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REVIEW

Drivers to green consumption: a systematic review

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Abstract
Environmental degradation is increasingly attracting the attention of public opinion; however, the rise in environmental concern is not accompanied by a parallel growth of green product consumption. This paper aims to detect and classify all the main drivers to green consumption in an attempt of systematizing previous research results and identifying the most relevant drivers for pushing the transition toward a greener economy. The paper systematically analyzes 113 articles published from 2000 to 2018 within major peer-reviewed English-language scholarly publications in management, economics, environmental, agricultural and biological, decision and social sciences, energy and psychology that adopted a survey-based quantitative approach to measure drivers to green consumption. The research is identified using the keywords green, sustainable, environmental or pro-environmental behavior/intention/purchase or consumption/consumer. The analysis highlights the identification of seven categories of drivers to green consumption: behavioral factors, socio-demographic variables, intrapersonal values—environment, intrapersonal values—non environment, personal capabilities, products and producers-related factors and context-related factors.

Keywords Green economy · Green product · Purchase intention/behavior · Drivers to green consumption · Sustainable consumption

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1 Introduction

Green consumption is a form of consumption that is compatible with the safeguard of the environment for the present and for the next generations. It is a concept which ascribes to consumers responsibility or co-responsibility for addressing environmental problems through adoption of environmentally friendly behaviors, such as the use of organic products, clean and renewable energy and the research of goods produced by companies with zero, or almost zero, impact (Connoly and Prothero 2008).

Consumer habits have changed rapidly in recent decades: consumers are now less likely to make purchasing decisions based on brand loyalty or price and try to select products that align with their values, expressing a preference for more sustainable products from an environmental, ethical and social point of view (Gilg et al. 2005; Griskevicius et al. 2010). A Nielsen survey of 30,000 citizens in the world (2015) demonstrated how sustainability is playing an increasingly significant role in consumer decision making: 45% of respondents said they preferred products with reduced environmental impact. Similar considerations emerge from European studies which show that consumers believe they are contributing to the reduction of climate change through their purchases of goods and services (EC 459, 2018). Similarly, a study by BBC World News and Synovate reports that more than 61% of US consumers have purchased green products (Hanson 2013).

The positive trends of green consumption in the last decades enhanced by the increase in communication claims and labels aiming to valorize green attributes of a product have attracted the attention of scholars from a twofold perspective. First, theorists, rooting from broad theories on human behaviors, have tried to design a conceptual framework dedicated to pro-environmental behaviors (Stern et al. 1999; Stern 2000; Zepeda and Deal 2009). Second, researchers have focused on empirically testing these theories detecting the role of specific factors on the purchasing decision of a defined or generic green product.

Although in the last two decades there was a proliferation of studies on the drivers to green consumption, several contents and methodological differences have impeded to get a clear and shared understanding of this complex phenomenon, by reaching, in some cases, also contrasting results.

First, purchasing behaviors is a complex phenomenon on which a multitude of factors can play a positive or a negative effect (Stern 2000). Moreover, even if inspiring theories of green consumer research highlighted the role of values and moral norms (Schwartz 1970; Stern et al. 1999) or were grounded in self-interest and rational choice (Ajzen 1991; Zepeda and Deal 2009; Montano et al. 2015), behavioral predictions based on personal norms can diverge from actual behaviors due to attitude-behavior gaps (Kollmuss and Agyeman 2002; Sarti et al. 2018). Despite the concern for major environmental issues such as climate change, depletion of marine pollution and the positive attitude of consumers toward sustainability and ecological products, the market share of low environmental impact consumption remains limited to only 1–3% of the entire global market (Bray et al. 2011). This suggests that environmental considerations can play a secondary role in purchasing decisions (Mohr et al. 2001). Information, price, store-related factors, labels and emotional aspects are only some examples of the external issues that can hinder or support a green purchasing behavior (Cerri et al. 2018; Gleim and Lawson 2014; Zsóka et al. 2013). However, most of the previous studies have focused on a single or few groups of factors missing to provide a comprehensive picture of such a phenomenon.

Second, empirical studies have detected green purchasing behaviors by using two alternative perspectives. Some studies have focused on a general category of green products

(Butt et al. 2017; Grimmer et al. 2016; Testa et al. 2016; Konuk et al. 2015), whereas other scholars focused on a specific product or product categories such as apparel (Khare and Sandachar 2017; Reimers et al. 2016), personal care products (Paul et al. 2016; Kim and Chung 2011), energy-efficient appliances (Wang et al. 2017a; Ha and Janda 2012), electric cars (Lin and Wu 2018; Barbarossa et al. 2017), ecological paper products (Barbarossa and Pelsmacker 2016; Testa et al. 2013), green detergents (Arli et al. 2018; Papista et al. 2018) and remanufactured products (Matsumoto et al. 2018; Jiménez-Parra et al. 2014). A different focus can also lead to contrasting evidence. This is plausible if we consider how different factors intervene for influencing the purchasing of a specific product.

Third, empirical studies have highlighted how some drivers are relevant only for certain products. For instance, it is the case of the "need for status" or willingness to represent fashion leadership for apparel products (Cervellon et al. 2012; Gam 2011), infrastructure readiness for electric vehicles (Wang et al. 2017b; Wu et al. 2015) and quality for remanufactured products (Qu et al. 2018; Vafadarnikjoo et al. 2018).

Fourth, different studies found contrasting causational effects of the same variable on the final consumption behavior in relation to different types of products: for instance, Kim and Chung (2011) found a positive correlation for perceived behavioral control on the purchase intention of green personal care products, whereas Barbarossa and De Palsmacker (2016) measured a negative effect of PBC on the purchase of green paper tissues. Similar contrasts have been registered in relation to the effect of the price of green products: in fact, in certain cases, the green option is also cheaper as for remanufactured laptops (Jiménez-Parra et al. 2014), whereas, in other cases, it represents the most expensive alternative and thus exerts a negative effect on the final purchase intention, as for electric vehicles (He and Zhan 2018).

These considerations confirm that the important causal factors may vary greatly across behaviors and individuals, and thus, each target behavior should be theorized separately (Stern 2000).

According to this distinguished affirmation, a further confounding element about research on green consumption derives from the different geographical contexts where the studies were conducted. In the last two decades, studies have mainly focused on the Asian and European markets with a prevalence of research developed in India and China. As for the Americas, only the US market has been widely investigated. Furthermore, most of the studies focused only on one specific country. Still, even if cross-country studies were limited in numbers, scholars have found that cultural differences can influence interpersonal factors as well as the effect of contextual factors (Milfont et al. 2006; Mancha and Yoder 2015).

Considering these limitations, the aim of this work is to analyze the drivers of green consumption through a systematic review of empirical studies, providing several contributions to both academic research and practitioners' world.

First, this study provides a comprehensive and original categorization of the multitude of factors investigated in previous empirical research. This systematization can help scholars and managers that have rarely time to systematically analyze all research in this field. Moreover, by providing a clear overview of similarities and differences of previous studies according to different focuses and contexts, scholars could get useful information for designing robust and reliable empirical research, grounded on valid measurements, avoiding overlapping with previous studies.

Second, this study offers useful suggestions for future research. Based on contractions and limitations emerging from previous empirical research, this review provides relevant indications for scholars in this field, identifying gaps to fill by further empirical studies.

Even if questionnaire-based surveys have recently received numerous critics due to the presence of common method variance bias that affects empirics where predictor and criterion variables are measured from the same source, we believe that an acritical approach on this issue may conduce to erroneous conclusions. Testa et al. (2019) have recently demonstrated that, in the case of organic food, there is a strong, significant positive relationship between intention to buy and actual behavior. However, the same study stresses that social desirability may be still an issue. In addition, Cerri et al. (2018), by using a factorial survey approach, have found that well-designed surveys, adopting proper remedies for social desirability, can minimize this risk. Finally, recent work from Fuller et al. (2016) has empirically demonstrated that the common post hoc methods for detecting the presence of common method variance are sufficiently reliable.

Moreover, this systematic review fills a gap in the scholarly literature on reviews on green consumption.

In the last 15 years, there have been some literature reviews on sustainable consumption; however, none of them addressed the topic like we aim to do. Milfont and Markowitz (2016) reviewed the studies conducted on green behavior in general where green consumption was only one type of the different green behaviors considered (e.g., including water and energy saving, recycling, etc.), whereas Bray et al. (2011) focused on the drivers to ethical consumption thus taking into consideration also social aspects and not exclusively environmental ones. Kauffman et al. (2012) tried to develop a conceptual framework on the factors affecting consumers' green purchasing behavior: however, they did not adopt a systematic approach and the included studies stopped at 2011. Joshi and Rahman (2015) focused on the attitude-behavior inconsistency issue and not on the drivers to green consumption in general. Furthermore, they considered only 53 articles published before 2014 thus, given the limited number of papers examined and the fact they did not take into consideration the type of product considered by the studies included in the literature, a large part of the detected relevant factors for green consumption were found to have different impacts on the final purchase decision with not well-defined results and a clear call to further investigate the subject.

Other reviews looked at the phenomena from the marketing point of view: Dangelico and Vocalelli (2017) reviewed green marketing studies, White et al. (2019) focused on how to shift consumer behavior taking into consideration only marketing studies, and Atwahl et al. (2019) analyzed the literature on sustainable luxury marketing. Finally, Wang et al. (2019) published a review on sustainable consumption trying to highlight the main different patterns between developed and developing countries.

The rest of the manuscript is organized as follows. First, the methodology adopted to conduct the systematic review is described. Second, the descriptive statistics of the reviewed studies are presented followed by the classification of the detected drivers to green consumption. Finally, a synthesis of the results and avenues for future research are presented.

2 Methodology

Drivers to sustainable consumption have been broadly analyzed from many perspectives and across several disciplines. Thus there is the need to systematize previous work outcomes in order to advance a new stream of research. Furthermore, systematic review allows combining data using meta-analytical techniques, thus increasing the likelihood

of detecting real effects that individual smaller studies are unable to detect (Kitchenham 2004). Systematic reviews are generally developed following three main steps (Boiral et al. 2018; Oliver et al. 2005; Tranfield et al. 2003):

1. setting the research question and review protocol;
2. searching for relevant studies using inclusion and exclusion criteria;
3. data extraction and analysis.

2.1 Research question and review protocol

The aim of this review is to identify the drivers to green consumption and the purchase of green products.

So, we analyzed the literature on the drivers to green consumption, limiting the research to empirical articles in English published in peer-review journals from 2000 to July 2018.

The choice of the initial year was related to the influence exerted by the theorization of the determinants of environmental behavior developed in the late 1990s. In particular, Stern formulated the value-belief-norm (VBN) theory (Stern et al. 1999), the first behavioral theory developed with the precise aim of explaining the adoption of a green behavior and the attitude-behavior-context (ABC) model (Stern 2000) to explain the different factors that influence the adoption of a green behavior. VBN identifies four interconnected factors that determine the adoption of green behavior. The first factor concerns the individual's vision of the relationship between man and the natural environment: "biospheric", "altruistic", or "egoistic". A vision in which the environment represents an essential value to preserve can determine the idea that there are external threats that could have negative consequences on its state of conservation. This idea, if supported by the identification of individual actions suitable for limiting these threats, leads to the formation of a personal norm and, consequently, to the adoption of the behavior identified as suitable. The ABC model, instead, deepens the relationships among internal attitudes and external contextual factors (e.g., monetary incentives and costs, physical capabilities and constraints, institutional and legal factors, public policy support, interpersonal influences etc.) or, in the language of ABC, behavior (B) is "an interactive product of personal sphere attitudinal variables (A) and contextual factors (C)" (Stern 2000).

The exclusion of the "grey literature" is due to the fact that we are looking for generalizable results and we thus need a high-quality studies to analyze.

According to Kitchenham and Charters (2007), the search algorithm has to be defined starting from the research question since it is important to include all the main domains and the relevant keywords to identify them.

We then include adjectives like "green", "environmental" and "pro-environmental" linked to the domain "purchase", "consumption" and "consumer" on the one hand and to the broader concepts of "behavior" and "intention" on the other. We decided to include different synonymous for each domain in order to be largely inclusive and prevent the risk of missing relevant studies (Wanden-Berghe and Sanz-Valero 2012). As a result, the following algorithm was launched on Scopus and ISI Web of Science in July 2018:

(green OR sustainab ∗ OR environment ∗ OR pro - environment*)
AND (purchas ∗ OR consumption OR consumer ∗ OR buy*)
AND (behavior ∗ OR intention*)

This first search found 7270 articles.

2.2 Searching for relevant studies using inclusion and exclusion criteria

Paper selection is a crucial stage of a systematic review and helps focus on the most relevant studies, increasing the efficacy of the analysis. Following this consideration, inclusion and exclusion selection criteria were applied according to the two steps suggested by Petticrew and Roberts (2008): practical and methodological screening.

First of all, we kept only articles published in journals enlisted in at least one of the following eight subject areas: Business, Management and Accounting; Environmental Sciences; Energy; Agriculture and Biological Sciences; Economics; Psychology; Decisions Sciences and Social Sciences dropping the number of selected articles from 7270 to 5546.

Secondly, we operated a journal selection of the basis of 3 different criteria:

(a) Qualitative criterion, including only marketing journals with at least two ABS stars ("Appendix)";
(b) Quantitative criterion, we also included all the journals that were present with more than 30 articles among the 5546;
(c) Subject criterion, since our research is developed in the framework of the Environmental Management field of study, we also included the following most relevant sectoral journals (Table 1).

Applying these criteria dropped the number of articles to 1530.

The selected studies were further screened through titles and abstracts and, in the case of doubts, full-text analysis (Table 2). In this case, the inclusion criteria were the following:

1. Since the focus of the review is to systematize previous knowledge on the drivers of green purchasing behavior or intention, we included only papers where the influence

Table 1 Environmental management journals included in the review

No.	Journal
1	Journal of Cleaner Production
2	Business Strategy & Environment
3	Journal of Business Ethics
4	Ecological Economics
5	Organization & Environment
6	Journal of Environmental Management
7	Journal of Business research
8	Energy Policy
9	Waste Management
10	Resources Conservation and Recycling
11	Journal of Environmental Psychology

Table 2 Inclusion and exclusion criteria for the review

Inclusion criteria	Exclusion criteria
- Articles published between 2000 and 2018 - Articles published in peer-review journals - Articles whose main was to measure the intention and/or the actual purchase of a green product and/or the intention to behave or the actual pro-environment behavior - Articles published in journals enlisted in at least one of the eight following subject areas: Business, Management and Accounting; Environmental Sciences; Energy; - Agriculture and Biological Sciences; Economics; Psychology; Decisions Sciences and Social Sciences - Articles that used a questionnaire-based survey as main research methodology	- Books, memories and unpublished these as an article - Articles published in journals that did not satisfy any of the following requirements: - It has at least two ABS stars among management journals - It is included in the Environmental Management journals list (see table x) - It has published at least 30 of the selected articles - Main object of the study is a food product

of individual or external factors on the intention and/or the actual purchase of a green product was tested;

2. For the same reason, we focused only on articles that applied a quantitative method for testing hypotheses based on causal relationship: a questionnaire-based survey (Okoli and Schabram 2010). This inclusion criterion was derived from the need for combining data using the meta-analytic technique in order to increase the likelihood of detecting real effects (Kitchenham 2004). In this case, we wanted to identify which of the measured drivers resulted as significantly impactful in different studies in order to generalize the results and exclude isolated and not replicated outcomes of single studies. Thus, we needed to focus only on quantitative studies that resulted in easily comparable results.

Two researchers reviewed independently titles, abstracts and, in some cases, full text, of the assigned articles, deciding if they had to be included or not. A third more expert researcher reviewed the final selection. Several studies (Gomersall et al. 2015; Kitchenham and Charters 2007; Breretona et al. 2007; Templier and Paré 2015) suggest assigning the review to at least two researchers: an expert on the topic under investigation and a non-expert to provide a fresher point of view. In the case of disagreement, researchers directly confronted each other on the article until a common decision was made. In case of doubt, the article was prudentially included in the selection (Breretona et al. 2007).

On 1530 articles analyzed, 162 satisfied both the conditions.

Among these 162 studies, 46 were about green food products. We decided to exclude them from our review because the most used characteristics to qualify food product as "green" are the fact that it is organic or biological: these are attributes that consumers often look for more for quality and healthiness-related issues rather than for their environmental impact (Hüttel et al. 2018; Prothero et al. 2010). It is thus complicated to distinguish in which measure the preference for a green food product is derived from pure environmental considerations rather than from health and quality-related reasons (Sarti et al. 2018; Kareklas et al. 2014). Consequently, we excluded 46 food-related studies and dropped the number of the selected articles to fully review to 113 (Fig. 1).

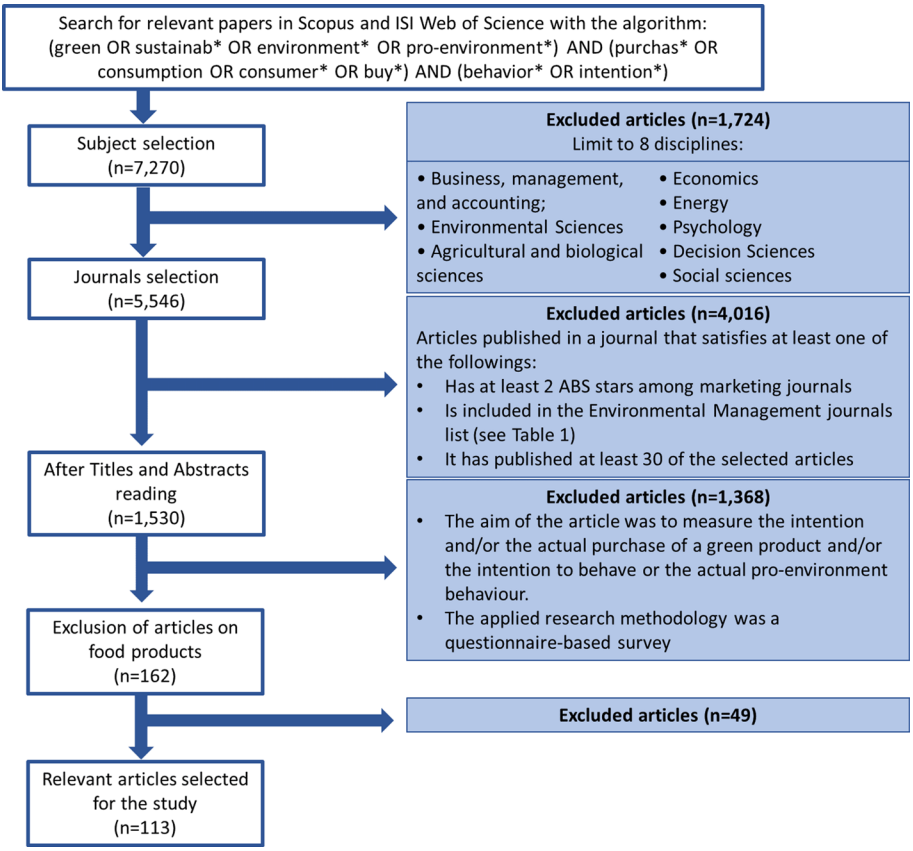

Fig. 1 Relevant articles selection process

2.3 Data extraction and analysis

The final step of the systematic review is to extract and analyze the relevant data from the selected papers.

First of all, a categorization grid in excel format was developed by the research team. For each paper the following information was extracted and inserted in the grid by four researchers: References, Journal, Study Background, Abstract, Theories used, Year of data gathering, Geographical scope, Analysis Unit (single consumer, household), Type of Survey, Sample characteristics, Hypothesis (List), Model Image of the hypothesis if present, Independent variables (1st level), Mediating variables, Moderating variables, Control variables, Dependent Variables (es. purchasing behavior or purchasing intention), Type of product (electric appliance, car, apparel, etc.), Questions to measure dependent variables, Statistical Methods adopted for data analysis and Findings.

Secondly, all the considered independent variables, 560 in total, and their detected influence—positive, negative or neutral—over the final intention or decision to purchase the green product, were extracted and enlisted in a separate excel sheet for coding. In the same sheet, we also reported which types of products were the object of each study.

To limit bias due to the subjective interpretation of the results, extraction and data analysis were performed independently by four researchers and entirely reviewed by a fifth more experienced researcher (Rowley and Slack 2004). Points of disagreement were resolved by ad hoc discussions between the whole research team. These discussions mainly focused on the opportunity to insert additional codes in the categorization grid or on the ratio behind independent variables classification. At the end of the whole categorization and classification process, the senior researcher reviewed the entire classification system in order to validate it.

Third, the results of the categorization and classification process were analyzed by two coders in order to calculate the proportion of studies related to each code. For instance, the analysis of the codes related to the countries made it possible to evaluate the geographical distribution of the studies, whereas the analysis of the products considered helped in mapping which categories of goods have been more explored. More importantly, the classification of the independent variables and the analysis of the most represented categories allowed to infer which are the most relevant in relation to both green products in general and circular products in particular.

Finally, a synthesis of the main results of the systematic review for the main variables and codes of the categorization and classification grid was produced in a separate document by each of the two coders and structured on the following three main themes: (1) mapping of the literature; (2) drivers to green consumption; and (3) drivers to circular consumption.

2.4 Mapping of the literature on green consumption questionnaire-based studies

The analysis of the characteristics of the questionnaire-based studies on green consumption shows some interesting tendencies. The characteristics that we took into consideration for mapping the studies included in our selection are: the geographical distribution of the samples analyzed, the year and the journals of the publications. The results are summarized in Table 3 and Fig. 2.

The geographical distribution shows a strong prevalence of Asian and European studies. However, if we look at the Countries' distribution, we can see that most of the Asian studies have been conducted in India (14.5%) and China (12.8%), whereas the USA alone accounts for most of the American studies (13.7%). In Europe, there is a higher distribution of studies among several countries (14) with the UK (6.0%) and Italy (3.0%) as the most relevant contributors.

In relation to the year a publication, there is clear evidence that the quantitative approach in studying green consumption has constantly grown since 2000 with impressive acceleration in the last 3 years (Fig. 2). The figure of 2018 is partial since we launched our search in July 2018: this means that 17 studies have been published in the first 6 months of 2018 thus the final total of 2019's publications could easily overcome the 2017's peak of 25 studies.

Finally, we have enlisted the different journals where the articles were published and subdivided them among their main subject of study: marketing, environmental management, general management, retail and distribution and psychology. Most of the analyzed articles were published in marketing journals (49.6%): this is a piece of important information because it testifies the growing interest of marketing scholars on green consumption, green marketing strategies and green products' advertising. This circumstance is much more evident if we compare this percentage with the environmental management

Table 3 Mapping of the literature on green consumption questionnaire-based studies

Samples distribution[a]	Year and Journal of publication
Geographical distribution per Continent (% of publications): Asia 50.4% Europe 31.6% America 15.4% Australia and Oceania 6.0% Africa 0.9% International (several Countries) 1.7% **Geographical distribution per country** (% of publications): India 14.5% USA 13.7% China 12.8% Uk 6.0% Malaysia 6.0% Australia 4.3% Italy 3.4% Taiwan 3.4% South Korea 3.4% Denmark 3.4% Vietnam 3.4%	**Number of publications per year:** 2000 (1), 2001 (1), 2005 (1), 2007 (4), 2008 (1), 2009 (3), 2010 (3), 2011 (5), 2012 (6), 2013 (7), 2014 (10), 2015 (12), 2016 (17), 2017 (25), 2018 (17)[b] **Journals** (type and number of publications): - Marketing (49.6%): *International Journal of Consumer Studies (19), Journal of Fashion Marketing and Management (9), Marketing, Intelligence and Planning (8), Journal of Marketing Management (6), Journal of Consumer Behaviour (4), Journal of Consumer Marketing (4), Psychology and Marketing (4), Other (2);* - Environmental Management (30.1%): *Journal of Cleaner Production (22), Energy Policy (4), Business Strategy and the Environment (3), Ecological Economics (2), Resources, Conservation and Recycling (2), Journal of Environmental Management (1);* - General Management (8.0%): *Journal of Business Research (5), Journal of Business Ethics (3), Journal of Strategic Marketing (1)* - *Retail and Distribution (9.7%): Journal of Retailing and Consumers Services (8), International Journal of Retail and Distribution (3);* - Psychology (2.7%): *Journal of Environmental Psychology (3)*

[a]Only the most represented countries are listed. Certain studies covered several countries

[b]The figure of 2018 is partial since we launched our search on July 2018

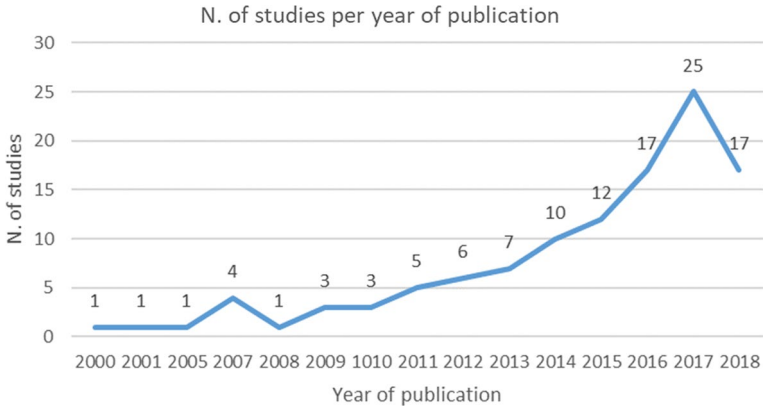

Fig. 2 N. f studies per year of publication

Table 4 Number of articles per type of products

Products considered[a]	No. articles	Percentage
Green products in general	37	28.9
Apparel and clothing	16	12.5
Electric appliances	15	11.7
Electric or green cars	14	10.9
Green behavior in general	8	6.3
Organic	5	3.9
Green cosmetic products	4	3.1
Remanufactured products	4	3.1
Green packaging	4	3.1
Green paper	3	2.3
Green detergents	3	2.3
Recyclables	3	2.3
Fair Trade	3	2.3
Other	10	8.0
Total	128	100.0

[a]Some articles took into consideration more than one product. In these cases, we counted 1 article for each type of product: this is why the total number of articles is 128 and not 113

and general management ones. In fact, if it is not surprising that 30.1% of the journals are focused on environmental issues—especially taking into consideration our journals' inclusion criteria—it has to be highlighted how only 8.0% of the considered studies were published in general management journals.

This distribution might indicate that despite a growing interest toward green consumption by marketing studies, general management scholars do not see it as a rising field of study.

In addition, we classified the studies based on which type of products they considered as the main object of their questionnaire (Table 4). In fact, drivers to green consumption might change in relation to the product considered (e.g., electric appliances, personal care products, recycled products, etc.). Furthermore, this categorization was crucial for identifying the studies focusing on circular products and providing an answer to our second research question.

3 Drivers to green consumption

The analysis of the academic literature has allowed the identification of a series of drivers that can affect the purchasing behavior of green products. These factors can be aggregated in the following macro-categories:

1. socio-demographic aspects (gender, age, level of education, etc.);
2. intrapersonal values—environment;
3. intrapersonal values—non environment;

4. personal capabilities determining in which measure the individual is aware or able to adopt a specific behavior and finally;
5. behavioral factors, such as the habits of the individual and past behaviors, etc.;
6. products and producers-related factors: it includes all the attributes of the product, the brand and the consequent perceived value of the product, including the level of consumer knowledge of certain products and labels;
7. factors that relate to the context in which the consumer is at the time of purchase: it includes all those variables that measure the influence of contextual factors on behavior such as messages conveyed by media and advertising, product availability (accessibility), word of mouth, peers advice, etc.

Table 5 provides an overview of the number of variables detected for each category and the number of articles that have taken them into consideration, whereas Fig. 3 graphically synthesizes the different variables in each category.

3.1 Intrapersonal values: environment

Two different sub-categories of intrapersonal factors are identified: intrapersonal factors that are strictly connected with the environment and intrapersonal factors that attain to other values that can affect the final decision to purchase a green product but are not directly related to the environment.

In the first category, we have identified 12 variables in 91 out of 113 articles. Examples are personal values or basic human values (Schwartz 1992) which affect subjects' behavior through the activation of personal norms (Steg and De Groot 2012; Stern et al. 1995) and can thus exert a strong influence on green consumption choices. Following Schwarz's taxonomy, subjects moved by auto-transcendence values or altruism are more prone toward the environment because they perceive it as a common good and are thus more inclined to protect it (Heberlein 1972). It was not a surprise then to see that several of the analyzed studies consider ecological values, altruism, collectivism and social justice as relevant antecedents of a strong interest toward environment (Sreen et al. 2018; Nguyen et al. 2017a, b; Reimers et al. 2017; Testa et al. 2013; Leonidou et al. 2010; Hustvedt and Dickson 2009; Chan 2001).

Table 5 Classification of the drivers to green consumption

Category	Variables	No. of variables	% on tot. variables	No. of articles	% on tot. articles
Subject	Behavioral factors	3	6	21	19
	Socio-demographic variables	6	13	13	12
	Intrapersonal values—Environment	12	25	88	78
	Intrapersonal values—non environment	12	25	39	35
	Personal capabilities	5	10	41	36
Product	Products and producers related factors	6	13	30	27
Context	Context	4	8	51	45
Total		48	100	113	–

Fig. 3 Drivers to green consumption classification

In relation to conservation values, Barbarossa et al. 2017 found that conservative values, such as conformity, security and tradition, have a negative influence over both the purchase of green vehicles and the development of a green self-identity. On the contrary, a Malaysian study (Ramayah et al. 2010) found that subjects with strong conservative values pay more attention to their behaviors' impact on the environment.

Within the category of intrapersonal factors related to the environment, environmental awareness has been largely studied as one of the most relevant antecedents to green purchase. This factor is generally analyzed as environmental concern (28 studies on 113 such as Mostafa 2007a; Newton et al. 2015; Martenson 2018), environmental knowledge (22 studies on 113 such as Chan and Lau 2000; Kanchanapibul et al. 2014; Bong Ko and Jin 2017) and attitude toward the environment (34 studies on 113 such as Cho et al. 2013; Kang et al. 2013; Felix and Braunsberger 2016): since all the found relations are generally positive, we report here the rare cases where they were not confirmed. In relation to environmental concern, Reimers et al. (2017) found that the adverse environmental consequences directly related to the purchase of conventional clothing do not affect the purchase of green clothes, whereas Abdul-Muhmin (2007) reports that environmental concern

does not influence willingness to pay more for green products. In relation to environmental knowledge instead, three studies detected a neutral effect on green clothing purchases (Khare and Varshneya 2017; Khare and Sadachar 2017; Chang and Watchravesringkan 2018).

Another relevant variable is the perceived efficacy of consumer (PEC) or, in other words, the measure of how the consumer thinks that his behavior can make the difference in relation to environment protection (Vermeir and Verbeke 2006). This factor has been confirmed by Kang et al. (2013) in a study conducted between US, South Korea and China on green clothing, by He and Zan (2018) in relation to electric cars and by Jaiswal and Kant (2018) on Indian purchase behavior of green products in general. However, Jayawardhena et al. (2016) did not detect any influence of PEC on "Fair Trade" labeled grocery products.

Following a different perspective, subjects that are aware of consequences and are aimed by an ascription of responsibility tend to adopt pro-environmental behaviors (Stern et al. 1995). These relationships were verified by some studies conducted in Asia: on ecological products in general in Libano (Dagher and Itani 2014); on soaps, towel paper and detergents in Indonesia (Arli et al. 2018); and on electric vehicles in China (He and Zan 2018).

There are subjects with a strong green self-identity that perceive environment protection as a moral duty toward society: these persons adopt pro-environmental behaviors because they satisfy and accord to their positive self-image. This relation has been confirmed in relation to the purchase of electric vehicles in Europe (Barbarossa et al. 2016; Barbarossa et al. 2017), ecological paper tissues in Italy (Barbarossa and De Pelsmacker 2016), soaps, paper towel and detergents in Indonesia (Arli et al. 2018) and green products in general in UK, China (Dermody et al. 2015) and India (Khare 2015).

Finally, some studies consider attitude toward the purchase of a green product as an antecedent of the purchase intention and behavior. In most of the cases, these studies focus on specific types of green products: on green clothing (Reimers et al. 2016; Bong Ko and Jin 2017; Reimers et al. 2017; De Lenne and Vandenbosch 2017; Chang and Watchravesringkan 2018), electric vehicles (Barbarossa et al. 2015), low consumption appliances (Gaspar and Antunes 2011) and refurbished laptops (Jiménez-Parra 2014).

3.2 Intrapersonal values: non environment

We have identified 12 variables in this category analyzed in 39 articles.

The category Intrapersonal values—non-environment includes some general personal characteristics that can influence behavior: personal values, culture and attitude toward specific behaviors, e.g., the purchase of innovative products and personal identity and orientation.

Personal values derive from a subject's lifestyle traits (Lastovicka et al. 1999). Several types of traits associated with green consumption were analyzed in the literature. First of all, frugality is strictly related to attention to costs and can thus influence the preference of green products when they are more convenient, like in the case of second-hand clothes (Cervellon et al. 2012) or more durable, like in the case of high-quality clothes (Cho et al. 2015). On a similar level, several studies have considered subjects' long-term orientation as an antecedent of a strong attitude toward the environment and thus, of green purchase (Polonsky et al. 2014; Nguyen et al. 2017c; Sreen et al. 2018). Other studies have considered liberal political orientation (Leonidou et al. 2010; Watkins et al. 2016), religious

orientation (Felix and Braunsberger 2016) or the desire to exert social influence (Khorasanizadeh et al. 2016).

Cultural orientation as well can influence subjects' attitude toward green consumption. Several studies have considered the influence of individualistic versus collectivistic cultures: in particular, collectivism has been always found as an antecedent of green consumption (Sreen et al. 2018; Nguyen et al. 2017b; Wang 2014; Cho et al. 2013; Leonidou et al. 2010; Chan 2001), whereas individualism did not cause any significant influence (Lu et al. 2015).

Finally, attitude toward specific behaviors relates to particular correlations: for instance, status life trait and attention for fashion become relevant when analyzing clothes (Cho et al. 2015; Cervellon et al. 2012; Gam 2011), whereas attention for product healthiness is important for green personal care and cosmetic products (Kim and Seock 2009; Kim and Chung 2011).

3.3 Behavioral factors

We have identified 3 variables in 21 out of 113 articles for this category.

Habit, past behaviors and routine can strongly influence consumers' behaviors. In the analyzed studies we have identified three main types of relevant behavioral factors: consumers' purchase behavior, habit and other green behaviors.

Some characteristics of consumer purchase behaviors can predict their final purchase choice. For instance, in relation to clothes shopping, treasure hunting and bargain hunting can encourage the purchase of vintage or second-hand products, respectively (Cervellon et al. 2012), whereas shopping enjoyment may exert a positive influence over green product purchase in general (Gam 2011).

Habit and past consumption experience can also affect purchase behavior: for instance, Kumar et al. (2017) found that past purchase of products with recycled packaging increases the intention to buy others in the future. Similar results were obtained by Kim (2011) in relation to bio-based personal care products, by Cowan and Kinley (2014) for green apparel and by Khare (2015) in relation to general green products. On the other hand, the habit of buying regular not green products negatively moderates the positive relations between environmental attitudes and green consumption (Nguyen et al. 2016).

Other green behaviors that were found relevant for the final green purchase are recycling (Liobikiene et al. 2017; Khare 2015), energy and water savings (Dieu-Hang et al. 2017; Liobikiene et al. 2017), past socially responsible behavior (Robinot et al. 2017), environmental activism (Brochado et al. 2017), buying local products and using public transport means (Liobikiene et al. 2017) and environmental friendly past behaviors in general (Khare and Sadachar 2017; Gam 2011; Haron et al. 2005).

3.4 Personal capabilities

We have identified 4 variables in 41 out of 113 articles for this category.

According to the TPB (Ajzen and Fishbein 1980), one key driver of behavioral intention is the perceived behavioral control (PBC) or the subject's perception of his ability to actually implement a behavior, in our case, green purchase. PBC is often measured in an aggregated form, taking into consideration all the different required resources, abilities and

capabilities together (Ghazali et Al. 2017; Onwezen et al. 2017; Albayrak et al. 2013; Arli et al. 2018; Sreen et al. 2018; Paul et al. 2016; Yadav and Pathak 2017).

In other cases, PBC is subdivided into different components and can affect the final green consumption decision in different ways on the basis of the products considered. Price, in particular, beyond being a product's characteristics, also represents a PBC measure when applied to expensive products since, in these cases, it becomes a limit to consumer's actual purchase possibility. This relation has been confirmed in relation to electric cars (Yadav and Pathak 2017), laptops (Hazen et al. 2017) and bicycles (Vafadarnikjoo et al. 2018). All these products, however, can also be easily remanufactured and resold for a lower price on the market: in relation to these greener options then, price represents a driver to green consumption.

On the other hand, in most cases, a greener product requires a premium price and thus, price becomes a deterrent to green purchase: for instance, in the case of cosmetic products (Hsu et al. 2017) and of detergents (Papista et al. 2018). This relation is often studied through the measurement of the willingness to pay more for the green product as an antecedent of green purchase: see, for instance, Prakash and Pathak (2017) and Cowan and Kinley (2014) in relation to sustainable apparel and Shen et al. (2012) for products with an eco-friendly packaging.

Some green products can require an additional effort to consumers for their utilization: for instance, Ramayah et al. (2010) verified that the adverse personal consequences derived from the usage of washable diapers instead of disposable ones constitute a strong deterrent to their purchase.

In other cases, green products may require specific abilities or knowledge: it is the case of e-invoice telephone bills that may be problematic for technology adverse people (Albayrak et al. 2013).

3.5 Drivers related to the product and/or the producer

We have identified 5 variables in 32 out of 113 articles for this category.

One of the most important product's attributes is its price; however, we have already described price role on green consumption in the personal capabilities' category as a measure of consumer's real possibility to afford the green product. Strongly related to price is the product's quality since this may strongly affect the final product choice. Quality is an important factor also in relation to green products and it has been considered in the studies included in our review from different perspectives. First of all, in terms of product's functionality, electric vehicles are often perceived as of lower quality because consumers retain them as less functional (Wu et al. 2015; Zhang 2018), whereas remanufactured products (Matsumoto et al. 2018) and bio-based products (Onwezen et al. 2017) are considered with lower performances. Also, design and product's image may affect perceived quality: it is the case of remanufactured laptops (Jiménez-Parra et al. 2014) and electric motorbikes that are judged as "too small" (Wu et al. 2016). Sometimes, also the product's complexity can affect quality perception and the willingness to purchase the greener but a more complicated product such as electric vehicles (He et al. 2018).

Product' choice can also be strongly influenced by the perceived economic value of the product in terms of future economic savings and advantages that can derive from its specific characteristics such as savings due to lower energy consumption or to the longer

durability of the product (Matsumoto et al. 2018; Ghazali et al. 2017; Yadav and Pathak 2017; Wu et al. 2016).

Some authors have also considered other intrinsic values associated with a product: Schuitema and De Groot (2015), for instance, have investigated the role of product's environmental and altruistic value through the "cruelty-free" label on personal care products. They found out that these values influence the final product selection only when the primary self-serving motives are satisfied, i.e. the consumer recognizes the product as suitable for the fulfillment of its primary function. Other authors have found a positive influence of the country of origin of the product (Hsu et al. 2017) or the fact the attention toward employees welfare by the producer (Reimers et al. 2016).

In some cases, also producer image and reputation can strongly affect product selection: green brand image and green brand trust have been confirmed as important antecedents of green purchase behavior in several studies (Butt et al. 2017; Konuk et al. 2015; Papista et al. 2018). Brand's reputation, instead, has been considered as an important moderator of perceived lower quality for remanufactured products (Vafadarnikjoo et al. 2018; Jiménez-Parra et al. 2014).

Lower perceived quality of green products can often be moderated also by improving consumers' products knowledge, reassuring them on the actual functionality of greener products: it is the case for truck remanufactured engine (Qu, et al. 2018) and auto parts (Matsumoto et al. 2018), recycled paper products (Testa et al. 2013), organic personal care products (Ghazali et al. 2017) and energy savings appliances (Nguyen et al. 2017a; Ha and Janda 2012).

In order to improve consumers' knowledge over products' environmental performances, eco-labels can be deployed. However, eco-labels' efficacy depends on the effective knowledge of label meaning by consumers and on consumers' trust on their accuracy and reliability. Taufique et al. (2017) confirmed the positive impact of ecolabel knowledge and trust on the actual eco-labeled products purchase. On the other hand, Goh et al. (2016) verified that skepticism toward environmental claims and labels has a negative impact on green purchase behavior.

3.6 Contextual factors

We have identified 4 variables in 52 out of 113 articles for this category.

Finally, purchase choice can be influenced by contextual factors, i.e., the particular situation and physical environment that surround the consumer at the moment of product selection. There are several factors that can be included in this category: their main common trait is that they are all contingent factors. In other words, they can affect the momentary decision, but they are not strong enough to modify a consumer's basic system of values or habits.

We have grouped contextual factors into four sub-categories: product access and shop stimuli, social norms, economic benefits, media and advertising.

First of all, consumers' choices can be strongly affected by effective product access possibilities. This is strictly connected to the shop's access possibility: distance, parking access, the convenience of its location, i.e., on the road between home and work, etc. (Chang and Watchravesringkan 2018; Cowan and Kinley 2014; Grimmer et al. 2016; Hustvedt and Dickson 2009). On this aspect, shop's brand can moderate the negative effect of shop' access inconvenience: if the consumer has a strong brand trust, this will improve shop's attractiveness (Testa et al. 2013; Tsarenko et al. 2013).

Shop's environment has also to be taken into consideration: space and product distribution, lightning, music the presence of directions and other types of visual stimuli can all influence product's selection (Chan and Wong 2012; Krishna 2012; Joergens 2006). In particular, if the green product is really difficult to find and requires too much effort, consumers might prefer other easier alternatives. In some cases, the green product option is not even available at all: so, Hustvedt and Dickson (2009) measured green purchase intention intensity through the time spent looking for it in vain.

Even festivity can change consumers' purchasing habits: Robinot et al. (2017) for instance, analyzed how Christmas atmosphere negatively moderates consumers' attitude of purchasing socially responsible products showing the process of guilt removal and right to indulgence during exceptional consumption periods.

Finally, contextual factors can also relate to the presence of infrastructures like a capillary network of electric charging columns for the selling of electric vehicles (Wang et al. 2017b; Khorasanizadeh et al. 2016).

In this category we are considering the impact of contingent economic benefits associated with the product: these can be sales, particular offers and incentives (Hazen et al. 2017; Biswas and Roy 2015) or public subsidies aimed at incentivizing certain products. For instance, Yang and Zhao (2015) deepened the relationship between household income, efficient appliances incentive public policies and the intention to buy a more expensive, yet more efficient app founding that the introduction of incentives works only on wealthier households.

Social norms work on consumers' perception of action as coherent to the social context they operate in, in that specific moment. Thus, they often depend upon contextual factors like being in the presence of certain persons or in a particular social context, i.e., at home with relatives vs. at the office with colleagues. So, peers (Tsarenko et al. 2013), parents (Grønhøj and Thøgersen 2009) and general social pressure (Cowan and Kinley 2014) have been considered as key factors for influencing consumers' preference for green products.

Some contextual factors can modify the self-perception of consumers as "socially acceptable subjects": it is the case of fashion for instance. Thus, advertisements, claims, social networks and influencers, books, TV shows, magazines, etc., can strongly affect consumers' perception of what is socially acceptable and "in" (Qu et al. 2018; de Lenne and Vandenbosch 2017; Biswas and Roy 2015). Johnstone and Lindh (2018) in particular, studied the impact of influencers on the youngest's awareness and interest on environmental issues, registering a significant power of influence.

Eco-labels as well can operate as contextual factors in relation to consumer's trust on the label' s sponsor or owner (public entity, NGO, third-party verifier, etc.) since, if trust level is extremely low, the ecolabel's effect on purchasing intention could also be negative (Darnall et al. 2017).

Finally, media attention on environmental issues or on environmental scandals relating a specific brand may alter consumers' perception of that brand image and thus affect their purchases (Trivedi et al. 2018).

3.7 Socio-demographic variables

We have identified 6 socio-demographic variables considered in 14 out of 113 articles as independent variables to green consumption. It is the least relevant category of variables; however, it has to be stated that in most of the cases socio-demographic variables are considered as control variables.

Table 6 Analysis of the variables' impact—positive, negative or neutral—over green consumption in the 113 articles included in the review

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
Personal capabilities (41)	Willingness to pay	Willingness to pay premium price (4)	4 (Shen et al. 2012; Prakash and Pathak 2017; Yadav and Pathak 2017; Martenson 2018)	Hong Kong; India (2); European country	Green apparel; Eco-friendly packaged products; Green products; Green vehicles
	Perceived Behavioral Control (38)	Perceived Behavioral Control (21)	17 (Yeon Kim and Chung 2011; Albayrak et al. 2013; Kang et al. 2013; Wang et al. 2014; Trivedi et al. 2015; Paul et al. 2016; Yadav and Pathak 2016; Ghazali et al. 2017; Hsu et al. 2017; Onwezen et al. 2017; Robinot et al. 2017; Yadav and Pathak 2017; Arli et al. 2018; Chang and Watchravesringkan 2018; Sreen et al. 2018; Zhang et al. 2018; He and Zhan 2018)	USA (2); Turkey; USA, South Korea, China; China (3); India (5); Malaysia; Taiwan; Six countries; Canada; Indonesia;	Personal care products; E-invoice of telephone bills; Green apparel (2); Pro-environmental consumer behaviours; Green products (6); Green skincare (2); Biobased products; Skincare and detergents; Electric vehicles (2)
		Personal effort (4)	1 (Khorasanizadeh et al. 2016)	Malaysia	LED bulbs
		Price (13)	6 (Jiménez-Parra et al. 2014; Hazen et al. 2017; Hsu et al. 2017; Lin and Wu 2018; Matsumoto et al. 2018; Vafadarnikjoo et al. 2018)	Spain; USA; Taiwan; China; Japan and USA; UK	Remanufactured laptops; Laptop computers; Green skincare products; Electric vehicles; Remanufactured auto parts; Remanufactured bikes

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Perceived Consumer Effectiveness	Perceived Consumer Effectiveness (2)	2 (Jayawardhena et al. 2016; Jaiswal and Kant 2018)	UK; India	Fair trade and green products; Green products
Context (51)	Product accessibility and shopping context (19)		15 (Hustvedt and Dickson 2009; Chan and Wong 2012; Tsarenko et al. 2013; Zabkar and Hosta 2013; Cowan and Kinley 2014; Wang et al. 2014; Biswas and Roy 2015; Martinez et al. 2015; Newton et al. 2015; Grimmer et al. 2016; Khorasanizadeh et al. 2016; Wang et al. 2017a, b; Chang and Watchravesringkan 2018; Qu et al. 2018; Vafadarnikjoo et al. 2018)	India; Hong Kong; Australia (2); Central Europe; Malaysia; Philippines; USA(3); Canada; China (3); UK	Pro-environmental consumer behaviors; Green products (7); Recyclable containers, fair trade label and green products; Green apparel (3); LED bulbs; Electric vehicles; Remanufactured heavy truck engines; Remanufactured bikes

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Social norms (35)		30 (Grønhøj and Thøgersen 2009; Ha and Janda 2012; Albayrak et al. 2013; Kang et al. 2013; Tsarenko et al. 2013; Cowan and Kinley 2014; Jiménez-Parra et al. 2014; Khare 2014; Wang 2014; Khare 2015; Kumar and Ghodeswar 2015; Nguyen et al. 2016; Paul et al. 2016; Yadav and Pathak 2016; Bong Ko and Jin 2017; De Lenne and Vandenbosch 2017; Hsu et al. 2017; Kumar et al. 2017; Liobikienė et al. 2017; Nguyen et al. 2017a, b, c; Onwezen et al. 2017; Prakash and Pathak 2017; Robinot et al. 2017; Yadav and Pathak 2017; Chang and Watchravesringkan 2018; Johnstone and Lindh 2018; Lin and Wu 2018; Sreen et al. 2018; Taufique and Vaithianathan 2018; Zhang et al. 2018)	Denmark; South Korea; Turkey; Australia; Spain; USA, South Korea and China; Austria and Lithuania; Viet Nam (2); USA and China; USA (2); Taiwan (2); Belgium and Germany; International (2); Canada; India (10); China (2);	Remanufactured laptops; E-invoice of telephone bills; Recyclable containers, fair trade label and green products; Green apparel (4); Energy efficient appliances (3); Green skincare products; Eco-friendly packaged products; Green products (14); Biobased products; Electric vehicles (2); Eco-friendly packaging and green products;

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Media (5)		3 (De Lenne and Vandenbosch 2017; Qu et al. 2018; Trivedi et al. 2018)	Belgium and Germany; China; India	Green apparel; Remanufactured heavy truck engines; Green products
	Economic benefit (7)		6 (Zhang et al. 2013; Yang and Zhao 2015; Dieu-Hang et al. 2017; Hazen et al. 2017; Wang et al. 2017a, b; Qu et al. 2018; Zhang et al. 2018)	China (5); International; USA	Energy-efficient and renewable energy equipment; Remanufactured laptops; Energy-efficient and water-efficient equipment; Electric Vehicles (3); Remanufactured heavy truck engines
Demographic variables (13)	Gender (7)	5 (Chekima et al. 2016; Brochado et al. 2017; Liobikienė et al. 2017; Nguyen et al. 2017a, b, c; Lin and Wu 2018)	Malaysia; Portugal; Austria and Lithuania; Viet Nam; China	Green products (2); Pro-environmental consumer behaviors; Energy efficient appliances; Electric vehicles	0
	Age (4)	3 (Brochado et al. 2017; Johnstone and Lindh 2018; Lin and Wu 2018)	Portugal; International; China	Pro-environmental consumer behaviors; Green products; Electric vehicles	0
	Education (5)	2 (Chekima et al. 2016; Wang et al. 2017a, b)	Malaysia; China	Green products; Energy efficient appliances	0
	Income (5)	2 (Khare 2014; Yang and Zhao 2015)	India; China	Green products; Energy-efficient and renewable energy equipment	0

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Family composition (4)	Marital status (3)	1 (Lin and Wu 2018)	China	Electric vehicles
		Having children (1)	0		
	Other demographics (3)	Demographic variables (2)	1 (Wells et al. 2011)	UK	Green products
		Owning a car (1)	0		
Intrapersonal—Environment (88)	Personal values (28)	Personal values (1)	1 (Sharma and Jha 2017)	India	Pro-environmental consumer behaviours
		Ecological and environmental values (19)	18 (Chan and Lau 2000; Chan 2001; Mostafa 2007a, b; Kim and Seock 2009; Kim and Chung 2011; Zhang et al. 2013; Jiménez-Parra et al. 2014; Polonsky et al. 2014; Wang et al. 2014; Cho et al. 2015; Chekima et al. 2016; Nguyen et al. 2016; Bong Ko and Jin 2017; Brochado et al. 2017; Nguyen, Lobo, and Greenland 2017b; Reimers et al. 2017; Qu et al. 2018; Sreen et al. 2018)	China (5); Egypt; USA (2); Spain; Australia; Malaysia; Viet Nam (2); USA and China; Portugal	Green products (5); Cosmetics; Green skin and hair care products; Electric vehicles; Remanufactured laptops; Pro-environmental consumer behaviours (2); Green apparel (2); Energy efficient appliances (2); Remanufactured heavy truck engines

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
		Conservation values (2)	1 (Ramayah et al. 2010)	Malaysia	Cloth diapers
		Egoism (1)	1 (Hustvedt and Dickson 2009)	USA	Green apparel
		Personal norms (5)	4 (Testa et al. 2016; Nguyen et al. 2017a; Prakash and Pathak 2017; He and Zhan 2018)	Italy; Viet Nam; India; China	Green products (2); Energy efficient appliances; Electric vehicles

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Environmental Awareness (67)	Concern (28)	24 (Mostafa 2007a; Mostafa 2007b; Gam 2011; Jagel et al. 2012; Shen et al. 2012; Albayrak et al. 2013; Do Paço et al. 2013; Tsarenko et al. 2013; Zabkar and Hosta 2013; Pagiaslis and Krontalis 2014; Barbarossa et al. 2015; Newton et al. 2015; Barbarossa and De Pelsmacker 2016; Goh and Balaji 2016; Yadav and Pathak 2016; Barbarossa et al. 2017; Butt et al. 2017; Paul et al. 2016; Prakash and Pathak 2017; Wang et al. 2017a; Jaiswal and Kant 2018; Lin and Wu 2018; Martenson 2018; Trivedi et al. 2018)	Egypt (2); USA; UK; Hong Kong; Turkey; England, Germany, Portugal, and Spain; Australia; Central Europe; Greece; Denmark, Belgium and Italy (2); Italy; Malaysia; India (5); Pakistan; China (2); European country	Green products (12); Green apparel (2); Ethical apparel; E-invoice of telephone bills; Recyclable containers, Fair trade label and green products; Biofuels; Electric vehicles (5); Eco-friendly tissue paper

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
		Knowledge (22)	17 (Chan and Lau 2000; Chan 2001; Haron et al. 2005; Mostafa 2007a; Mostafa 2007b; Polonsky et al. 2012; Shen et al. 2012; Kang et al. 2013; Kanchanapibul et al. 2014; Pagiaslis and Krontalis 2014; Wang et al. 2014; Goh and Balaji 2016; Yadav and Pathak 2016; Bong Ko and Jin 2017; Hsu et al. 2017; Kumar et al. 2017; Taufique et al. 2017)	China (3); Malaysia (3); Egypt (2); USA; Hong Kong; USA, South Korea and China; Greece; India (2); USA and China; Taiwan	Green products (10); Green apparel (3); Biofuels; Pro-environmental consumer behaviours; Green skincare products; Eco-labelled products

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
		Attitude (34)	31 (Chan 2001; Hustvedt and Dickson 2009; Leonidou et al. 2010; Ramayah et al. 2010; Ha and Janda 2012; Polonsky et al. 2012; Albayrak et al. 2013; Cho et al. 2013; Kang et al. 2013; Cowan and Kinley 2014; Huang et al. 2014; Pagiaslis and Krontalis 2014; Biswas and Roy 2015; Kumar and Ghodeswar 2015; Martinez et al. 2015; Chekima et al. 2016; Felix and Braunsberger 2016; Nguyen et al. 2016; Nguyen et al. 2017a; Nguyen et al. c; Reimers et al. 2017; Robinot et al. 2017; Sharma and Jha 2017; Taufique et al. 2017; Wang et al. b; Yadav and Pathak 2017; Chang and Watchravesringkan 2018; Taufique and Vaithianathan 2018; Testa et al. 2018; Trivedi et al. 2018; Zhang et al. 2018)	China (3); USA (4); Cyprus; Malaysia (3); South Korea; Turkey; South Korea and USA; USA, South Korea and China; Taiwan; Greece; India (2); Philippines; Canada; Mexico; Viet Nam (3); Australia; India (4); Italy;	Green products (13); Green apparel (3); Cloth diapers; Energy efficient appliances (5); Ethical apparel; E-invoice of telephone bills; Electric vehicles (2); Biofuels; Green packaging and products; Pro-environmental consumer behaviours; Eco-labelled products; Ecological paper and cleaning product

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Personal Consumer Effectiveness (9)	8 (Cho et al. 2013; Kang et al. 2013; Brochado et al. 2017; Reimers et al. 2017; Sharma and Jha 2017; Taufique and Vaithianathan 2018; Trivedi et al. 2018; Zhang et al. 2018)	South Korea and USA; USA, South Korea and China; Portugal; Australia; India (3); China	Green products (3); Green apparel (2); Pro-environmental consumer behaviours (2); Electric vehicles	0
	Responsibility towards the Environment (8)	8 (Wells et al. 2011; Dagher and Itani 2014; Wang et al. 2014; Barbarossa et al. 2015; Kumar and Ghodeswar 2015; Barbarossa and De Pelsmacker 2016; Arli et al. 2018; He and Zhan 2018)	UK; Lebanon; China (2); Denmark, Belgium and Italy; India; Italy; Indonesia	Green products (2); Pro-environmental consumer behaviours; Electric vehicles (2); Green packaging and products; Eco-friendly tissue paper products; Soaps, toilet paper rolls, laundry detergents, and dishwashing liquids	0
	Green self-identity (9)	8 (Hustvedt and Dickson 2009; Barbarossa et al. 2015; Dermody et al. 2015; Khare 2015; Barbarossa and De Pelsmacker 2016; Nguyen et al. 2016; Barbarossa et al. 2017; Arli et al. 2018)	USA; Denmark, Belgium and Italy (2); UK and China; India; Italy; Viet Nam; Indonesia	Green apparel; Electric vehicles (2); Green products (2); Eco-friendly tissue paper products; Energy efficient appliances; Soaps, toilet paper rolls, laundry detergents, and dishwashing liquids	0

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Attitude towards purchasing (20)	20 (Chan 2001; Hustvedt and Dickson 2009; Mostafa 2007b; Kim and Chung 2011; Ha and Janda 2012; Jiménez-Parra et al. 2014; Barbarossa et al. 2015; Yang and Zhao 2015; Paul et al. 2016; Reimers et al. 2016; Yadav and Pathak 2016; Bong Ko and Jin 2017; Butt et al. 2017; De Lenne and Vandenbosch 2017; Ghazali et al. 2017; Hazen et al. 2017; Kumar et al. 2017; Arli et al. 2018; Jaiswal and Kant 2018; Sreen et al. 2018)	China (2); USA (3); Egypt; South Korea; Spain; Denmark, Belgium, and Italy; India (5); USA and China; Pakistan; Belgium and Germany; Malaysia; Australia; Indonesia	Green products (8); Green apparel (3); Green skin/hair care products (2); Energy efficient appliances; Ethical apparel; Remanufactured laptops (2); Electric vehicles; Energy-efficient and renewable energy equipment; Soaps, toilet paper rolls, laundry detergents, and dishwashing liquids	0
Intrapersonal—Non environment (39)	Personal values (9)	Frugality (2)	2 (Cervellon et al. 2012; Cho et al. 2015)	France; USA	Vintage/Second-hand apparel; Green apparel
		Long term orientation (3)	3 (Leonidou et al. 2010; Nguyen et al. 2017a, b, c; Sreen et al. 2018)	Cyprus; Viet Nam; India	Green products (2); Energy efficient appliances

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
		Liberal political orientation (2)	1 (Watkins et al. 2016)	New Zealand	Sustainable consumption behaviour and political activity in relation to sustainability issues
		Religiuos orientation (1)	1 (Felix and Braunsberger 2016)	Mexico	Green products
		Social influence (1)	1 (Khorasanizadeh et al. 2016)	Malaysia	Light emitting diodes-based
	Cultural values (14)	Individualism (7)	3 (Ramayah et al. 2010; Watkins et al. 2016; Barbarossa et al. 2017)	Malaysia; New Zealand; Belgium, Denmark, and Italy;	Cloth diapers; Sustainable Consumption behaviour and political activity in relation to sustainability issues; Electric vehicles
		Collectivism (9)	9 (Chan 2001; Hustvedt and Dickson 2009; Leonidou et al. 2010; Ramayah et al. 2010; Cho et al. 2013; Wang 2014; Barbarossa et al. 2017; Nguyen et al. 2017a; b)	China; USA; Cyprus; Malaysia; South Korea and USA; Taiwan; Belgium; Denmark, and Italy; Viet Nam	Green products (4); Green apparel; Cloth diapers; Electric vehicles; Energy efficient appliances
	Personal identity and orientation (17)	Status and self-image (6)	5 (Oliver and Lee 2010; Kim and Chung 2011; Cervellon et al. 2012; Jagel et al. 2012; Zabkar and Hosta 2013; Wu et al. 2016)	South Korea and USA; USA; France; UK; Central Europe; Taiwan	Hybrid vehicles; Green skin and hair care products; Vintage/Second-hand apparel; Green apparel; Green products; Green vehicles

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
		Fashion involvement (5)	4 Gam 2011; Cervellon et al. 2012; Shen et al. 2012; Cho et al. 2015)	USA (2); France; Hong Kong	Green apparel (3); Vintage/ Second-hand apparel
		Technology savvy (1)			
		Health concerns (2)	2 (Kim and Seock 2009; Kim and Chung 2011)	USA (2)	Green skin and hair products
		Perceived risk/Risk adversion (4)	0		
Product and producer related factors (30)	Perceived lower quality (8)	0		Ethical apparel; Electric vehicles (2); Light emitting diodes-based; Bio-based products; Remanufactured auto parts	8 (He and Zhan 2018; Jagel et al. 2012; Zhang et al. 2013; Khorasanizadeh et al. 2016; Onwezen et al. 2017; Lin and Wu 2018; Matsumoto et al. 2018; Vafadarnikjoo et al. 2018)
	Product particular features (8)	6 (Kim and Seock 2009; Reimers et al. 2016; Dieu-Hang et al. 2017; Hsu et al. 2017; Qu et al. 2018; Vafadarnikjoo et al. 2018)	USA; Australia; International; Taiwan; China; UK	Green cosmethics (2); Ethical apparel; Energy-efficient and water-efficient equipment; Remanufactured heavy truck engines; Remanufactured vehicles	0

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Perceived or expected economic benefits (7)	7 (Biswas and Roy 2015; Jayawardhena et al. 2016; Wu et al. 2016; Ghazali et al. 2017; Yadav and Pathak 2017; Papista et al. 2018; Vafadarnikjoo et al. 2018)	India (2); UK (2); Taiwan; Malaysia; Greece	Green products (2); Fair trade and green products; Electric vehicles; Green cosmethics (2); Remanufactured vehicles	0
	Product label presence and knowledge (4)	4 (Chekima et al. 2016; Dieu-Hang et al. 2017; Taufique et al. 2017; Testa et al. 2018)	Malaysia (2); International; Italy	Green products; Energy-efficient and water-efficient equipment; Eco-labelled products; Ecological paper and cleaning products	0
	Brand image and trust (7)	6 (Huang et al. 2014; Jiménez-Parra et al. 2014; Konuk et al. 2015; Kumar and Ghodeswar 2015; Butt et al. 2017; Papista et al. 2018)	Taiwan; Spain; International; India; Pakistan; Greece	Green vehicles; Remanufactured laptops; Green products (3); Green cosmethics	0
Behavioral factors (21)	Consumer purchase behavior (2)	Consumer purchase behavior (2)	2 (Jin Gam 2011; Cervellon et al. 2012)	USA; France	Green apparel; Vintage/Second-hand apparel

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a positive impact	Geographical context	Product
	Habit and past green consumption (13)	Habit and past green consumption (13)	13 (Haron et al. 2005; Abdul-Muhmin 2007; Gam 2011; Kim and Chung 2011; Ha and Janda 2012; Zabkar and Hosta 2013; Cowan and Kinley 2014; Kumar and Ghodeswar 2015; Trivedi et al. 2015; Nguyen et al. 2016; Khare and Sadachar 2017; Khare and Varshneya 2017; Wang et al. 2017b)	Malaysia; Saudi Arabia; USA (3); South Korea; Central Europe; India (4); Viet Nam; China	Green products (6); Green apparel (3); Green cosmethics; Energy efficient appliances (3)
	Other green behavior (8)	Other green behavior (8)	8 (Haron et al. 2005; Stall-Meadows and Hebert 2011; Do Paço et al. 2013; Khare 2015; Robinot et al. 2017; Brochado et al. 2017; Dieu-Hang et al. 2017; Liobikienė et al. 2017)	Malaysia; USA; India; Canada; Portugal; International (2); Austria and Lithuania;	Energy-efficient and water-efficient equipment; Sustainable light bulbs; Pro-environmental consumer behaviours; Green products (5)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
Personal capabilities (41)	Willingness to pay	Willingness to pay premium price (4)	0			0		

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
	Perceived Behavioral Control (38)	Perceived Behavioral Control (21)	3 (Wang 2014; Barbarossa and De Pelsmacker 2016; Nguyen et al. 2017a, b, c)	Taiwan; Italy; Viet Nam	Green products; Eco-friendly tissue paper products; Energy efficient appliances	1 (Bong Ko and Jin 2017)	USA and China	Green apparel
		Personal effort (4)	2 (Ramayah et al. 2010; Albayrak et al. 2013)	Malaysia; Turkey	Washable diapers; e-invoice	1 (Testa et al. 2016)	Italy	Green products
		Price (13)	2 (Liobikienė et al. 2017; He and Zhan 2018)	Austria and Lithuania; China	Green products; Electric vehicles	5 (Chan and Wong 2012; Testa et al. 2013; Chekima et al. 2016; Wang et al. 2017a, b; Papista et al. 2018)	Hong Kong; Italy; Malaysia; China; Greece	Green apparel; Eco-friendly paper, green detergents; Green products; Energy efficient appliances;
	Perceived Consumer Effectiveness	Perceived Consumer Effectiveness (2)	0			0		
Context (51)	Product accessibility and shopping context (19)		2 (Jiménez-Parra et al. 2014; Robinot et al. 2017)	Spain; Canada	Remanufactured laptops; Ethical products	2 (Testa et al. 2013; Lin and Wu 2018)	Italy; China	Ecological paper and cleaning product; Electric Vehicles

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
	Social norms (35)		0			5 (Biswas and Roy 2015; Ghazali et al. 2017; Khare and Sadachar 2017; Khare and Varshneya 2017; Nguyen et al. 2017a, b, c)	India (3); Malaysia; Viet Nam	Green products; Organic personal care products; Green apparel (2); Energy efficient appliances
	Media (5)		0			2 (Biswas and Roy 2015; Wang et al. 2017a, b)	India; China	Green products; Energy efficient appliances
	Economic benefit (7)		0			0		
Demographic variables (13)	Gender (7)	5 (Chekima et al. 2016; Brochado et al. 2017; Liobikienė et al. 2017; Nguyen et al. 2017a, b, c; Lin and Wu 2018)			2 (Khare 2014; Wang et al. 2017a, b)	India; China	Green products; Energy efficient appliances	
	Age (4)	3 (Brochado et al. 2017; Johnstone and Lindh 2018; Lin and Wu 2018)			1 (Khare 2014)	India	Green products	

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
	Education (5)	2 (Chekima et al. 2016; Wang et al. 2017a, b)			3 (Khare 2014; Brochado et al. 2017; Lin and Wu 2018)	India; Portugal; China	Green products; Pro-environmental consumer behaviors; Electric vehicles	
	Income (5)	2 (Khare 2014; Yang and Zhao 2015)			3 (Brochado et al. 2017; Wang et al. 2017a, b; Lin and Wu 2018)	Portugal; China (2)	Pro-environmental consumer behaviors; Energy efficient appliances; Electric vehicles	
	Family composition (4)	Marital status (3)	0			2 (Khare 2014; Brochado et al. 2017)	India; Portugal	Green products; Pro-environmental consumer behaviors
		Having children (1)	0			1 (Brochado et al. 2017)	Portugal	Pro-environmental consumer behaviors
	Other demographics (3)	Demographic variables (2)	0			1 (Khare 2015)	India	Green products
		Owning a car (1)	0			1 (Lin and Wu 2018)	China	Electric vehicles

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
Intrapersonal—Environment (88)	Personal values (28)	Personal values (1)	0			0		
		Ecological and environmental values (19)	0			1 (Cervellon et al. 2012)	France	Vintage/Second-hand apparel
		Conservation values (2)	1 (Barbarossa et al. 2017)	Belgium, Denmark, Italy	Electric vehicles			
		Egoism (1)	0			0		
		Personal norms (5)	0			1 (Khare 2015)	India	Green products
	Environmental Awareness (67)	Concern (28)	0			4 (Abdul-Muhmin 2007; Dermody et al. 2015; Dieu-Hang et al. 2017; Reimers et al. 2017)	Saudi Arabia; UK and China; International; Australia	Green products (2); Energy-efficient and water-efficient equipment; Green apparel

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
		Knowledge (22)	0			5 (Abdul-Muhmin 2007; Brochado et al. 2017; Khare and Sadachar 2017; Khare and Varshneya 2017; Jaiswal and Kant 2018)	Saudi Arabia; Portugal; India (3)	Green products (2); Pro-environmental consumer behaviours; Green apparel (2)
		Attitude (34)	1 (Goh and Balaji 2016)	Malaysia	Green products	3 (Fraj and Martinez 2007; Wang et al. 2014; Trivedi et al. 2018)	Spain and USA; China; India	Green products (2); Pro-environmental consumer behaviours
	Personal Consumer Effectiveness (9)	8 (Cho et al. 2013; Kang et al. 2013; Brochado et al. 2017; Reimers et al. 2017; Sharma and Jha 2017; Taufique and Vaithianathan 2018; Trivedi et al. 2018; Zhang et al. 2018)			1 (Dagher and Itani 2014)	Lebanon	Green products	

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
	Responsibility towards the Environment (8)	8 (Wells et al. 2011; Dagher and Itani 2014; Wang et al. 2014; Barbarossa et al. 2015; Kumar and Ghodeswar 2015; Barbarossa and De Pelsmacker 2016; Arli et al. 2018; He and Zhan 2018)			0			
	Green self-identity (9)	8 (Hustvedt and Dickson 2009; Barbarossa et al. 2015; Dermody et al. 2015; Khare 2015; Barbarossa and De Pelsmacker 2016; Nguyen et al. 2016; Barbarossa et al. 2017; Arli et al. 2018)			1 (Reimers et al. 2017)	Australia	Green apparel	

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
	Attitude towards purchasing (20)	20 (Chan 2001; Hustvedt and Dickson 2009; Mostafa 2007b; Kim and Chung 2011; Ha and Janda 2012; Jiménez-Parra et al. 2014; Barbarossa et al. 2015; Yang and Zhao 2015; Paul et al. 2016; Reimers et al. 2016; Yadav and Pathak 2016; Bong Ko and Jin 2017; Butt et al. 2017; De Lenne and Vandenbosch 2017; Ghazali et al. 2017; Hazen et al. 2017; Kumar et al. 2017; Arli et al. 2018; Jaiswal and Kant 2018; Sreen et al. 2018)			0			
Intrapersonal—Non environment (39)	Personal values (9)	Frugality (2)	0			0		

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
		Long term orientation (3)	0			0		
		Liberal political orientation (2)	0			1 (Leonidou et al. 2010)	Cyprus	Green products
		Religiuos orientation (1)	0			0		
		Social influence (1)	0			0		
	Cultural values (14)	Individualism (7)	2 (Cho et al. 2013; Nguyen, Lobo, and Greenland 2017b)	South Korea and USA; Viet Nam	Green products; Energy efficient appliances	2 (Urien and Kilbourne 2011; Lu et al. 2015)	USA and France; Taiwan	Green products (2)
		Collectivism (9)	0			0		
	Personal identity and orientation (17)	Status and self-image (6)	0			1 (Tsarenko et al. 2013)	Australia	Recyclable containers, fair trade label and green products
		Fashion involvement (5)	0			0		
		Technology savvy (1)	1 (Jiménez-Parra et al. 2014)	Spain	Remanufactured laptops			
		Health concerns (2)	0			0		

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
		Perceived risk/Risk adversion (4)	4 (Wu et al. 2016; Onwezen et al. 2017; Matsumoto et al. 2018; Zhang et al. 2018)	Taiwan; International; USA and Japan; China	Electric vehicles (2); Bio-based products; Remanufactured auto parts	0		
Product and producer related factors (30)	Perceived lower quality (8)	0	UK; China (2); Malaysia; International; USA and Japan	Ethical apparel; Electric vehicles (2); Light emitting diodes-based; Bio-based products; Remanufactured auto parts	0			
	Product particular features (8)	6 (Kim and Seock 2009; Reimers et al. 2016; Dieu-Hang et al. 2017; Hsu et al. 2017; Qu et al. 2018; Vafadarnikjoo et al. 2018)			2 (Chan and Wong 2012; Wang et al. 2017a)	Hong Kong; China	Green apparel; Electric vehicles	

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
	Perceived or expected economic benefits (7)	7 (Biswas and Roy 2015; Jayawardhena et al. 2016; Wu et al. 2016; Ghazali et al. 2017; Yadav and Pathak 2017; Papista et al. 2018; Vafadarnikjoo et al. 2018)			0			
	Product label presence and knowledge (4)	4 (Chekima et al. 2016; Dieu-Hang et al. 2017; Taufique et al. 2017; Testa et al. 2018)			0			
	Brand image and trust (7)	6 (Huang et al. 2014; Jiménez-Parra et al. 2014; Konuk et al. 2015; Kumar and Ghodeswar 2015; Butt et al. 2017; Papista et al. 2018)			1 (Testa et al. 2018)	Italy	Ecological paper and cleaning products	
Behavioral factors (21)	Consumer purchase behavior (2)	Consumer purchase behavior (2)	0			0		

Table 6 (continued)

Dimension	Subdimension	Variable	Studies demonstrating a negative impact	Geographical context	Product	Studies demonstrating a neutral impact	Geographical context	Product
	Habit and past green consumption (13)	Habit and past green consumption (13)	0			0		
	Other green behavior (8)	Other green behavior (8)	0			0		

We detected several socio-demographic variables like age, income, education level, income, etc., that are considered as control variables in most of the studies included in our review. For instance, females tend to show a higher propensity to buy ethical and biological products (Jayawardhena et al. 2016), to be more receptive toward green consumption (Wells et al. 2011) and to demonstrate a stronger intention to buy ecological products (Khare et al. 2015). Apart from gender, however, none of the other socio-demographic variables show a particularly significant effect on the final intention to purchase a green product.

Table 6 synthesizes the classification of the variables identified in the 113 articles included in this review.

4 Conclusion

The objective of this paper was to analyze the drivers to green consumption through a systematic review of the survey-based studies conducted in the management field in the last 18 years. This study highlights how the perspective on green consumption has changed in the last years with an increasing number of marketing studies addressing the topic, whereas the general management journals still show a limited interest on it, leaving the field to more specialized environmental management journals.

4.1 Contributions and implications for scholars and managers

This overview allows to systematize the numerous empirical contributions conducted in the last two decades and offers new and unique suggestions for scholars and managers.

First, the analysis has produced a new and clear classification of drivers to green consumption behavior. There are seven main categories of drivers: five connected to the individual aspects—socio-demographic, intrapersonal values related to the environment, intrapersonal values not related to the environment, behavioral factors and personal capabilities—one category for products and producers' related factors and one category for contextual factors. According to our analysis, the far most influent drivers, and on which the results are quite univocal, are those included in the "intrapersonal values related to environment" category (80% of the studies). However, since their effect on purchasing behaviors can be hindered by several factors (Stern 2000) such as those related to external context or products, scholars should better explore the moderating role of factors related to product features, such as perceived quality, or environmental claims. Moreover, a very limited number of studies included eco-labels as a driver to green consumption (Sarti et al. 2018) and how their content might change products' perception is still unexplored. Future research should, therefore, analyze how labels' design affect attitudes toward product and, as a consequence, the intention to buy. Recently, the improved monitoring role from NGOs and institutional bodies has revealed many cases of misleading communication and greenwashing behaviors (Testa et al. 2018) that have, in turn, reduced the consumers' trustworthy toward green claims (Orazi and Chan 2018). For this reason, scholars should explore how green skepticism can moderate the effect of the environmental personal norm or of green claims on products' packaging. Moreover, managers have to invest high attention on how to design effective environmental claims in order to overcome individual skepticism and also avoid to require an excessive cognitive load that can reduce the claims' effectiveness (Milosavljevic et al. 2012).

Also, a new focus on packaging may provide new and interesting findings for understanding green consumption behavior. In the reviewed studies, packaging has been analyzed as a component of green purchasing behavior (i.e., the choice of recycled, recyclable or reduced packaging). However, it could be interesting to evaluate the relation, in the individual perception, between green packaging and the green characteristics of its content and how the coherence or the discrepancy between these two elements can affect individual decisions. Moreover, marketing managers should avoid decoupling green actions between packaging and products in order to skip the potential accuses of greenwashing.

Finally, very recent publications on drivers to green consumption are highlighting a rising new research perspective: the circular economy paradigm. Elzinga et al. (2020) have conducted a study on the consumers' drivers to prefer one of three typical Circular Economy Business Models (CBM)—take back, lease and pay-per-use, all aimed at prolonging product's life and its durability. In other words, it is not about green products itself anymore: products can be green or not as a consequence of the consumption model adopted by their users. Similar considerations are rising also in the fashion industry: McNeill et al. (2020) focused on the drivers to slow fashion, deepening the role of consumers in prolonging garments life and Leger and Kang (2020) studied the sharing model applied to luxury clothes by Indians millennials. The sharing economy is also a promising research topic when related to the transport sector, i.e., bike and car sharing initiatives (Chen et al. 2020) as a new type of green consumption model.

4.2 Limitations

This study presents some limitations which also provide avenues for future research.

First, as a review of empirical studies, it reflects both their results and bias. Besides, the choice to limit the review to survey-based studies might have left apart more innovative and explorative research. This limitation is particularly true for the circular economy literature since, it represents a rising field of study and thus, a significant number of studies have dealt with it with qualitative approaches aimed at exploring the topic. However, the incredible amount of papers published in the last four years on circular economy calls for systematization of the literature on one side and for more quantitative studies aimed at deepening and confirming the first explorative research outcomes. This review has highlighted several aspects of circular consumption that should be further investigated and a quantitative approach through surveys or experiments may help fill the research gaps.

Secondly, this review focused on the consumers point of view, whereas there is a wide market represented by the B-to-B reality. Recent research on green manufacturing points out the key role played by green supply chains (Mitra and Datta 2014) and the importance of the selection of green products for the production process like environmentally friendly cutting fluids in machining (Debnath et al. 2014). Deepening the drivers to green purchases by manufacturing companies for lowering the environmental impacts of their processes and products also represents a promising and rising research topic, especially in relation to the new circular economy paradigm (Gusmerotti et al. 2019).

Thirdly, this review has willingly excluded grey literature and journals with a low ABS rating: this selective approach was aimed at taking into consideration only peer-reviewed and high-quality studies in order to allow the achievement of more generalizable results. However, the exclusion had probably left out some interesting contributions to this topic.

Even if the review was not limited in terms of geographical scope, it was evident that most of the studies have been conducted in Europe, China and the USA. It would be important to expand the research also to other contexts. Furthermore, given the important role played by price, confronting wealthy and highly developed countries versus developing ones could shed light on different consumers' approaches and thus inform different managerial and political choices for pushing for the purchase of green products.

Appendices

N.	Marketing Journals with 2 or more ABS stars
1	Journal of Consumer Psychology
2	Journal of Consumer Research
3	Journal of Marketing
4	Journal of Marketing Research
5	Journal of the Academy of Marketing Science
6	Marketing Science
7	International Journal of Research in Marketing
8	Journal of Retailing
9	European Journal of Marketing
10	Industrial Marketing Management
11	International Marketing Review
12	Journal of Advertising
13	Journal of Advertising Research
14	Journal of Interactive Marketing (formerly JDM)
15	Journal of International Marketing
16	Journal of Public Policy and Marketing
17	Marketing Letters
18	Marketing Theory
19	Psychology and Marketing
20	Quantitative Marketing and Economics
21	Academy of Marketing Science Review
22	Advances in Consumer Research
23	Consumption, Markets and Culture
24	Electronics Markets
25	International Journal of Advertising
26	International Journal of Consumers Studies
27	International Journal of Market Research
28	International Journal of Retail and Distribution management
29	Journal of Brand Management
30	Journal of Business and Industrial Marketing
31	Journal of Business-to-Business Marketing
32	Journal of Consumer Affairs
33	Journal of Consumer Behavior
34	Journal of Macromarketing
35	Journal of Marketing Management

N.	Marketing Journals with 2 or more ABS stars
36	Journal of Marketing Theory and Practice
37	Journal of Personal Selling and Sales Management
38	Journal of Retailing and Consumer Services
39	Journal of Services Marketing
40	Journal of Strategic Marketing
41	Qualitative Market Research: An International Journal

N.	Journals ≥ 30 papers (on Scopus and ISI web of knowledge)
1	British Food Journal (90)
2	Appetite (72)
3	Plos One (63)
4	Journal of Consumer Marketing (54)
5	Journal of Fashion Marketing And Management (41)
6	Asia Pacific Journal of Marketing And Logistics (35)
7	Food Quality and Preference (34)
8	Marketing Intelligence and Planning (31)
9	Science of the Total Environment (30)
10	Public Health Nutrition (98)
11	BMC Public Health (71)
12	Energy and Buildings (65)
13	International Journal of Hospitality Management (55)
14	International Journal of Contemporary Hospitality management (48)
15	Journal of Sustainable Tourism (39)
16	Amfiteatru Economic (31)
17	International Journal of Behavioral Nutrition and Physical Activity (30)

References

Abdul-Muhmin, A. G. (2007). Explaining consumers' willingness to be environmentally friendly. *International Journal of Consumer Studies, 31*(3), 237–247.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice Hall.

Albayrak, T., Aksoy, Ş., & Caber, M. (2013). The effect of environmental concern and scepticism on green purchase behaviour. *Marketing Intelligence & Planning, 31*(1), 27–39.

Arli, D., Tan, P. L., Tjiptono, F., & Yang, L. (2018). Exploring consumers' purchase intention towards green products in an emerging market: The role of consumers' perceived readiness. *International Journal of Consumer Studies, 42,* 398–402.

Athwal, N., Wells, V. K., Carrigan, M., & Henninger, C. (2019). Sustainable luxury marketing: A synthesis and research agenda. *International Journal of Management Reviews, 00,* 1–22.

Barbarossa, C., Beckmann, S. C., De Pelsmacker, P., Moons, I., & Gwozdz, W. (2015). A self-identity based model of electric car adoption intention: A cross-cultural comparative study. *Journal of Environmental Psychology, 42,* 149–160.

Barbarossa, C., & De Pelsmacker, P. (2016). Positive and negative antecedents of purchasing eco-friendly products: A comparison between green and non-green consumers. *Journal of Business Ethics, 134*(2), 229–247.

Barbarossa, C., De Pelsmacker, P., & Moons, I. (2017). Personal values, green self-identity and electric car adoption. *Ecological Economics, 140,* 190–200.

Biswas, A., & Roy, M. (2015). Leveraging factors for sustained green consumption behavior based on consumption value perceptions: Testing the structural model. *Journal of Cleaner Production, 95,* 332–340.

Bong Ko, S., & Jin, B. (2017). Predictors of purchase intention toward green apparel products: A cross-cultural investigation in the USA and China. *Journal of Fashion Marketing and Management: An International Journal, 21*(1), 70–87.

Boyral, O., Guillaumie, L., Heras-Saizarbitoria, I., & Tayo Tene, C. V. (2018). Adoption and outcomes of ISO 14001: A systematic review. *International Journal of Management Review, 20*(2), 411–432.

Bray, J., Johns, N., & Kilburn, D. (2011). An exploratory study into the factors impeding ethical consumption. *Journal of Business Ethics, 98*(4), 597–608.

Breretona, P., Kitchenhama, B., Budgenb, D., Turnera, M., & Khalilc, M. (2007). Lessons from applying the systematic literature review process within the software engineering domain. *Journal of Systems and Software, 80*(4), 571–583.

Brochado, A., Teiga, N., & Oliveira-Brochado, F. (2017). The ecological conscious consumer behaviour: Are the activists different? *International Journal of Consumer Studies, 41*(2), 138–146.

Butt, M. M., Mushtaq, S., Afzal, A., Khong, K. W., Ong, F. S., & Ng, P. F. (2017). Integrating behavioural and branding perspectives to maximize green brand equity: A holistic approach. *Business Strategy and the Environment, 26*(4), 507–520.

Cerri, J., Testa, F., & Rizzi, F. (2018). The more I care, the less I will listen to you: How information, environmental concern and ethical production influence consumers' attitudes and the purchasing of sustainable products. *Journal of Cleaner Production, 175,* 343–353.

Cervellon, M. C., Carey, L., & Harms, T. (2012). Something old, something used: Determinants of women's purchase of vintage fashion versus second-hand fashion. *International Journal of Retail & Distribution Management, 40*(12), 956–974.

Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior. *Psychology & Marketing, 18*(4), 389–413.

Chan, R. Y., & Lau, L. B. (2000). Antecedents of green purchases: A survey in China. *Journal of Consumer Marketing, 17*(4), 338–357.

Chan, T. Y., & Wong, C. W. (2012). The consumption side of sustainable fashion supply chain: Understanding fashion consumer eco-fashion consumption decision. *Journal of Fashion Marketing and Management: An International Journal, 16*(2), 193–215.

Chang, H. J., & Watchravesringkan, K. (2018). Who are sustainably minded apparel shoppers? An investigation to the influencing factors of sustainable apparel consumption. *International Journal of Retail & Distribution Management, 46*(2), 148–162.

Chekima, B., Wafa, S. A. W. S. K., Igau, O. A., Chekima, S., & Sondoh, S. L., Jr. (2016). Examining green consumerism motivational drivers: Does premium price and demographics matter to green purchasing? *Journal of Cleaner Production, 112,* 3436–3450.

Chen, H., Zhu, T., Huo, J., & Andre, H. (2020). Sustainable co-governance of smart bike-sharing schemes based on consumers' perspective. *Journal of Cleaner Production, 260,* 120949.

Cho, E., Gupta, S., & Kim, Y. K. (2015). Style consumption: Its drivers and role in sustainable apparel consumption. *International Journal of Consumer Studies, 39*(6), 661–669.

Cho, Y. N., Thyroff, A., Rapert, M. I., Park, S. Y., & Lee, H. J. (2013). To be or not to be green: Exploring individualism and collectivism as antecedents of environmental behavior. *Journal of Business Research, 66*(8), 1052–1059.

Connoly, J., & Prothero, A. (2008). Green consumption: Life-politics, risk and contradictions. *Journal of Consumer Culture, 8,* 117–145.

Cowan, K., & Kinley, T. (2014). Green spirit: Consumer empathies for green apparel. *International Journal of Consumer Studies, 38*(5), 493–499.

Dagher, G. K., & Itani, O. (2014). Factors influencing green purchasing behaviour: Empirical evidence from the Lebanese consumers. *Journal of Consumer Behaviour, 13*(3), 188–195.

Dangelico, R. M., & Vocalelli, D. (2017). "Green Marketing": An analysis of definitions, strategy steps, and tools through a systematic review of the literature. *Journal of Cleaner Production, 165,* 1263–1279.

Darnall, N., Ji, H., & Potoski, M. (2017). Institutional design of ecolabels: Sponsorship signals rule strength. *Regulation & Governance, 11*(4), 438–450.

De Lenne, O., & Vandenbosch, L. (2017). Media and sustainable apparel buying intention. *Journal of Fashion Marketing and Management: An International Journal, 21*(4), 483–498.

Debnath, S., Reddy, M. M., & Yi, Q. S. (2014). Environmental friendly cutting fluids and cooling techniques in machining: A review. *Journal of Cleaner Production, 83,* 33–47.

Dermody, J., Hanmer-Lloyd, S., Koenig-Lewis, N., & Zhao, A. L. (2015). Advancing sustainable consumption in the UK and China: The mediating effect of pro-environmental self-identity. *Journal of Marketing Management, 31*(13–14), 1472–1502.

Dieu-Hang, T., Grafton, R. Q., Martínez-Espiñeira, R., & Garcia-Valiñas, M. (2017). Household adoption of energy and water-efficient appliances: An analysis of attitudes, labelling and complementary green behaviours in selected OECD countries. *Journal of Environmental Management, 197,* 140–150.

Do Paço, A., Alves, H., Shiel, C., & Filho, W. L. (2013). Development of a green consumer behaviour model. *International Journal of Consumer Studies, 37*(4), 414–421.

Elzinga, R., Reike, D., Negro, S. O., & Boon, W. P. C. (2020). Consumer acceptance of circular business models. *Journal of Cleaner Production, 254,* 119988.

European Commission. (2018). Special Eurobarometer 459—Climate change report. Accessible at: https://ec.europa.eu/clima/sites/clima/files/support/docs/report_2017_en.pdf. Accessed September 2018.

European Commission, COM. (2015). 614, Closing the loop—An EU action plan for a circular economy, Bruxelles, 2 December 2015.

Felix, R., & Braunsberger, K. (2016). I believe therefore I care: The relationship between religiosity, environmental attitudes, and green product purchase in Mexico. *International Marketing Review, 33*(1), 137–155.

Fraj, E., & Martinez, E. (2007). Ecological consumer behaviour: An empirical analysis. *International Journal of Consumer Studies, 31*(1), 26–33.

Fuller, C. M., Simmering, M. J., Atinc, G., Atinc, Y., & Babin, B. J. (2016). Common methods variance detection in business research. *Journal of Business Research, 69*(8), 3192–3198.

Gam, H. J. (2011). Are fashion-conscious consumers more likely to adopt eco-friendly clothing? *Journal of Fashion Marketing and Management: An International Journal, 15*(2), 178–193.

Gaspar, R., & Antunes, D. (2011). Energy efficiency and appliance purchases in Europe: Consumer profiles and choice determinants. *Energy Policy*, *39*(11), 7335–7346.

Ghazali, E., Soon, P. C., Mutum, D. S., & Nguyen, B. (2017). Health and cosmetics: Investigating consumers' values for buying organic personal care products. *Journal of Retailing and Consumer Services, 39,* 154–163.

Gilg, A., Barr, S., & Ford, N. (2005). Green consumption or sustainable lifestyles? *Identifying the Sustainable Consumer, Futures, 37*(6), 481–504.

Gleim, M., & Lawson, J. (2014). Spanning the gap: An examination of the factors leading to the green gap. *Journal of Consumer Marketing, 31*(6/7), 503–514.

Goh, S. K., & Balaji, M. S. (2016). Linking green skepticism to green purchase behavior. *Journal of Cleaner Production, 131,* 629–638.

Gomersall, J. S., Jadotte, Y. T., Xue, Y. F., Lockwood, S., Riddle, D., & Preda, A. (2015). Conducting systematic reviews of economic evaluations. *International Journal of Evidence Based Healthcare, 13*(3), 170–178.

Grimmer, M., Kilburn, A. P., & Miles, M. P. (2016). The effect of purchase situation on realized pro-environmental consumer behavior. *Journal of Business Research, 69*(5), 1582–1586.

Griskevicius, V., Tybur, J. M., & Van den Bergh, B. (2010). Going green to be seen: Status, reputation and conspicuous conservation. *Journal of Personality and Social Psychology, 98*(3), 392–404.

Grønhøj, A., & Thøgersen, J. (2009). Like father, like son? Intergenerational transmission of values, attitudes, and behaviours in the environmental domain. *Journal of Environmental Psychology, 29*(4), 414–421.

Gusmerotti, N. M., Testa, F., Corsini, F., Pretner, G., & Iraldo, F. (2019). Drivers and approaches to the circular economy in manufacturing firms. *Journal of Cleaner Production, 230,* 314–327.

Ha, H. Y., & Janda, S. (2012). Predicting consumer intentions to purchase energy-efficient products. *Journal of Consumer Marketing, 29*(7), 461–469.

Hanson, C. B. (2013). Environmental concern, attitude toward green corporate practices, and green consumer behavior in the United States and Canada. *ASBBS E-Journal, 9*(1), 62.

Haron, S. A., Paim, L., & Yahaya, N. (2005). Towards sustainable consumption: an examination of environmental knowledge among Malaysians. *International Journal of Consumer Studies, 29*(5), 426–436.

Hazen, B. T., Mollenkopf, D. A., & Wang, Y. (2017). Remanufacturing for the circular economy: An examination of consumer switching behavior. *Business Strategy and the Environment, 26*(4), 451–464.

He, X., & Zhan, W. (2018). How to activate moral norm to adopt electric vehicles in China? An empirical study based on extended norm activation theory. *Journal of Cleaner Production, 172,* 3546–3556.

Heberlein, T. A. (1972). The land ethic realized: Some social psychological explanations for changing environmental attitudes. *Journal of Social Issues, 28*(4), 79–87.

Hsu, C. L., Chang, C. Y., & Yansritakul, C. (2017). Exploring purchase intention of green skincare products using the theory of planned behavior: Testing the moderating effects of country of origin and price sensitivity. *Journal of Retailing and Consumer Services, 34,* 145–152.

Huang, Y. C., Yang, M., & Wang, Y. C. (2014). Effects of green brand on green purchase intention. *Marketing Intelligence & Planning, 32*(3), 250–268.

Hustvedt, G., & Dickson, M. A. (2009). Consumer likelihood of purchasing organic cotton apparel: Influence of attitudes and self-identity. *Journal of Fashion Marketing and Management: An International Journal, 13*(1), 49–65.

Hüttel, A., Ziesemer, F., Peyer, M., & Balderjahn, I. (2018). To purchase or not? Why consumers make economically (non-)sustainable consumption choices. *Journal of Cleaner Production, 174,* 827–836.

Intergovernmental Panel Climate Change. (2018). *Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. Geneva: World Meteorological Organization.

Jägel, T., Keeling, K., Reppel, A., & Gruber, T. (2012). Individual values and motivational complexities in ethical clothing consumption: A means-end approach. *Journal of Marketing Management, 28*(3–4), 373–396.

Jaiswal, D., & Kant, R. (2018). Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services, 41,* 60–69.

Jayawardhena, C., Morrell, K., & Stride, C. (2016). Ethical consumption behaviours in supermarket shoppers: Determinants and marketing implications. *Journal of Marketing Management, 32*(7–8), 777–805.

Jiménez-Parra, B., Rubio, S., & Vicente-Molina, M. A. (2014). Key drivers in the behavior of potential consumers of remanufactured products: A study on laptops in Spain. *Journal of Cleaner Production, 85,* 488–496.

Joergens, C. (2006). Ethical fashion: myth or future trend? *Journal of Fashion Marketing and Management: An International Journal*, *10*(3), 360–371.

Johnstone, L., & Lindh, C. (2018). The sustainability-age dilemma: A theory of (un) planned behaviour via influencers. *Journal of Consumer Behaviour, 17*(1), 127–139.

Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic Management Review, 3,* 128–143.

Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H. K. (2014). An empirical investigation of green purchase behaviour among the young generation. *Journal of Cleaner Production, 66,* 528–536.

Kang, J., Liu, C., & Kim, S. H. (2013). Environmentally sustainable textile and apparel consumption: The role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance. *International Journal of Consumer Studies, 37*(4), 442–452.

Kareklas, I., Carlson, J. R., & Muehling, D. D. (2014). "I eat organic for my benefit and yours": Egoistic and altruistic considerations for purchasing organic food and their implications for advertising strategists. *Journal of Advertising, 43,* 18–32.

Kaufmann, H. R., Panni, M. F. A. K., & Orphanidou, Y. (2012). Factors affecting consumers' green purchasing behavior: An integrated conceptual framework. *Amfiteatru Economic, 14*(31), 50–69.

Khare, A. (2014). Consumers' susceptibility to interpersonal influence as a determining factor of ecologically conscious behaviour. *Marketing Intelligence & Planning, 32*(1), 2–20.

Khare, A. (2015). Antecedents to green buying behaviour: A study on consumers in an emerging economy. *Marketing Intelligence & Planning, 33*(3), 309–329.

Khare, A., & Sadachar, A. (2017). Green apparel buying behaviour: A study on Indian youth. *International Journal of Consumer Studies, 41*(5), 558–569.

Khare, A., & Varshneya, G. (2017). Antecedents to organic cotton clothing purchase behaviour: Study on Indian youth. *Journal of Fashion Marketing and Management: An International Journal, 21*(1), 51–69.

Khorasanizadeh, H., Honarpour, A., Park, M. S. A., Parkkinen, J., & Parthiban, R. (2016). Adoption factors of cleaner production technology in a developing country: Energy efficient lighting in Malaysia. *Journal of Cleaner Production, 131,* 97–106.

Kim, H. Y., & Chung, J. E. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing, 28*(1), 40–47.

Kim, S., & Seock, Y. K. (2009). Impacts of health and environmental consciousness on young female consumers' attitude towards and purchase of natural beauty products. *International Journal of Consumer Studies, 33*(6), 627–638.

Kitchenham, B. (2004). *Procedures for performing systematic reviews*. Keele: Keele University.

Kitchenham, B., & Charters, S. (2007). Guidelines for performing systematic literature reviews in software engineering. In *EBSE technical report.* Software Engineering Group, School of Computer Science and Mathematics, Keele University, Department of Computer Science, University of Durham.

Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research, 8*(3), 239–260.

Konuk, F. A., Rahman, S. U., & Salo, J. (2015). Antecedents of green behavioral intentions: A cross-country study of Turkey, Finland and Pakistan. *International Journal of Consumer Studies, 39*(6), 586–596.

Krishna, A. (2012). An integrative review of sensory marketing: Engaging the senses to affect perception, judgment and behavior. *Journal of Consumer Psychology*, *22*(3), 332–351.

Kumar, P., & Ghodeswar, B. M. (2015). Factors affecting consumers' green product purchase decisions. *Marketing Intelligence & Planning, 33*(3), 330–347.

Kumar, B., Manrai, A. K., & Manrai, L. A. (2017). Purchasing behaviour for environmentally sustainable products: A conceptual framework and empirical study. *Journal of Retailing and Consumer Services, 34,* 1–9.

Lastovicka, J. L., Bettencourt, L. A., Shaw Hughner, R., & Kuntze, R. J. (1999). Lifestyle of the tight and frugal: Theory and measurement. *Journal of Consumer Research, 26*(1), 85–98.

Legere, A., & Kang, J. (2020). The role of self-concept in shaping sustainable consumption: A model of slow fashion. *Journal of Cleaner Production, 258,* 120699.

Leonidou, L. C., Leonidou, C. N., & Kvasova, O. (2010). Antecedents and outcomes of consumer environmentally friendly attitudes and behaviour. *Journal of Marketing Management, 26*(13–14), 1319–1344.

Lin, B., & Wu, W. (2018). Why people want to buy electric vehicle: An empirical study in first-tier cities of China. *Energy Policy, 112,* 233–241.

Liobikienė, G., Grincevičienė, Š., & Bernatonienė, J. (2017). Environmentally friendly behaviour and green purchase in Austria and Lithuania. *Journal of Cleaner Production, 142,* 3789–3797.

Lu, L. C., Chang, H. H., & Chang, A. (2015). Consumer personality and green buying intention: The mediate role of consumer ethical beliefs. *Journal of Business Ethics, 127*(1), 205–219.

Mancha, R. M., & Yoder, C. Y. (2015). Cultural antecedents of green behavioral intent: An environmental theory of planned behavior. *Journal of Environmental Psychology, 43,* 145–154.

Martenson, R. (2018). When is green a purchase motive? Different answers from different selves. *International Journal of Retail & Distribution Management, 46*(1), 21–33.

Martinez, C. P., Castaneda, M. G., Marte, R. B., & Roxas, B. (2015). Effects of institutions on ecological attitudes and behaviour of consumers in a developing Asian country: The case of the Philippines. *International Journal of Consumer Studies, 39*(6), 575–585.

Matsumoto, M., Chinen, K., & Endo, H. (2018). Remanufactured auto parts market in Japan: Historical review and factors affecting green purchasing behaviour. *Journal of Cleaner Production, 172,* 4494–4505.

McNeill, L. S., Hamlin, R. P., McQueen, R. H., Degenstein, L., Wakes, S., Garrett, T. C., et al. (2020). Waste not want not: Behavioural intentions toward garment life extension practices, the role of damage, brand and cost on textile disposal. *Journal of Cleaner Production, 260,* 121026.

Milfont, T. L., Duckitt, J., & Cameron, L. D. (2006). A cross-cultural study of environmental motive concerns and their implications for proenvironmental behavior. *Environment and Behavior, 38*(6), 745–767.

Milfont, T. L., & Markowitz, E. (2016). Sustainable consumer behavior: A multilevel perspective. *Current Opinion in Psychology, 10,* 112–117.

Milosavljevic, M., Navalpakkam, V., Koch, C., & Rangel, A. (2012). Relative visual saliency differences induce sizable bias in consumer choice. *Journal of Consumer Psychology, 22,* 67–74.

Mitra, S., & Datta, P. P. (2014). Adoption of green supply chain management practices and their impact on performance: An exploratory study of Indian manufacturing firms. *International Journal of Production Research, 52*(7), 2085–2107.

Mohr, L. A., Webb, D. J., & Harris, K. E. (2001). Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behavior. *Journal of Consumer Affairs, 35*(1), 45–72.

Montano, D. E., & Kasprzyk, D. (2015). Theory of reasoned action, theory of planned behavior, and the integrated behavioral model. In K. Glanz, B. K. Rimer, & K. V. Viswanath (Eds.), *Health behavior: Theory, research, and practice* (pp. 95–124). San Francisco, CA: Jossey-Bass.

Mostafa, M. M. (2007a). Gender differences in Egyptian consumers' green purchase behaviour: The effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies, 31*(3), 220–229.

Mostafa, M. M. (2007b). A hierarchical analysis of the green consciousness of the Egyptian consumer. *Psychology & Marketing, 24*(5), 445–473.
Newton, J. D., Tsarenko, Y., Ferraro, C., & Sands, S. (2015). Environmental concern and environmental purchase intentions: The mediating role of learning strategy. *Journal of Business Research, 68*(9), 1974–1981.
Nguyen, T. N., Lobo, A., & Greenland, S. (2016). Pro-environmental purchase behaviour: The role of consumers' biospheric values. *Journal of Retailing and Consumer Services, 33,* 98–108.
Nguyen, T. N., Lobo, A., & Greenland, S. (2017a). The influence of Vietnamese consumers' altruistic values on their purchase of energy efficient appliances. *Asia Pacific Journal of Marketing and Logistics, 29*(4), 759–777.
Nguyen, T. N., Lobo, A., & Greenland, S. (2017b). Energy efficient household appliances in emerging markets: the influence of consumers' values and knowledge on their attitudes and purchase behaviour. *International Journal of Consumer Studies, 41*(2), 167–177.
Nguyen, T. N., Lobo, A., & Greenland, S. (2017c). The influence of cultural values on green purchase behaviour. *Marketing Intelligence & Planning, 35*(3), 377–396.
Nielsen. (2015). Green generation: Millennials say sustainability is a shopping priority. Accessible at: http://www.nielsen.com/us/en/insights/news/2015/green-generation-millennials-saysustainability-is-a-shopping-priority.htm. Accessed September 2018.
Okoli, C., & Schabram, K. (2010). A guide to conducting a systematic literature review of information systems research. *Sprouts: Working Papers on Information Systems,* **10**(26).
Oliver, S., Harden, A., Rees, R., Shepherd, J., Brunton, G., Garcia, J., et al. (2005). An emerging framework for including different types of evidence in systematic reviews for public policy. *Evaluation, 11*(4), 428–446.
Oliver, J. D., & Lee, S. H. (2010). Hybrid car purchase intentions: A cross-cultural analysis. *Journal of Consumer Marketing, 27*(2), 96–103.
Onwezen, M. C., Reinders, M. J., & Sijtsema, S. J. (2017). Understanding intentions to purchase bio-based products: The role of subjective ambivalence. *Journal of Environmental Psychology, 52,* 26–36.
Orazi, D. C., & Chan, E. Y. (2018). They did not walk the green talk!: How information specificity influences consumer evaluations of disconfirmed environmental claims. *Journal of Business Ethics*. https://doi.org/10.1007/s10551-018-4028-6.
Pagiaslis, A., & Krontalis, A. K. (2014). Green consumption behavior antecedents: Environmental concern, knowledge, and beliefs. *Psychology & Marketing, 31*(5), 335–348.
Papista, E., Chrysochou, P., Krystallis, A., & Dimitriadis, S. (2018). Types of value and cost in consumer–green brands relationship and loyalty behaviour. *Journal of Consumer Behaviour, 17*(1), e101–e113.
Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services, 29,* 123–134.
Petticrew, M., & Roberts, H. (2008). *Systematic reviews in the social sciences: A practical guide*. London: Wiley.
Polonsky, M. J., Vocino, A., Grau, S. L., Garma, R., & Ferdous, A. S. (2012). The impact of general and carbon-related environmental knowledge on attitudes and behaviour of US consumers. *Journal of Marketing Management, 28*(3–4), 238–263.
Polonsky, M. J., Vocino, A., Grimmer, M., & Miles, M. P. (2014). The interrelationship between temporal and environmental orientation and pro-environmental consumer behaviour. *International Journal of Consumer Studies, 38*(6), 612–619.
Prakash, G., & Pathak, P. (2017). Intention to buy eco-friendly packaged products among young consumers of India: A study on developing nation. *Journal of Cleaner Production, 141,* 385–393.
Prothero, A., McDonagh, P., & Dobscha, S. (2010). Is green the new black? Reflections on a green commodity discourse. *Journal of Macromarketing, 30*(2), 147–159.
Qu, Y., Liu, Y., Guo, L., Zhu, Q., & Tseng, M. (2018). Promoting remanufactured heavy-truck engine purchase in China: Influencing factors and their effects. *Journal of Cleaner Production, 185,* 86–96.
Ramayah, T., Lee, J. W. C., & Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. *Resources, Conservation and Recycling, 54*(12), 1419–1427.
Reimers, V., Magnuson, B., & Chao, F. (2016). The academic conceptualisation of ethical clothing: Could it account for the attitude behaviour gap? *Journal of Fashion Marketing and Management: An International Journal, 20*(4), 383–399.
Reimers, V., Magnuson, B., & Chao, F. (2017). Happiness, altruism and the Prius effect: How do they influence consumer attitudes towards environmentally responsible clothing? *Journal of Fashion Marketing and Management: An International Journal, 21*(1), 115–132.

Robinot, É., Ertz, M., & Durif, F. (2017). Jingle bells or 'green' bells? The impact of socially responsible consumption principles upon consumer behaviour at Christmas time. *International Journal of Consumer Studies, 41*(6), 605–617.
Rowley, J., & Slack, F. (2004). Conducting a literature review. *Management Research News, 27*(6), 31.
Sarti, S., Darnall, N., & Testa, F. (2018). Market segmentation of consumers based on their actual sustainability and health-related purchases. *Journal of Cleaner Production, 192,* 270–280.
Schuitema, G., & De Groot, J. I. (2015). Green consumerism: The influence of product attributes and values on purchasing intentions. *Journal of Consumer Behaviour*, *14*(1), 57–69.
Schwartz, S. H. (1970). Moral decision making and behavior. In M. Macauley & L. Berkowitz (Eds.), *Altruism and helping behavior* (pp. 127–141). New York: Academic Press.
Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology, 25,* 1–65.
Sharma, R., & Jha, M. (2017). Values influencing sustainable consumption behaviour: Exploring the contextual relationship. *Journal of Business Research, 76,* 77–88.
Shen, B., Wang, Y., Lo, C. K., & Shum, M. (2012). The impact of ethical fashion on consumer purchase behavior. *Journal of Fashion Marketing and Management: An International Journal, 16*(2), 234–245.
Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. *Journal of Retailing and Consumer Services, 41,* 177–189.
Stall-Meadows, C., & Hebert, P. R. (2011). The sustainable consumer: An in situ study of residential lighting alternatives as influenced by infield education. *International Journal of Consumer Studies, 35*(2), 164–170.
Steg, L., & De Groot, J. (2012). Environmental values. In S. Clayton (Ed.), *The Oxford handbook of environmental and conservation psychology* (pp. 81–92). Oxford: Oxford University Press.
Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues, 56*(3), 407–424.
Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Human Ecology Review, 6*(2), 81–97.
Stern, P. C., Kalof, L., Dietz, T., & Guagnano, G. A. (1995). Values, beliefs, and proenvironmental action: Attitude formation toward emergent attitude objects. *Journal of Applied Social Psychology, 25*(18), 1611–1636.
Taufique, K. M. R., & Vaithianathan, S. (2018). A fresh look at understanding green consumer behavior among young urban Indian consumers through the lens of theory of planned behavior. *Journal of Cleaner Production, 183,* 46–55.
Taufique, K. M. R., Vocino, A., & Polonsky, M. J. (2017). The influence of eco-label knowledge and trust on pro-environmental consumer behaviour in an emerging market. *Journal of Strategic Marketing, 25*(7), 511–529.
Templier, M., & Paré, G. (2015). A framework for guiding and evaluating literature reviews. *Communications of the Association for Information Systems, 37,* 112–137.
Testa, F., Cosic, A., & Iraldo, F. (2016). Determining factors of curtailment and purchasing energy related behaviours. *Journal of Cleaner Production, 112,* 3810–3819.
Testa, F., Iraldo, F., Vaccari, A., & Ferrari, E. (2013). Why eco-labels can be effective marketing tools: Evidence from a study on Italian consumers. *Business Strategy and the Environment, 24*(4), 252–265.
Testa, F., Miroshnychenko, I., Barontini, R., & Frey, M. (2018). Does it pay to be a greenwasher or a brownwasher? *Business Strategy and the Environment, 27*(7), 1104–1116.
Testa, F., Sarti, S., & Frey, M. (2019). Are green consumers really green? Exploring the factors behind the actual consumption of organic food products. *Business Strategy and the Environment, 28*(2), 327–338.
Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management, 14,* 207–222.
Trivedi, R. H., Patel, J. D., & Acharya, N. (2018). Causality analysis of media influence on environmental attitude, intention and behaviors leading to green purchasing. *Journal of Cleaner Production, 196,* 11–22.
Trivedi, R. H., Patel, J. D., & Savalia, J. R. (2015). Pro-environmental behaviour, locus of control and willingness to pay for environmental friendly products. *Marketing Intelligence & Planning, 33*(1), 67–89.
Tsarenko, Y., Ferraro, C., Sands, S., & McLeod, C. (2013). Environmentally conscious consumption: The role of retailers and peers as external influences. *Journal of Retailing and Consumer Services, 20*(3), 302–310.
UN Environment. (2019). Global environment outlook—GEO 6: Healthy planet, healthy people. Nairobi. doi: 10.1017/9781108627146.

Urien, B., & Kilbourne, W. (2011). Generativity and self-enhancement values in eco-friendly behavioral intentions and environmentally responsible consumption behavior. *Psychology & Marketing, 28*(1), 69–90.
Vafadarnikjoo, A., Mishra, N., Govindan, K., & Chalvatzis, K. (2018). Assessment of consumers' motivations to purchase a remanufactured product by applying fuzzy Delphi method and single valued neutrosophic sets. *Journal of Cleaner Production, 196,* 230–244.
Vermeir, I., & Verbeke, W. (2006). Sustainable food consumption: Exploring the consumer "attitude–behavioral intention" gap. *Journal of Agricultural and Environmental Ethics, 19*(2), 169–194.
Wanden-Berghe, C., & Sanz-Valero, J. (2012). Systematic reviews in nutrition: Standardized methodology. *British Journal of Nutrition, 107,* 3–7.
Wang, S. T. (2014). Consumer characteristics and social influence factors on green purchasing intentions. *Marketing Intelligence & Planning, 32*(7), 738–753.
Wang, C., Ghadimi, P., Lim, M. K., & Tseng, M. (2019). A literature review of sustainable consumption and production: A comparative analysis in developed and developing countries. *Journal of Cleaner Production, 206,* 741–754.
Wang, P., Liu, Q., & Qi, Y. (2014). Factors influencing sustainable consumption behaviors: A survey of the rural residents in China. *Journal of Cleaner Production, 63,* 152–165.
Wang, Z., Wang, X., & Guo, D. (2017a). Policy implications of the purchasing intentions towards energy-efficient appliances among China's urban residents: Do subsidies work? *Energy Policy, 102,* 430–439.
Wang, Z., Zhao, C., Yin, J., & Zhang, B. (2017b). Purchasing intentions of Chinese citizens on new energy vehicles: How should one respond to current preferential policy? *Journal of Cleaner Production, 161,* 1000–1010.
Watkins, L., Aitken, R., & Mather, D. (2016). Conscientious consumers: A relationship between moral foundations, political orientation and sustainable consumption. *Journal of Cleaner Production, 134,* 137–146.
Wells, V. K., Ponting, C. A., & Peattie, K. (2011). Behaviour and climate change: Consumer perceptions of responsibility. *Journal of Marketing Management, 27*(7–8), 808–833.
White, K., Habib, R., & Hardisty, H. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of Marketing, 83*(3), 22–49.
Wu, J. H., Wu, C. W., Lee, C. T., & Lee, H. J. (2015). Green purchase intentions: An exploratory study of the Taiwanese electric motorcycle market. *Journal of Business Research, 68*(4), 829–833.
Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production, 135,* 732–739.
Yadav, R., & Pathak, G. S. (2017). Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the theory of planned behavior. *Ecological Economics*, *134*, 114–122.
Yang, S., & Zhao, D. (2015). Do subsidies work better in low-income than in high-income families? Survey on domestic energy-efficient and renewable energy equipment purchase in China. *Journal of Cleaner Production, 108,* 841–851.
Zabkar, V., & Hosta, M. (2013). Willingness to act and environmentally conscious consumer behaviour: Can prosocial status perceptions help overcome the gap? *International Journal of Consumer Studies, 37*(3), 257–264.
Zepeda, L., & Deal, D. (2009). Organic and local food consumer behaviour: Alphabet theory. *International Journal of Consumer Studies, 33,* 697–705.
Zhang, X., Bai, X., & Shang, J. (2018). Is subsidized electric vehicles adoption sustainable: Consumers' perceptions and motivation toward incentive policies, environmental benefits, and risks. *Journal of Cleaner Production, 192,* 71–79.
Zhang, X., Wang, K., Hao, Y., Fan, J. L., & Wei, Y. M. (2013). The impact of government policy on preference for NEVs: The evidence from China. *Energy Policy, 61,* 382–393.
Zsóka, Á., Szerényi, Z. M., Széchy, A., & Kocsis, T. (2013). Greening due to environmental education? Environmental knowledge, attitudes, consumer behavior and everyday pro-environmental activities of Hungarian high school and university students. *Journal of Cleaner Production, 48,* 126–138.