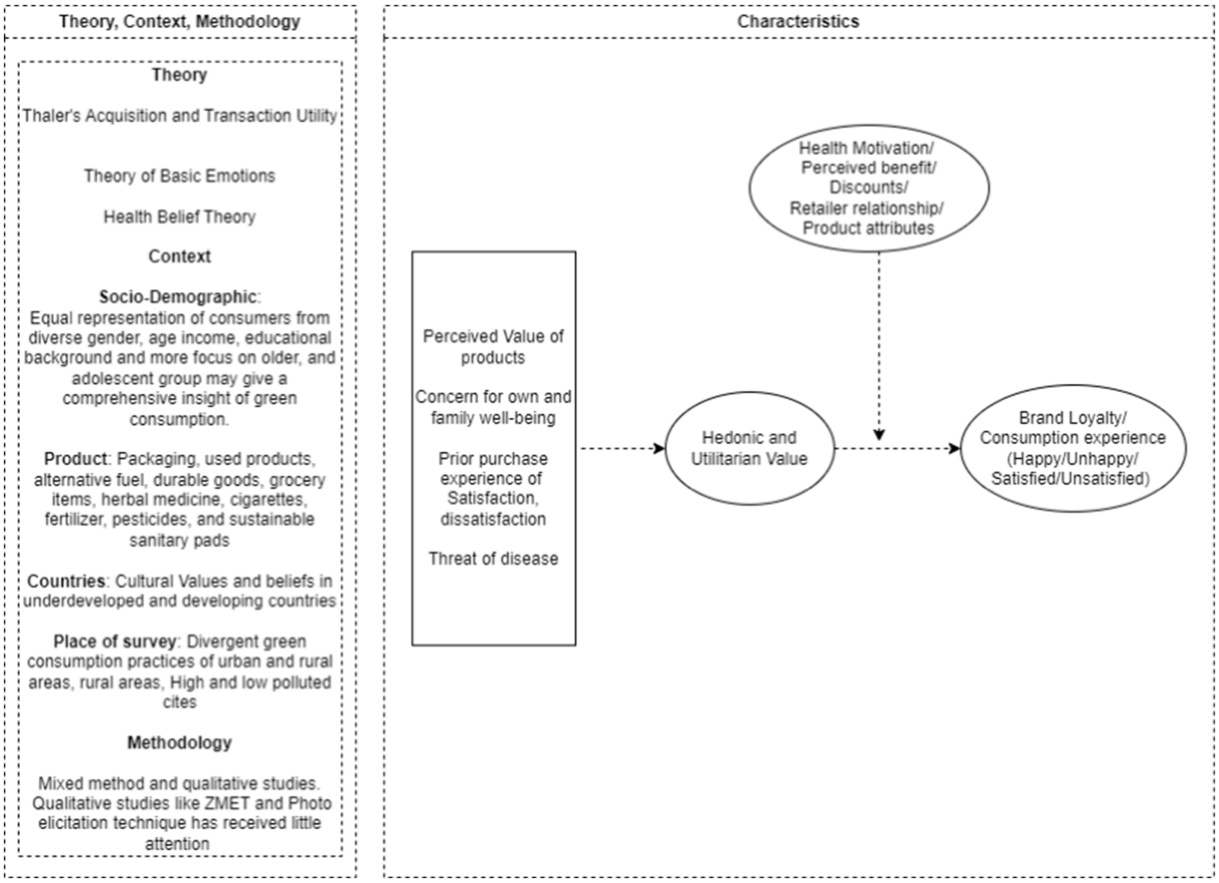

FIGURE 4
Conceptual map of gaps in theory, context, characteristics, and methodology.

marketing strategies, ultimately fostering a deeper and more widespread adoption of green products and practices.

6.3 Limitation

This systematic literature review has some limitations. Firstly, it is important to note that the scope of this study was restricted to the subject domain of business, management, and accounting, and did not incorporate articles from other subject areas. Secondly, the study only utilized the Scopus database, whereas there are other literature search resources such as EBSCO, JSTOR, and Google Scholar that may yield additional relevant publications. Thirdly, it is important to acknowledge that green consumption encompasses a wide range of dimensions including purchasing, recycling, reduced consumption, ethical consumption, and anti-consumption. However, this study exclusively focused on the purchasing aspect.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

M: Writing – original draft.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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