



## Review

# “Green Marketing”: An analysis of definitions, strategy steps, and tools through a systematic review of the literature



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## ABSTRACT

Over the past decades, environmental sustainability has raised at the top of the international political agenda and has been recognized as a key driver of innovation. As a result, the number of companies developing green products has been rapidly growing and consumers have shown an increasing interest for these products. Thus, understanding the main characteristics of green products, identifying factors affecting their price and consumers' willingness to pay more for them, sales channels and promotional tools (the 4Ps of Green Marketing) would be very useful for companies aiming at designing, developing and marketing green products. For this reason, deeply understanding Green Marketing would foster, on the one hand, cleaner production through the development of green products and, on the other hand, sustainable consumption through the successful marketing of them. To this aim, this study reviews the body of knowledge on the topic, through a systematic review of the literature. Specifically, this paper analyzes: 1) the dominant definitions of Green Marketing (and related concepts) and their evolution over time, 2) the different steps to build a Green Marketing Strategy, and 3) the characteristics of Green Marketing Mix elements. After searching for academic publications in three databases (EBSCO, Scopus, and Web of Science) and selecting publications based on their relevance for the stated aims, 114 studies have been included in the review. Results show that the definition of Green Marketing has changed over time according to the growing relevance of environmental sustainability. Regarding the Green Marketing Strategy, several ways of segmenting consumers have been identified; studies converge in giving greater relevance to green brand positioning rather than to green product positioning and many of them see it as a chance of differentiation. Referring to the Green Marketing Mix, results show that: many types of green products exist; consumers are willing to pay a premium price according to products' functional attributes or their responsibility towards the natural environment; closed-loop supply chain and reverse logistics play a key role; a careful definition of advertisement contents is essential and ecolabels can be important tools. This study provides an in-depth analysis and synthesis of the body of knowledge so far produced in the field of Green Marketing and, as such, it has important implications for managers, scholars, and students.

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## 1. Introduction

The growing international concerns about environmental sustainability and climate change are leading all companies to face the challenge of integrating environmental issues into business strategy and activities (e.g. Nidumolu et al., 2009). This challenge involves most company's functional areas, including R&D, design, manufacturing, and marketing (Foster and Green, 2000; Lenox and Ehrenfeld, 1997). Successfully developing and manufacturing environmentally sustainable products or services are essential for reducing the environmental impact of industrial activities and fostering cleaner production. Marketing is fundamental for this process since marketing inputs are essential for defining product concept and design. Further, developing green products/services would be useless for environmental sustainability unless these get widespread in the market. Marketing is essential also in this process since it can play a key role for the creation of a green market (e.g. Rex and Baumann, 2007) by communicating with consumers to increase their awareness about environmental sustainability and informing them about the benefits of environmentally sustainable products and services. Thus, marketing is very relevant for fostering both cleaner production and sustainable consumption.

This study will focus on “Green Marketing”, meant as the integration of environmental sustainability into marketing. Even though some studies highlighted that the words “green”, “greener”, “eco”, “ecological”, “environmental”, “sustainable”, and “sustainability” associated to the word “marketing” may have slightly different meanings and may indicate an evolution of the concept over time (e.g. Kumar et al., 2013), in this paper they are considered as synonyms.

The first definition related to Green Marketing dates back to 1976, when Hennion and Kinnear (p. 1) highlighted that Ecological Marketing was “concerned with all marketing activities that have served to help cause environmental problems and that may serve to provide a remedy for environmental problems”. Over the years many other definitions have been provided and the concept has evolved and become more structured, as evident from the definition by Fuller (1999, p.4) of Sustainable Marketing as “the process of planning, implementing and controlling the development, pricing, promotion, and distribution of products in a manner that satisfies the following three criteria: (1) customer needs are met, (2) organizational goals are attained, and (3) the process is compatible with eco-systems”. This definition clearly highlights how Green Marketing is central for cleaner production and corporate sustainability.

Since the first definition of Green Marketing, the number of studies on the topic has increased substantially. For example, Lampe and Gazda (1995) analyzed the evolution of green business and the forces that led to the emergence of green marketing. Peattie

(2001b) focused on the evolution of the concept over time and on the different actions that characterize green marketing in each phase of this evolution. Peattie (2001a) highlighted that green marketing cannot be seen simply as a variation on conventional marketing, suggesting some specific ways to look at it to avoid failures. Adopting a more case-oriented approach, Ottman et al. (2006) analyzed several cases of unsuccessful green products, highlighting factors that should be taken into account for successfully developing and marketing green products. Specifically, the authors highlighted that green marketing must simultaneously satisfy two conditions: develop products with high environmental quality and satisfy customers' expectations.

The rapid growth of the number of studies on green marketing led to the need to analyze their contents and their evolution over time. Chamorro et al. (2009) conducted a study on the characteristics of 112 articles on Green Marketing published between 1993 and 2003, analyzing their topics, methodology, and techniques of analysis. The review shows a peak in terms of number of studies during the 1990s, with a decrease starting in 2001. In terms of contents, the analysis highlights the evolution over time of the number of articles focused on five topics, namely green communication, green consumers, recycling behaviors, macromarketing, concepts and strategies. However, the study misses an analysis of these contents.

More recently, Kumar et al. (2013) conducted a review of the literature on what he called “sustainability marketing” from 1996 to 2011 analyzing the development of the concept over time and the characteristics of the studies. Similarly to what found by Chamorro et al. (2009), Kumar et al. (2013) found a decrease in the number of studies in the period 2002–2004. Even in this review, the focus is not on the content of the studies but on their evolution over time, on the methodologies used, on the countries and on the industries under investigation, and on the study area covered (environment, CSR, and sustainability). Thus, both these reviews (that address the need to analyze and synthesize the growing body of knowledge on Green Marketing) do not include an in-depth analysis of the content of the reviewed studies, so making them more useful for researchers than for companies. Actually, managers aiming at successfully developing and marketing green products need clear and updated knowledge on strategies and tools. Further, in order to identify research gaps and define clear future research avenues even researchers need detailed and updated information about the content of previous studies.

So far, to the best of our knowledge, an in-depth, systematic, and updated review of the body of knowledge on Green Marketing is missing. We believe that it would be very useful in order to analyze the state of the art of the topic, provide a framework and clear directions to guide managers, and identify future research directions

for the topic.

First of all, since several definitions of Green Marketing and related concepts have been provided over time, a review of them is needed. Kumar et al. (2013) reported the definitions of various concepts involved in Green Marketing, however with the most recent one dating back to 2009, so urging the need to conduct a more complete and updated analysis. Further, to the best of our knowledge no study so far synthesized through a systematic literature review the current knowledge on how to build a Green Marketing Strategy and how to implement it through the Green Marketing Mix elements, which would be very relevant for both researchers and for managers, since, as highlighted by Peattie (2001b), Green Marketing is not simply a variation on traditional marketing.

To this aim, a systematic review of the relevant body of knowledge on Green Marketing will be conducted, guided by three main research questions:

- RQ1: Which are the main definitions of Green Marketing (and related concepts) and their evolution over time?
- RQ2: Which are the peculiarities of the different steps to build a Green Marketing Strategy?
- RQ3: Which are the characteristics of the Green Marketing Mix elements?

The focus will be on articles dealing with Green Marketing of physical products (services are not taken into account) published in scientific peer-reviewed journals in English until December 2015.

The paper is structured as follows. In the next section, methodological details are provided. After that, results are reported in terms of characteristics of studies included in the systematic review. Then, results related to the research questions are provided. Finally, discussion, future research directions, and implications are examined.

## 2. Methodology

This study uses the systematic review methodology (Higgins and Green, 2011). Despite the fact that this methodology was born to review and synthesize studies in the health care domain, it is becoming more and more common even in the business and management domain (see for instance Dangelico (2016) on green product innovation and Phillips et al. (2015) on social innovation and entrepreneurship). In the following sections, the data collection process, the study selection criteria, and the data extraction methods are described in detail.

### 2.1. Data collection

Studies to be included in the review were identified by searching the following databases: EBSCO, Scopus, and Web of Science. Descriptions of the search options are provided in Table 1.

All databases were searched using four keywords (or keyword combinations): green marketing, environmental marketing, eco-marketing, and ecomarketing. In Table 2, the number of results obtained for each keyword within each database is reported. In the last row, the total numbers of retrieved papers in each database and across databases are reported.

### 2.2. Study selection

Several steps were followed to select relevant studies. First of all, we discarded duplicate articles, within and across databases. After that, we reviewed titles and abstracts of the retrieved articles for a first analysis of their relevance to the research questions, excluding

**Table 1**  
Databases and search options.

Database	Search options
Ebsco (Business Source Complete)	<ul style="list-style-type: none"> <li>■ Search in: TI Title; KW-Author supplied keywords; AB Abstract or author-supplied abstract</li> <li>■ Limit to: peer reviewed academic publications</li> <li>■ Document type: Article - Academic publication peer reviewed</li> <li>■ Source type: Academic journal</li> <li>■ Data range: all years to 2015</li> <li>■ Language: English</li> </ul>
Scopus	<ul style="list-style-type: none"> <li>■ Search in: Article Title, Abstract, Keywords</li> <li>■ Document type: Article</li> <li>■ Source type: Journal</li> <li>■ Subject area: Business, management and accounting; social sciences; environmental science; economics and finance.</li> <li>■ Data range: all years to 2015</li> <li>■ Language: English</li> </ul>
Web of Science (WoS)	<ul style="list-style-type: none"> <li>■ Search in: Topic</li> <li>■ Document type: Article</li> <li>■ Citations databases: all except than "Conference Proceedings"</li> <li>■ Data range: all years to 2015</li> <li>■ Language: English</li> </ul>

**Table 2**  
Keywords employed in the literature search and number of results for each database.

Keywords	Ebsco	Scopus	Web of Science	Ebsco + Scopus + WoS
"green marketing"	291	300	223	
"environmental marketing"	70	58	56	
"eco-marketing"	3	9	6	
"ecomarketing"	0	4	0	
<i>Total (net of duplicates)</i>	<i>342</i>	<i>351</i>	<i>260</i>	<i>410</i>

those resulting non-relevant. This process resulted in 161 potentially relevant articles that were included in the full-text search. For 21 of them, full text was not available, whereas for the others 140 the full text was thoroughly analyzed, leading to discard 26 non-relevant articles. At the end of the process, 114 articles were included in the systematic review. The steps of the study selection process are reported in Fig. 1.

During the selection process, considering the focus of this study, non-relevant articles were identified as follows. First of all, studies focusing only on regulatory issues, such as studies dealing with the effect of the introduction of specific policies, taxes and regulations on Green Marketing, were excluded. Also papers focused on corporate green strategy and consumer buying behavior were discarded. Further, studies referred to service sectors (such as hotels, banking, food service) were not included. Finally, articles dealing with specific technologies, methods or tools (such as life cycle assessment) or exclusively focusing on supply chain management or on a very specific market (with no useful evidences for a general view on Green Marketing) were discarded.

### 2.3. Data extraction

For each study included in the systematic review, data from the full text were extracted. These data included author(s), publication name, year of publication, title, this study's research question(s) that have been addressed, and main results relating to this study's research question(s). These data were the starting point for the following analysis.

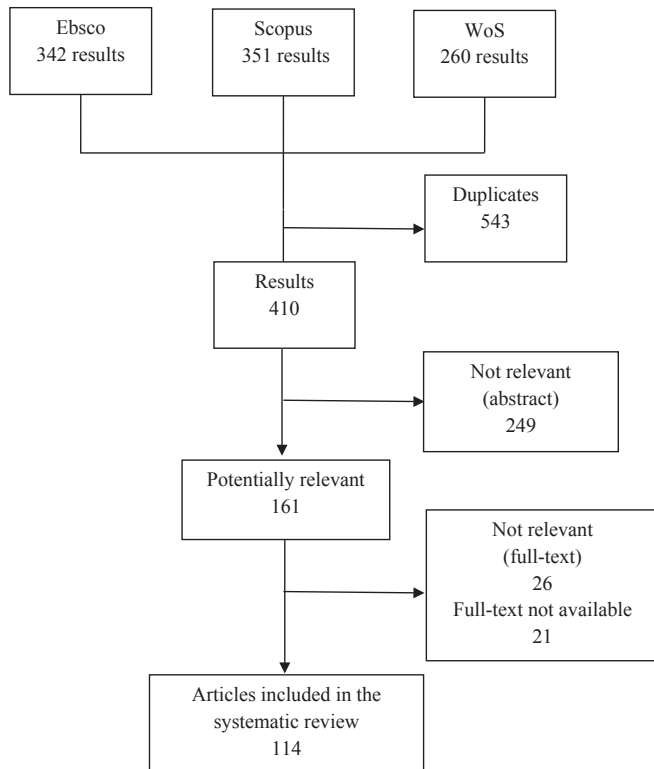


Fig. 1. Steps of the study selection process.

### 3. Analysis of results

#### 3.1. Characteristics of studies included in the review

Table 3 reports the names of the journals where the reviewed studies were published. The journal that published most of the studies included in the review is “Journal of Consumer Marketing”, followed by “Journal of Strategic Marketing”, “Journal of Marketing Management”, and “Business Strategy and the Environment”.

The 114 articles included in the review were published in 72 different journals. There is a strong presence of Marketing journals

**Table 3**  
Number of articles included in the review per each journal.

Publication name	Number of articles
Journal of Consumer Marketing	9
Journal of Strategic Marketing	6
Business Strategy and the Environment	5
Journal of Marketing Management	5
Journal of Advertising	4
Journal of Cleaner Production	4
International Journal of Consumer Studies	3
Journal of Business Research	3
Journal of Business Ethics	2
International Journal of Organizational Innovation	2
MIT Sloan Management Review	2
European Journal of Marketing	2
International Marketing Review	2
Journal of Macromarketing	2
Journal of Marketing	2
Marketing Intelligence & Planning	2
Industrial Marketing Management	2
Journal of Promotion Management	2
Journal of Services Research	2
Others (one article per journal)	53
<i>Total</i>	<i>114</i>

(23) from which 42 of the 114 reviewed articles come from. Other 33 articles were published in 28 journals dealing with more general topics, such as Business, Management, Production, and Economics. There are 12 journals (contributing with 20 articles) devoted to topics at the intersection between Environmental or Ethical issues and Business, Management, or Marketing. 7 journals deal with Consumers Behavior and Psychology (17 articles), while the remaining 2 journals (contributing with 1 article each) deal with Social Sciences in general and Life Sciences.

Fig. 2 depicts the evolution of the number of studies over time. The first study included in the review dates back to 1993. Until 2008 there has been a quite constant and limited number of studies, while after 2008 there has been a rapid increase in the number of studies, with a peak in 2012. This trend shows that there is a growing interest for Green Marketing in the literature.

Due to the focus of this paper, studies included in the review have been analyzed with specific attention to three main topics: definitions of Green Marketing and related concepts, Green Marketing Strategy, and Green Marketing Mix. Fig. 3 shows the number of studies dealing with each one of these topics and their sub-topics. Many studies focused on Green Marketing Mix (56% of the total number of articles). In particular, Promotion is the most studied theme, followed by Price, Product, and Place. 29% of the analyzed studies focused on Green Marketing Strategy (with a majority of them dealing with Segmentation and Targeting). Finally, 25% of studies provides insights on definitions of Green Marketing and related concepts. Since some studies deal with more than one topic, the sum of percentages is greater than 100.

In the Appendix, the list of studies included in the review divided per topic is reported.

Studies cited by the 114 articles and relevant for the aims of this paper were also used to analyze and discuss each topic.

#### 3.2. Evolution of the Green Marketing definition and related concepts

The concept of Green Marketing significantly evolved since it was first defined by Hennion and Kinnear (1976, p. 1) as “concerned with all marketing activities that have served to help cause environmental problems and that may serve to provide a remedy for environmental problems”. Peattie (2001b, p.130) identified in this definition the beginning of the so-called First Age: “Ecological” Green Marketing. In this definition, some limits have been identified. The biggest mistakes are to limit Green Marketing to a tool on top of Traditional Marketing (Peattie, 2001b) or to consider it merely referred to promotion (Moniri et al., 2012). In this First Age, Green Marketing is seen as a subset of activities with a narrow field of action in an “end-of-pipe” view (Ottman, 1993); the focus is on specific environmental problems (such as, air pollution or natural resource depletion) and industries, with few companies and consumers actually changing their behavior (Peattie, 2001b).

With the growing awareness of global environmental problems and the acknowledgement of the interdependence among environment, society, and economy (starting from the end of the 1980s), marketing begins to channel its efforts not only in terms of reduction of environmental damage, but also in terms of achieving sustainability broadly. This is the so-called Second Age: “Environmental” Green Marketing (Peattie, 2001b). Peattie (1995) defined this new idea of Green Marketing as “the holistic management process responsible for identifying, anticipating and satisfying the needs of customers and society, in a profitable and sustainable way” (Peattie, 2001b, p.141). This Age is characterized by a move away from end-of-pipe solutions towards “clean technology”, by the recognition that companies' socio-environmental performance may lead to competitive advantage, and by the awareness of

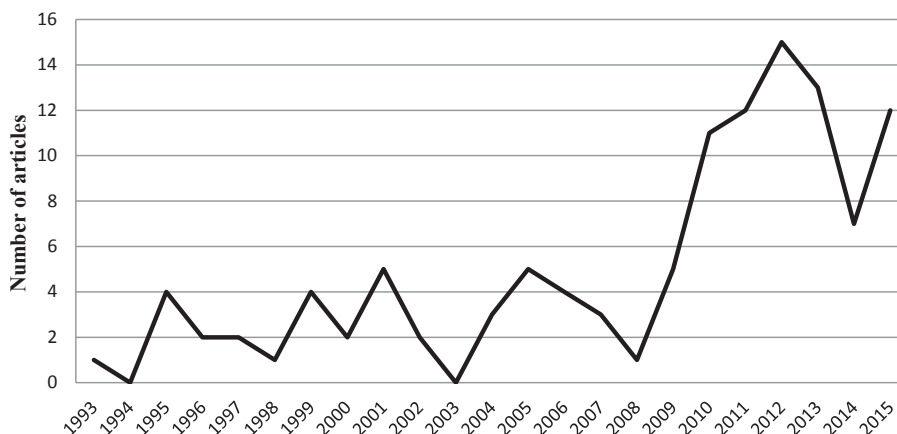


Fig. 2. Evolution of the number of reviewed studies over time.

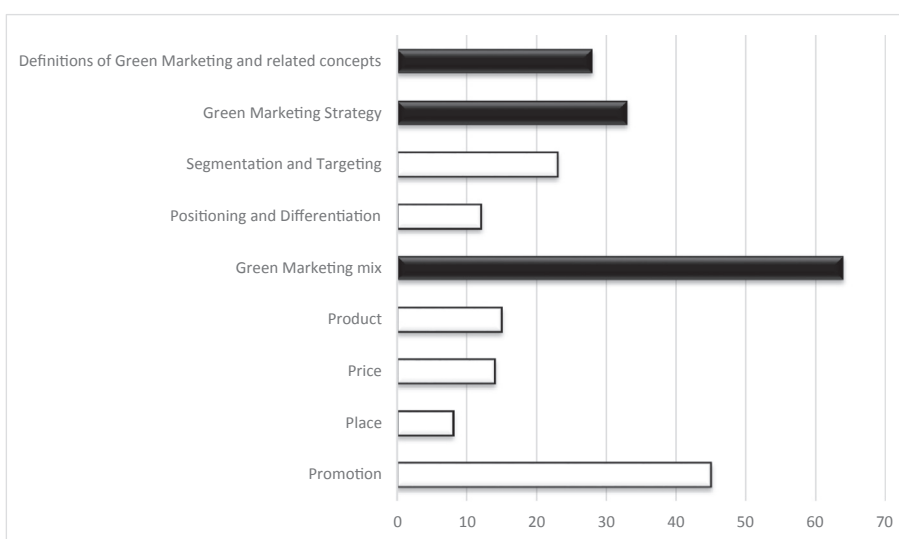


Fig. 3. Relevant articles included in the review classified per topic (in black) and sub-topic (in white).

broader global problems, such as climate change, biodiversity loss, and poverty (Peattie, 2001b). Fuller (1999) introduced the third condition to satisfy, beyond customer needs and company goals: eco-system sustainability. Fuller (1999; p.4) defined Green Marketing as “the process of planning, implementing and controlling the development, pricing, promotion, and distribution of products in a manner that satisfies the following three criteria: (1) customer needs are met, (2) organizational goals are attained, and (3) the process is compatible with eco-systems”. This Age is characterized by the development of new markets for green products and services in many industries (Peattie, 2001b). According to Ghosh (2011), effective Green Marketing requires applying good marketing principles to make green products desirable for consumers, while according to Gheorghiu et al. (2013) eco-marketing is intended to harmonize the interests of consumers with environmental requirements. The Third Age of Green Marketing (“Sustainable” Green Marketing) requires a more radical approach: marketers should seek “to meet the full environmental costs of production and consumption to create a sustainable economy” (Peattie, 2001b, p.129). It entails moving from product ownership to product use, from products to services, from linear to closed-loop supply chains, from global distribution chains to re-localization of supply systems. The Third Age will hit the “Green Wall” described by Peattie

(2001b) (all cultural factors and other business practices that obstacle in any way the growth of sustainable activities), will make the “backlash” described by Crane (2000) (widespread reluctance that does not allow the full diffusion of green products) disappear, and will spread the “social normalization” of eco-sustainability. Further, as highlighted by Rettie et al. (2014) and Rettie et al. (2012), behaviors that now seem alternative and unconventional will be considered as normal in the Third Age and probably one day, there will not be the need to even define Green Marketing.

Regarding the different terms used in the literature, van Dam and Apeldoorn (1996) and Kumar et al. (2013) explained the evolution of them and their meaning. van Dam and Apeldoorn (1996) highlighted that there are three slightly different concepts linking marketing to the natural environment (namely, ecological, green, and sustainable) that are included under the label of environmental marketing. The authors claimed that in ecological marketing environmental friendliness is motivated by moral issues, in green marketing it is driven by market pressures, while sustainable marketing can help companies to adopt a long term perspective and value continuity profit, so contributing to find trade-offs between business objectives and environmental issues. Kumar et al. (2013) analyzed the evolution of the concept of what they call Sustainability Marketing, highlighting that the initial concept of



ecological marketing developed into green, greener, sustainable and, finally, sustainability marketing, which incorporates all three dimensions of sustainability (economic, environmental, and social).

In Table 4, main definitions related to Green Marketing are reported.

Saha and Darnton (2005) highlighted that marketing involves all the activities of a company and as such it has a huge impact on the natural environment; however, many companies interpret Green Marketing just as promoting green features of their products or communicating that the company is green. In their study, Prothero et al. (2010) highlighted that, with the growing interest of new generations for sustainability, “green” is considered as the new black, while the government is still in the hand of earlier generations that often do not encourage sustainable practices. This situation could bring at having most of the population acting in a sustainable way, while the government does not. Wymer and Polonsky (2015) highlighted that Green Marketing alone is insufficient to solve societal environmental problems, but governments and citizen-consumers should play their part. Another relevant issue is that, if customers can buy products with lower environmental impact, they could be led to buy a greater quantity of them, so reaching the same level of environmental impact. This phenomenon, known as “rebound effect”, if not monitored, could frustrate Green Marketing benefits (Hertwick, 2005). Thus, Green Marketing alone could not be enough to maximize social welfare. Based on this, Gordon et al. (2011) other two concepts complementary to Green Marketing, namely Social Marketing and Critical Marketing. Maximizing social welfare cannot be carried out only by companies, but it is also a responsibility of government and philosophy. In Kilbourne (1998) opinion too, problems and

opportunities created by the damages made to the ecosystem and the growth of Green Marketing require new conceptualizations and new modes of political and economic expression.

Social Marketing was defined by the UK National Social Marketing Centre as “the systematic application of marketing concepts and techniques to achieve specific behavioral goals for social or public welfare” (French and Blair-Stevens, 2006 in Gordon et al. (2011, p. 149)). Gordon et al. (2011) pointed out that it is the marketing of social change. Social Marketing focuses on changing human behavior, but rather than focusing on increasing sales, consumption and profits, it tries to increase the benefits for society, by curbing harmful conducts and encouraging the most socially responsible ones. This type of marketing is difficult to reconcile with economic gains; thus, this is almost exclusively a tool of not-for profit organizations and governments and could easily generate skepticism when promoted by companies. As highlighted by Kotler and Zaltman (1971), Social Marketing may have serious impacts on the market; further, not everyone may welcome these attempts to suggest behavioral population’s changes, which might be perceived as social engineering. Hastings and Angus (2008) suggested that great attention should be paid to the sources of Social Marketing: in fact, if it is proposed as a commercial sponsorship, it can easily generate skepticism.

A related concept is DeMarketing, which can be considered as a tool of Social Marketing. Introduced by Kotler and Levy (1971, in Sodhi (2011, p.181)), DeMarketing means to “discourage the use of some products or goods in the time of shortage”. Used during crisis or wars, DeMarketing can also be used by government in order to reduce energy consumption or try to decrease harmful behavior, such as smoking (Sodhi, 2011). Recently, in order to show care for

**Table 4**  
Main definitions related to Green Marketing.

Definitions	Authors	Year
Ecological Marketing is “concerned with all marketing activities that have served to help cause environmental problems and that may serve to provide a remedy forenvironmental problems [...] The study of the positive and negative aspects of marketing activities on pollution, energy depletion and non-energy resource depletion”	Henion and Kinnear [in Peattie 2001b, p.130]	1976
Green Marketing is “the marketing response to the environmental effects of the design, production, packaging, labeling, use, and disposal of goods or services”	Lampe and Gazda	1995, p. 303
Green Marketing is “the holistic management process responsible for identifying, anticipating and satisfying the needs of customers and society, in a profitable and sustainable way”	Peattie [in Peattie, 2001b, p.141]	1995
Sustainable Marketing is “the process of planning, implementing and controlling the development, pricing, promotion, and distribution of products in a manner that satisfies the following three criteria: (1) customer needs are met, (2) organizational goals are attained, and (3) the process is compatible with eco-systems”	Fuller [in Peattie 2001b, p.141]	1999, p.4
“Green Marketing has been used to describe marketing activities which attempt to reduce the negative social and environmental impacts of existing products and production systems, and which promote less damaging products and services.”	Peattie	2001b, p.129
Green Marketing refers to “strategies to promote products by employing environmental claims either about their attributes or about the systems, policies and processes of the firms that manufacture or sell them”	Prakash	2002, p. 285
“Green Marketing can be viewed both as a type of marketing and a marketing philosophy [...]. As a type of marketing, it is like industrial or services marketing and is concerned with marketing of a specialised kind of product i.e., green products [...]. As a philosophy, Green Marketing runs parallel to the societal marketing concept and espouses the view that satisfying customers is not enough and marketers should take into account ecological interests of the society as a whole”	Jain and Kaur	2004, p. 170
“Sustainability marketing is defined as the building and maintaining sustainable relationships with customers, the social environment and the natural environment”	Belz and Peattie [in Kumar et al., 2013, p.605]	2009
““Green Marketing” refers to holistic marketing concept wherein the production, marketing consumption and disposal of products and services happen in a manner that is less detrimental to the environment with growing awareness about the implications of global warming, nonbiodegradable solid waste, harmful impact of pollutants etc.”	Mishra and Sharma	2012 p.35
Green Marketing is the “marketing of products that are presumed to be environmentally safe”	American Marketing Association [in Mishra and Sharma 2012, p. 35]	
“Eco-marketing is a component of the new marketing approaches which refocus, amend and improve existing marketing philosophy and practice, offering a considerably dissimilar perspective. Eco-marketing belongs to an assembly of approaches which try to make reconciliation between the lack of fit between marketing as it is presently practiced and the ecological and social realities.”	Gheorghiu et al.	2013 p. 373

the natural environment and improve brand image, this practice is being used also by firms (Armstrong Soule and Reich, 2015).

Critical Marketing is the third component of the framework proposed by Gordon et al. (2011) and reflects a criticism of marketing schemes, systems, paradigms, and methodologies, and even of the existence of marketing itself. The concept of Critical Marketing derives from the Critical Theory developed by the Institute for Social Research in Frankfurt, which aims at criticizing and changing society as a whole, in contrast to the traditional theory which seeks to understand and explain (Horkheimer, 1972). Fuller (1999) and Polonsky (2011) highlighted that critical research will promote activities of Green Marketing. Finally, Gopaldas (2015) calls Positive Marketing all actions aimed to create value for firms, customers, and society.

Another concept related to Green Marketing is Greenwashing. The term “Greenwashing” is a clever play on the well-known terms “white washing”, which refers to the general attempt to appear better than one is, and “brainwashing”, referring to the manipulation of beliefs (Ross and Deck, 2011). According to Delmas and Burbano (2011), Greenwashing can be placed at the intersection of two firm behaviors: poor environmental performance and positive communication about environmental performance. As highlighted by Kärnä et al. (2001), a Greenwashing operation means providing environmental advertising without environmental substance. Greenwashing also means that marketers or organizations make false environmental claims about their products and services (Yadav and Pathak, 2013). Several firm's practices related to Greenwashing have been identified in the literature (e.g., Peattie and Crane, 2005). According to Jain and Kaur (2004) the most common are: i) green spinning, when a company presents its own version of environmental facts; ii) green selling, that means adding some environmental benefits in a traditional product's campaign; and iii) green harvesting, when a company decreases costs thanks to a sustainable practice but sells products at a premium price to earn extra profits. Ross and Deck (2011) listed some basic ways in which Greenwashing is accomplished: mislead with words, mislead with visuals/graphics, vagueness in claims, exaggeration, and avoidance of helpful information. Saxena (2015) claimed that, in order to protect the natural environment, every piece of society is called upon to give its contribution. In particular, companies should realize their long term adverse effects and stop Greenwashing, consumers should become aware of environmental sustainability issues, while the government should develop stricter norms and better strategies to make these norms effectively implemented.

### 3.3. Green Marketing Strategy

Marketing strategy entails four different steps: segmentation, targeting, positioning and differentiation (Kotler and Armstrong, 2014). In the following, the characteristics of each of these steps for Green Marketing will be analyzed. Specifically, segmentation and targeting as well as positioning and differentiation will be jointly considered.

#### 3.3.1. Segmentation and targeting

Through segmentation and targeting, a company identifies the group or groups of consumers to serve. An analysis of reviewed studies highlighted that, in the Green Marketing domain, there are two main approaches for segmenting consumers: according to consumer's characteristics or according to purchase's ones.

Many studies highlighted that traditional market segmentation is not appropriate for Green Marketing. Straughan and Roberts (1999), for example, found that psychographic criteria are more

effective than demographic ones for green segmentation, highlighting that perceived consumer effectiveness, environmental concern, and altruism are relevant predictors of environmentally conscious consumer behavior. Modi and Patel (2013), highlighted that demographic and psychographic variables are not as effective as behavioral ones. Thus, the authors analyzed three factors that affect environmentally conscious consumer behavior (energy economics, energy conservation, and environmental activism) and identified two clusters of consumers: active green activists and passive green activists. Cleveland and Laroche (2005) studied psychographic segmentation variables and found that environmental locus of control consists of biospheric-altruism, corporate skepticism, economic motivation, and individual recycling efforts. Burke et al. (2014) segmented consumers according to the motivation for green products adoption or rejection. Some studies have focused on specific consumers' generation and/or nationality. For example, Awad (2011) used psychographic and demographic criteria to segment young consumers in the Bahraini Kingdom, Finisterra Do Paço and Raposo (2009, 2010) and Finisterra Do Paço et al. (2009) used demographic and environmental criteria to segment Portuguese consumers, while Park and Lee (2014) clustered U.S. consumers based on their beliefs and motives regarding environmentally conscious behavior.

As reported by Banyte et al. (2010a), Ottman and Reilly (1998) identified five groups of consumers according to their willingness to contribute to environmental protection (loyal green consumers, less devoted green consumers, consumers developing towards green, conservative consumers unwilling to change, consumers completely unwilling to change). The authors noticed that consumers could be divided also based on the object of their concern (environmental protection, health fanatics, and animal lovers) or according to their necessities (information, control, changes in their habits, reduction of guilt feelings, expression of their lifestyle). Chitra (2007) proposed a similar segmentation model based on eco-friendliness of the consumers providing a description and the main characteristics of four groups: aspirants, addicts, adjusters and avoiders. The Roper ASW (2002) segmentation, reported by Ginsberg and Bloom (2004), is based on environmental awareness, and assesses not only consumer's knowledge about environmental issues, but also how much rational and emotional his/her choice is. Several clusters were identified: at one extreme there are “basic browns” (they promote only a material welfare and exclusively look for individual benefit, they do not believe that their behavior can influence ecological balance and make a linear and non-economical usage of resources), at the other extreme, there are “true blue greens” consumers, the most involved in sustainability (they try to live in a way that favors the natural environment and believe that the individual behavior has a crucial impact). Similarly, as reported by Banyte et al. (2010b), the Ščypa (2006) model groups consumers in clusters from “black” to “green”. Mostafa (2009) applied the Ščypa's model to Kuwait inhabitants. As reported by Banyte et al. (2010a), the large number of segmentation methods or the possibility of identifying several different clusters is due to the great heterogeneity of consumers. This is even more evident when comparing countries, as shown by Yilmazsoy et al. (2015).

With regard to purchase characteristics, Peattie (2001a) highlighted that, instead of looking at who the green consumer is, Green Marketing should help firms to enlarge their segments and understand what their customers need. The author based his model on Kardash (1974) definition, according to which a rational consumer that chooses for his/her own good, in front of two goods, absolutely identical, differentiated only for an environmental feature, will buy the one with better environmental performance. Therefore, trying to understand the buying behavior through the

characteristics of the consumer, rather than the purchase perception, could be a mistake. Peattie (1999) developed a purchase perception matrix, reporting on one axis the degree of confidence needed to make the purchase (for example, confidence that sustainability is a necessity or confidence in firm's environmental performance) and on the other axis the degree of compromise, such as higher costs (monetary or not), that needs to be accepted. When the purchase needs a high degree of confidence, the company should reduce information asymmetries and encourage consumers; when a high compromise is required, the firm should improve its efficiency, so to reduce costs. In this way, consumers could be segmented by "why" they buy instead of "who" buy what. D'souza et al. (2006) developed a model to evaluate the perception that the consumer has of green products (if he/she perceives benefits or risks of green purchases) and the approach that he/she has (conscious or not). Results of this segmentation lead to the generation of four clusters of consumers: conventional consumers (non-green consumers not perceiving benefits of the green purchase and adopting an unconscious approach), emerging green consumers (consumers that recognize the benefits of green products, but may not be motivated to purchase them), price sensitive green customers (consumers aware of environmental labels, but unwilling to pay the perceived higher price), and environmentally green consumers (environmentally concerned and ready to buy green products when they can). The greater is the perception of benefits and the search for information, the greener is the consumer.

With regards to targeting, Rex and Baumann (2007) highlighted that green marketing should be rethought: from targeting green consumers with green products to broadening the targeted consumers by including green features as one of the many characteristics of a product. Laroche et al. (2001), based on demographic analyses, found that married women with children represent the most environmentally-friendly segment. Based on this, the authors suggested that marketers may target this segment as their prime target. Then, they should try to influence the large group of undecided consumers. Jain and Kaur (2006) suggested that a single standardized green marketing program is not effective and that a different green marketing strategy should be used for each consumer cluster. Polonsky and Rosenberger III (2001) highlighted that technological tools, such as the Internet, can help companies to better target green consumers. The authors also provided examples of green targeting actions available for firms, distinguished in tactical (advertisements in green focused media, mentioning green features of products), quasi-strategic (developing a green brand in addition to existing brands), and strategic (launching a new green strategic business unit).

### 3.3.2. Positioning and differentiation

As highlighted by Prakash (2002), besides developing more sustainable products, companies should appear more sustainable themselves. In fact, consumers tend to buy green products from green companies. It is not simple to make ethical values and marketing walk together (Crane, 1997), but investing resources to increase green perceived value could have positive effects on green purchase intentions and green trust (Chen and Chang, 2012) that is also boosted by green brand image and leads to a higher green brand equity (Chen, 2010). Consumers pay great attention to the role played by firms in society and sustainable activities positively affect brand's image and brand loyalty (Nagar, 2013). D'souza et al. (2013) highlighted that positioning strategies that communicate green marketing mix elements strengthen corporate reputation. However, a high degree of information exchange among green consumers could mitigate positioning efforts and nullify brand loyalty importance (Shrum et al., 1995).

A green brand can be positioned through various attributes that

will contribute to differentiate it from competitors. This positioning can be based on functional or emotional product attributes (Hartmann et al., 2005). A positioning strategy based on the functional characteristics of products can be enhanced by environmental benefits coming from production processes or product usage (Peattie, 1995). The success of a positioning strategy exclusively according to its functional attributes may be limited by the fact that, generally, better product environmental performance does not guarantee individual benefits to the buyer; therefore, benefits received by the customer may be insufficient to justify their purchase (Belz and Dyllik, 1996). Long time before the raise of the Green Marketing concept, Levitt (1960) introduced the concept of "marketing myopia" referring to those companies that, instead of meeting consumer's needs, manage their products with an end in themselves. The same phenomenon may happen in Green Marketing. As highlighted by Ottman et al. (2006; p. 24), "Green Marketing must satisfy two objectives: improved environmental quality and customer satisfaction. Misjudging either or overemphasizing the former at the expense of the latter can be termed "Green Marketing myopia"". In addition, strategies strictly based on the functional characteristics of the product could have some disadvantages: they can be easily imitated, assume that the consumer only act in a rational way, can reduce flexibility or brand differentiation (Aaker, 1996). An alternative positioning is the emotional positioning (Hartmann et al., 2005), based on three possible types of benefits provided by the brand: a feeling of well-being ("warm glow"), often associated to act altruistically (Ritov and Kahnemann, 1997), possibility of expression through consumption of green brand as a status-symbol (Belz and Dyllik, 1996), and benefits arising from sensations and feelings experienced through the contact with nature (Kals et al., 1999). Hartmann et al. (2005) found that both functional positioning and emotional positioning in Green Marketing have a positive effect on brand attitude; however, the strongest effect is obtained upon a combination of both types of positioning.

The next section will deal with the greening of the marketing mix, which design is useful for implementing a Green Marketing Strategy and for positioning products, once green consumers have been identified (Rex and Baumann, 2007).

### 3.4. Green Marketing Mix

Several articles focus on the study of the 4Ps (Product, Price, Place, and Promotion) of traditional marketing mix (Kotler and Armstrong, 2014) in the Green Marketing context.

Polonsky and Rosenberger III (2001) explained each of the 4 Green Ps to implement Green Marketing strategies and tactics. Davari and Strutton (2012) analyzed the relationship between the 4 Green Ps and consumer perception and reaction toward a sustainable brand. In their study, they found a significant relationship between the 4 Green Ps and brand loyalty. In particular, Green Product was central to brand association (the ability to associate a brand to something in memory). Green Product and Green Place, unlike Green Price and Green Promotion, were found significantly and positively related to the perception of brand quality. Green Product and Green Price were the only "Ps" affecting brand trust. Negative relationships were found between Green Price and both brand loyalty and brand trust, meaning that if price rises, loyalty and trust decrease. Kordshouli et al. (2015) also found that Green Promotion and Green Price have a positive impact on consumers' green satisfaction, which in turn influences consumer loyalty. Ginsberg and Bloom (2004) highlighted a relationship between the number and the type of the implemented elements of the Green Marketing Mix and the type of green strategy. In particular, they identified four types of green strategy (lean, defensive, shaded, and



extreme) and reported that: (i) the more sustainable is a firm, from “lean green” to “extreme green”, the higher the number of Green Ps that are implemented, and (ii) specific subsets of the Green Marketing Mix are associated to each strategy. In particular, “lean green” firms only adopt Green Product; “defensive green” firms also adopt Green Promotion; “shaded green” firms in addition adopt Green Price; and, finally, “extreme green” firms adopt all four elements. However, the methodology used to derive these results is not specified and Ginsberg and Bloom (2004) only describe them through the help of the evidence deriving from world-wide recognized companies. No further study was found which could provide robustness to or disconfirm these results. Lampe and Gazda (1995), in a study of US and European companies, found that most Green Marketing activities related to Product (including packaging and labeling) and Promotion, whereas considerably less emphasis was made on the other two elements of the marketing mix, namely Price and Place. Esmaili and Fazeli (2015) found that Product and Price are the most important factors affecting the purchase of Green Products. These findings in the literature are a good starting point for an effective planning and management of the Green Marketing Mix. In the following sections, a focus will be made on each of the 4 Green Ps.

#### 3.4.1. Product

Many authors have tried to provide a definition for Green Products. Dangelico and Pontrandolfo (2010) reported the most relevant ones: Peattie (1995, p. 181) defined a product as ‘green’ “when its environmental and societal performance, in production, use and disposal, is significantly improved and improving in comparison to conventional or competitive products offerings”, while Ottman et al. (2006, p. 24) highlighted that “although no consumer product has a zero impact on the environment, in business, the terms ‘green products’ or ‘environmental product’ are used commonly to describe those that strive to protect or enhance the natural environment by conserving energy and/or resources and reducing or eliminating use of toxic agents, pollution, and waste”. Environmentally friendly features of products could be shown in different life cycle phases: before usage, during usage, and after usage (Dangelico and Pontrandolfo, 2010), and products should be designed as ‘green’ since the conception stage (Commission of the European Communities, 2001). Most common production strategies for green products are: recycling, reuse of the product or part of it, reducing packaging, make products more durable, repairable, compostable, healthy and safer in shipment (Mishra and Sharma, 2012). Green Product qualities must be valuable and perceivable. In product categories in which strength-related attributes (such as “long-lasting”) are valued, sustainability could be a weakness, since green products are often seen as safer, healthier, and gentler than other products (Luchs et al., 2010). Sharma and Iyer (2012) focused their work on resource-constrained products (driven by resource scarcity and/or the willingness to use the lowest possible amount of resources in product development), finding that most consumers may accept products considered “good enough”, provided that they have good environmental performance. With regard to this issue, Tseng and Hung (2013) developed a method to create a scale for measuring the gap between expectations and perceived quality of green products. Three dimensions are considered in their model: tangibility (factors subject to evidence of senses or regarding labels and aesthetics), warranty (security of green products in terms of environmental impact), and reliability (functional performance related to quality, compliance, and durability). Tseng and Hung highlighted that this gap between expectations and perceived quality does exist, but it could be measured and marketers should try to reduce it. Packaging is a key component of a product (Kotler and Armstrong, 2014) and Finisterra Do Paco et al. (2014)

highlighted that sustainable packaging is the most requested quality for a Green Product. Sustainable Packaging Alliance (2010) defined sustainable packaging as effective (that achieves its functional requirements with minimal environmental and social impact), efficient (designed to use energy and materials efficiently during product life cycle), cyclic (using renewable and recycled materials), and safe (non-polluting and non-toxic). As reported by Scott and Vigar-Ellis (2014), environmentally friendly packaging’s benefits are broadly based on the nature of the packaging itself. For example, it can be recyclable, reusable or made of environmentally friendly materials, so resulting in a decline in the use of natural resources. Reduced packaging, as reported by Singh (2013), can be a source of savings even before promotion.

Peattie (2001b) highlighted that a shift to a more sustainable economy would require a change in the mix of products and services (replacing the use of products with the use of services) and an increase in the level of after-sales support to increase product durability.

#### 3.4.2. Price

Price is closely related to the quality of the product and its definition should consider the willingness to pay of consumers. Green Pricing can be defined as setting prices for green products that offset consumers’ sensitivity to price against their willingness to pay more for products’ environmental performance (Grove et al., 1996). Price of green products can arise for various reasons, such as more expensive materials for their quality, higher production costs for more restrictive constraints, the internalization of environmental costs through increased taxation (Peattie and Crane, 2005). As reported by Drozdenko et al. (2011), despite Hopkins and Roche (2009) tend to lessen the relevance of price as a major obstacle to the adoption of green products, other studies have drawn different conclusions (e.g., Central New York Business, 2008). The term “premium price” in the green context refers to the additional cost that the consumer will have to pay compared to the traditional alternative in order to get a product with higher environmental performance (Peattie, 2001a). The willingness to pay more for green products is increasing in developed countries, such as European countries, where three-quarters of citizens claim to be willing to pay a little more for environmentally-friendly products (European Commission, 2014). Other studies found that consumers are willing to pay a premium price for green products, but product’s category and perceived benefits influence the willingness to pay (e.g., Essoussi and Linton, 2010). For this reason, a higher perceived functional risk, proper of remanufactured products or products with reused or recycled content, negatively affects willingness to pay a premium price (Michaud and Llerena, 2011). According to Kapelianis and Strachan (1996), there is a great heterogeneity among consumers in terms of willingness to pay a premium price: for green products some consumers demand discounts, while others are willing to pay an infinite premium. Sometimes companies can just persuade consumers to pay more in order to generate a benefit to future generations or the natural environment (Chan et al., 2012). Freestone and McGoldrick (2008) highlighted that consumers will be willing to pay more up to an “ethical critical point” beyond which the sacrifice will be disproportionate to the benefits. Following an opposite approach, there are many authors that, studying the willingness to pay, try to go back to the person’s ethical characteristics (Grimmer and Bingham, 2013). Consumers have greater willingness to pay when the end is charity (Elfenbein and Mcmanus, 2010) or if they believe in the ethical qualities of the product (Freestone and McGoldrick, 2008), while those who self-profess to be ethical consumers are more sensitive to price than to ethical qualities of products (Papaoikonomou et al., 2011). At last, Drozdenko et al. (2011) suggested that when positive externalities

do exist, but there is no convenience for the company to serve the market, there may be the government intervention through incentives or tax reduction. The government could actually finance products or services with high positive externalities, in order to increase social welfare sustaining markets for goods that without this intervention would fail. The government, however, can also act in the opposite direction, by increasing taxes or fining companies that may deviate from a sustainable behavior.

#### 3.4.3. Place

Since consumers rarely actively search for green products, decisions on how and where to make green products available are very important; niche distribution does not seem to be a good choice for green products since consumers should be exposed to green products view where they shop (Mishra and Sharma, 2012). Green Place refers to management tactics related to distribution, from production to consumption, and reverse logistics (Davari and Strutton, 2012). Lampe and Gazda (1995) highlighted the trend of opening green retail stores in both Europe and US. Esmaili and Fazeli (2015) claimed that Internet plays a key role in green distribution. Reducing packaging (in order to decrease transportation costs, optimize carriers, reduce material consumption), using integrated transportation systems, the Internet or other similar initiatives have reduced environmental impact of transportation, but the most important advances in distribution relates to reverse logistics (Polonsky and Rosenberger III, 2001). Lee and Lee Lam (2012) highlighted that reverse logistics can be considered as an additional weapon in the hands of marketers for defining the Green Marketing Mix. Reverse logistics can lead to cost savings, time saving, increased revenues, decreased inventory costs, better inventory management, a decrease in stock-out events, and a better service to customers (Lee and Lee Lam, 2012). The authors also highlighted the positive effect of using information system and technology in reverse logistics on service quality and economic performance. Another thing that marketers should carefully consider is that selling green products is not the same as selling standard products, due to new product characteristics, new requirements from customers, new regulations. For this reason, dedicated marketer teams that will manage products from production to point of sales and, then, to customers could improve distribution performance (Tomasin et al., 2013).

#### 3.4.4. Promotion

Prothero et al. (1997) claimed that a successful green strategy depends upon a good communication. Accordingly, Papadas and Avlonidis (2014) included communication among the four pillars of environmental business excellence, since it is very important to educate and inform consumers. Pranee (2012) highlighted that advertising is growing both in quantity and in terms of its impact on people lives. Testa et al. (2011) claimed that changes in production and consumption patterns linked to environmental sustainability have strongly influenced advertising. Through a detailed analysis of green advertising in Italian newspaper, the authors found that a shift in the content of green messages took place, from being mainly related to company image (during 1990s) to focusing specifically on environmental performance of products. Thorson et al. (1995) found that consumer are quite positive in their response to green advertising. A similar result was found by Purohit (2012). The author studied the impact of green advertisement and ecolabelling on consumers' buying, finding that most consumers have a positive attitude towards the print and television advertisement of green products and that a positive attitude toward these products can predict consumer buying intention. Other studies remarked that producers have to provide complete, correct and easy-to-understand information on the lifetime environmental

performance of their products (Testa et al., 2015). In fact, if acquiring information on products' environmental performance is costly and time consuming for consumers, an information asymmetry can arise, leading on turn to green products not being purchased (Rademaker et al., 2015). For this reason, Molina-Murillo and Smith (2005) suggested that companies should try to assess the effectiveness of their advertises. Green advertising should highlight product environmental benefits, promote sustainable lifestyles, improve the green image of the brand, and reduce the information asymmetry typical of green products (D'souza et al., 2007). Leonidou et al. (2011) observed an increase in the amount of details in green advertisements over time, highlighting that it could be due to several reasons: the heavy investment made by many firms in environmental equipment and processes; the need to differentiate themselves from competitors by communicating a green image; the diversity of environmental problems, requiring more extensive and in-depth communication. Most consumers are quite positive in their response to green commercials, even though the potentials of green commercials are not yet fully exploited and greenwashing could harm firm performance (Raska et al., 2015). Nyilasy et al. (2012) found that green advertising has a negative effect on brand attitude, especially for companies with negative environmental performance, so suggesting that some companies should prefer staying silent.

Davis (1993) found that specific, real, and useful environmental claims have a greater effectiveness than vague messages. He also provided guidelines for presenting environmental claims, such as, ensuring that the promoted benefit has a real impact, identifying the product specific benefits, providing specific data, and defining technical terms. To do this, the associated message should also have the following characteristics: it should be clear (Pranee, 2010), easy to remember, understandable, customized to the target audience (Bickart and Ruth, 2012), it could be differentiated for country (Polonsky et al., 1997), and it should generate emotional commitment (Hartmann and Ibanez, 2013). Papadas and Avlonidis (2014) highlighted that green claims should be honest, transparent, and credible, in order to help companies to build trustful and long-lasting relationships with stakeholders. Tu et al. (2013) showed that green messages influence consumers' reaction to green advertising. The great focus of green advertisement on product-oriented claims denotes firms' tendency to make green claims that are more easily observable, clearly understandable, and practically useful for protecting the natural environment (Leonidou et al., 2011). Assertive messages are the most effective for issues perceived as important (Kronrod et al., 2012); these kinds of messages help to avoid that consumers believe problems so huge to be out of their control (Fowler and Close, 2012). Clearly presented information can make a significant difference in consumers' evaluation of products (Borin et al., 2011). According to Smith and Brower (2012), some words in the consumer's associative network are part of the environmentally conscious schema. Consumers look for these keywords when attempting to identify products that help to protect the natural environment. Nevertheless, consumers show to not deeply understand all environmentally-related terms: the most ambiguous terms with multiple interpretations are "eco-friendly", "green", and "nature" (Smith, 2014) and these are often used in a too much generic context (Hansen, 2002). Despite the high relevance of advertisement for promotion, paid advertisements are not the only way of promotion, but every time a consumer gets in touch with the company there is an opportunity for promotion (Kaufman, 1999). Kaufman (1999) also highlighted that, if price is not increased or quality corrupted by environmental benefits, environmental claims should communicate it. However, it is impossible to evaluate a unique and objective reaction to green advertising, since this is

mediated by personal characteristics of each consumer (Ku et al., 2012), psychological factors (Teisl et al., 2008), age (Smith, 2010) or his/her involvement in environmental causes (Chang et al., 2015). The advertising will have a personal impact on each customer (Cho, 2015). In order to achieve promotional objectives, many companies create alliances with no-profit associations, since companies are aware that consumers are more loyal to companies that do good things in the world (Mendleson and Polonsky, 1995). The best cause marketing initiatives go beyond mere philanthropy to build mutually beneficial alliances between brands, nonprofits and consumers to increase sales, awareness, donations, and customer loyalty (Ferguson and Goldman, 2010).

**3.4.4.1. Ecolabels.** An important promotional tool for Green Marketing is represented by ecolabels (Rex and Baumann, 2007). Grundey (2009) conducted a deep analysis on this issue. Before the diffusion of Green Marketing, ecolabels were relegated to mere product's technical information. With the diffusion of Green Marketing, they have become increasingly important as tools for product differentiation, as an assurance for consumers, and as a reflection of the firm's Green Marketing philosophy (D'Souza, 2000). Grundey and Zaharia (2008) highlighted that ecolabels might accomplish several goals for both companies and consumers. Ecolabels can improve the sales and the image of a product, encourage manufacturers to account for the environmental impact of their products, make consumers more aware of environmental issues and help to protect the environment (Grundey, 2009). Cho (2015) suggested that appropriate knowledge is an important factor for environmentally conscious behavior. However, the majority of consumers lack that knowledge, particularly at the point of purchase (Thøgersen, 2000, 2005). A survey reported that 70 percent of consumers' buying decisions were influenced by eco-friendly messages in advertising and product labeling (Chase and Smith, 1992). Many studies focused on consumers relationship with ecolabels. Some of them found that consumers prefer to have a higher amount of information on product disclosures in order to fully understand sustainability dimensions and that consumers prefer information referred to the whole product life cycle rather than to single categories of impacts (e.g., Andrews et al., 1998). Further, Cho (2015) found that consumers consider sustainability claims more favorably if these highlight the personal impact on them. The author also emphasized that ecolabels' effects on consumer behavior is a complex phenomenon that requires future research. By preventing vague and misleading assertions, ecolabels can be a useful tool to attract those target consumers whose purchase choice depends on trust and reliability of the producer (Testa et al., 2015). Indeed, the basic purpose of labeling in Green Marketing is to provide information about the superiority in environmental performance compared to other products (Hussain, 2000) and try to avoid the top-ranking reasons behind consumer skepticism towards green claims of companies: the lack of credibility (Boston Consulting Group, 2009) and unclear messages (European Commission, 2011). Rex and Baumann (2007) stated that eco-labelling should not be considered as an end in itself, rather a means to create a greener market. There are three categories of ecolabels: ISO Type I, ISO Type II, and ISO Type III. As reported by Hoek et al. (2013), Type I labels are developed by third parties and testify that a product has met a specified standard. Firms themselves generate Type II claims trying to establish a product's superiority or make general positive claims. Finally, Type III claims produce independent scientific information, which may be either negative or positive (unlike Type I and II claims, which are only positive); for example, they may report carbon or water footprint (Hussain and Lim, 2000). Most useful ecolabels for shaping consumer behavior are those of Type I, even though they have been

accused of reducing innovation, since they are based on current standards (Erskine and Collins, 1997). As highlighted by D'souza et al. (2007), Type I and Type III ecolabels are not only promotional tools since, being third party certifications, they are an assurance for consumers that a given product is green. Type I ecolabels have also a positive influence on the willingness to pay (Vlosky et al., 1999). Labels made by firms (like Type II) have been found to cause consumers' confusion (Woolverton and Dimitri, 2010). Type I labels might have been expected to be more influential than Type II claims, but, as found by Hoek et al. (2013), consumers respond more positively to general rather than specific claims and often extrapolate, from vague claims, implicit but not supported attributes. Type III labels could reduce confusion and dissatisfaction, but similarly to what happens to Type I ecolabels, the accreditation costs will increase the costs of the product (D'souza et al., 2007).

#### 4. Discussion

Fig. 4 reports a synthesis of this study's results, according to the general marketing framework proposed by Kotler and Armstrong (2014).

The most internal circle represents the Green Marketing Strategy, with its four main steps: segmentation, targeting, positioning, and differentiation. For each of these steps, the most relevant results are reported. The most external circle represents the Green Marketing Mix, with its four main elements: Product, Price, Place, and Promotion. For each of these elements, the most relevant distinctive features are highlighted. Finally, the picture depicts the meaning of two very relevant concepts for defining a good Green Marketing Strategy while avoiding the risks of a misleading company behavior: Green Marketing and Greenwashing.

Regarding the Green Marketing concept, reviewed studies show an evolution of the concept over time, moving away from being a tool of traditional marketing to becoming a strategy affecting the whole company, from focusing on specific environmental problems to taking into account global sustainability issues, from regarding specific products and industries to pervade the whole market. It should also be noticed that several terms have been used to refer to the integration of environmental sustainability into marketing, in some cases interchangeably, in other cases with different meanings. However, it seems not to be agreement regarding the slightly different meanings of the terms used.

With regard to Greenwashing, while definitions and examples of it are reported in the reviewed literature, the concept of unintentional Greenwashing is not dealt with. Iraldo (2016) explains that unintentional Greenwashing happens when a firm is so attracted by an action that can improve its product environmental impact, that it does not correctly evaluate the overall environmental impact of the product. For example, in some cases, using recycled materials may have a higher environmental impact than using virgin raw materials when considering a life cycle perspective. Further, the recent case of Volkswagen and its deception on cars' emission clearly shows that all is not what seem, suggesting that Greenwashing is very subtle and diffused. These considerations prompt the need for new research on and theoretical framing of Greenwashing.

An analysis of the reviewed studies highlights that, while many studies have focused on the different elements of the Green Marketing Mix, a more limited effort has been devoted to study the Green Marketing Strategy and its different steps. In particular, despite the huge amount of studies on segmenting the market based on the level of greenness of consumers, only few studies dealing with targeting have been identified. However, we believe that it would be very relevant for companies aiming to integrate



## GREEN MARKETING DEFINITION

Environmental sustainability as the third aim beyond consumers' satisfaction and company profitability

## GREENWASHING DEFINITION

Positive communication about environmental performance despite poor environmental performance

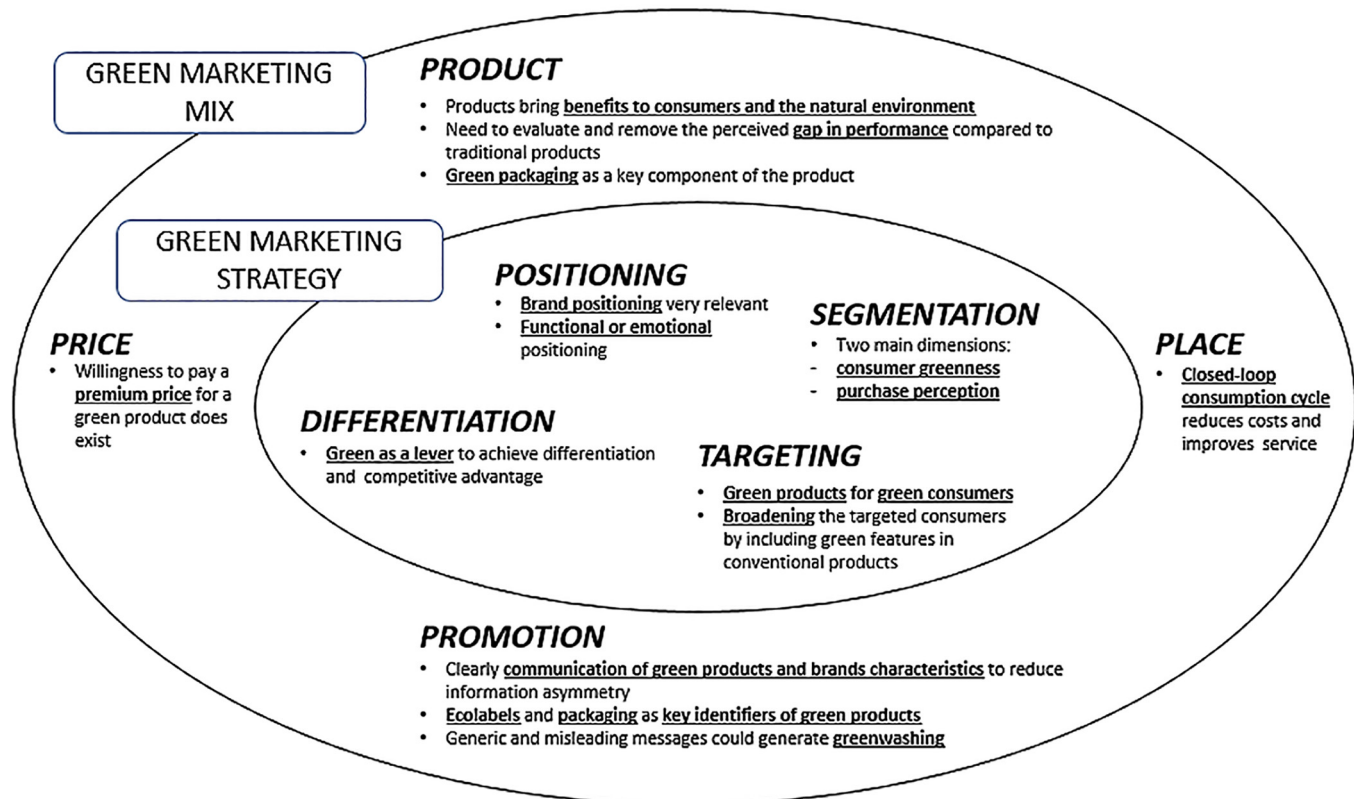


Fig. 4. Green Marketing Strategy and the Green Marketing Mix (adapted from Kotler and Armstrong, 2014).

environmental sustainability into their marketing strategy, to define their target market/s. For example, they can decide whether to address a market niche of “deep” green consumers, to differentiate their product offering so to address consumers characterized by different levels of greenness, or to try to penetrate the whole market, through mass marketing of green products. Future research should be devoted to identify and formally classify different targeting approach for a Green Marketing Strategy, highlighting which is the best option based on industry and firm characteristics.

With regard to the Green Marketing Mix elements, some aspects have not been dealt with and should be deepened. In terms of Product, companies have to decide, coherently with their targeting approach, how to green their product portfolio. For example, they can green their whole product offering or marketing green product lines along with conventional product lines. A complete analysis of the different options available to companies is missing in the literature. Further, this review highlighted that, in the marketing literature, little attention has been devoted to Product Service Systems (PSSs – systems of products, services, infrastructures and networks that satisfy customers' needs while being competitive and with a lower environmental impact than traditional products) (Mont, 2002), and other related concepts, such as dematerialization and servicing. These could be important product strategies to pursue environmental sustainability. This highlights the existence of a chasm between marketing/business literature and engineering/sustainability literature, which was already suggested by both Boehm and Thomas (2013) and by Peattie and Peattie (2009).

In terms of Place, this review highlights that a complete integration between the marketing literature and the logistic literature that deals with green distribution chains is missing, since in the reviewed studies limited attention has been devoted to distribution channels for green products. Actually, some of the reviewed studies mentioned reverse logistics and closed-loop supply chains, while little attention has been devoted to technologies or types of transportation means that can support green logistics. This result confirms what found in a previous review on Green Marketing by Chamorro et al. (2009) who found that only one article out of 112 analyzed in detail distribution channels for green products. Our review suggests that it would be interesting to reflect on the effect of the wider use of on-line marketing channels on the real greenness of a marketing strategy. In fact, while on the one hand it could reduce intermediaries (and so the environmental impact related to physical point of sales), on the other hand, it may stimulate purchase from sellers located even very far from the consumer (that could be preferred to closer sellers for an even very little money saving), with a consequent increase of the environmental impact due to product delivery. Further, the environmental impact of ICTs should also be taken into account, given that data centers' are high energy demanding (e.g. Koomey, 2011). As Peattie (2001b) suggested, a Sustainable Green Marketing would require moving away from global distribution systems to re-localization of supply systems. In this context, local products, especially in the agri-food industry, should be considered as a key example. For these products, the greenness of the Product is strictly related to the Place,



implying that the two levers should be jointly considered by companies. Further, it should be noticed that, among the studies retrieved during the systematic review process, only one (Sitnikov et al., 2015) mentions the 7Ps of the marketing mix (Product, Price, Place, Promotion, People, Process, and Physical evidence). However, the study deals with a concept of Green Marketing Strategy that is closer to a corporate green strategy, that is out of the scope of this paper. There are other studies on the topic of the 7Ps in Green Marketing, even though outside the three databases and/or the time frame used for the systematic review (e.g., Matin and Alauddin, 2016; Sarkar, 2012). However, the last 3Ps (Providing information, Processes, and Policies) mentioned by both Matin and Alauddin (2016) and Sarkar (2012), citing Peattie (1992), are different from the last 3Ps reported by Sitnikov et al. (2015). Further, these studies do not explain these 3Ps meanings and characteristics. This shows that the topic is not yet well developed and that there is not academic agreement on it, suggesting that future research should be devoted to deepen our understanding of the additional 3Ps in the context of Green Marketing.

## 5. Conclusions

This study provides an in-depth analysis and synthesis of the body of knowledge so far produced in the field of Green Marketing (however, it should be acknowledged that the review does not include books).

Our study mostly confirms the trend in the evolution of the number of articles on Green Marketing found in previous review studies (Chamorro et al., 2009; Kumar et al., 2013) and extends it to recent years, showing a rapid growth since 2008 with a peak in 2012. This means that the interest towards the topic is rapidly growing, confirming that environmental sustainability is not just a passing trend but a key issue when designing, developing, and marketing new products.

Our review analyzed the meaning of Green Marketing and related concepts, its fundamental traits, the steps to define a strategy, and the tools to implement it. As such, it has important implications for managers as well as for scholars and students.

In terms of implications for managers, this study provides clear directions to the growing number of innovation and marketing managers willing to integrate environmental sustainability into their strategies on how to develop and implement a Green Marketing Strategy. Further, this review highlights that some issues appear to be relevant in more than one Green Marketing Mix element or Green Marketing Strategy step. For example, as highlighted in the reviewed studies, packaging plays a key role in reducing the environmental impact of both green products and logistics. In addition, being ecolabels often integrated into packaging, this serves also as a promotional tool. This means that specific attention should be devoted by companies to choose or design environmentally friendly packaging that uses environmentally friendly materials (recycled, recyclable, biodegradable, compostable) and/or minimizes the amount of materials used (eventually making packaging unneeded, such in the case of draft detergents) and that clearly communicates the environmentally friendliness of the product. Similarly, the Internet is seen as a tool for both most effectively targeting green consumers around the world and decreasing distribution costs. This suggests that companies should always explore the opportunities deriving from new technologies application to Green Marketing, being, however, aware of the real greenness of these actions in a life cycle perspective.

In terms of implications for teaching, this study provides a useful and updated starting point for students interested in the topic, whose knowledge should be deepened through specific textbooks (e.g., Belz and Peattie, 2012).

In terms of implications for scholars, this study, by integrating existing studies on the topic, provides a comprehensive theoretical framework, and, by highlighting aspects not adequately dealt with in the existing literature, suggests directions for future research. Specifically, future research directions on Green Marketing can be synthesized in the following compelling questions:

- How can targeting approaches be classified? Which are the most appropriate targeting approaches considering firm and industry characteristics?
- Which options are available for companies to green their product portfolio in terms of number of green product options offered (number of green product lines and lines' length), share of green products over the whole product portfolio, or product-service hybrids, such as PSSs?
- Considering that the literature highlighted the Internet as a useful tool to better target green consumers and reduce the distribution costs, but that at the same time it can foster sales from sellers located very far from their customers and that data centers' are high energy demanding, the following questions appear to be relevant: which is the overall effect of on-line sales on the real greenness of a marketing strategy? How could the Internet successfully be used to foster low environmental impact sales (e.g. favoring the meeting of demand and offering of actors located close to each other)?
- Within the 7Ps marketing framework in the context of Green Marketing, which are the additional 3Ps, besides Product, Price, Place, and Promotion? Which are their meanings, characteristics, and success factors? Do they change based on the specific industry?
- How many types of Greenwashing do exist? Which are their characteristics and how can they be successfully prevented?

We hope that this study will stimulate future research and will represent a reference point for managers, scholars, and students interested in the topics of environmental sustainability, new product development, and marketing.

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## Appendix

List of reviewed studies for each topic/sub-topic

Topic	Sub-topic	Author	Year
Green Marketing Definition and Related Concepts		Lampe and Gadza	1995
		van Dam and Apeldoorn	1996
		Kilbourne	1998
		Crane	2000
		Kärnä et al.	2001
		Peattie	2001b
		Prakash	2002
		Jain and Kaur	2004
		Saha and Darnton	2005
		Prothero et al.	2010
		Delmas and Burbano	2011

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Topic	Sub-topic	Author	Year
Green Marketing Strategy	Segmentation/ Targeting	Ghosh	2011
		Gordon et al.	2011
		Peattie and Crane	2005
		Polonsky	2011
		Ross and Deck	2011
		Sodhi	2011
		Mishra and Sharma	2012
		Moniri et al.	2012
		Rettie et al.	2012
		Gheorghiu et al.	2013
		Kumar et al.	2013
		Yadav and Pathak	2013
		Rettie et al.	2014
		Armstrong Soule and Reich	2015
		Gopaldas	2015
		Saxena	2015
		Wymer and Polonsky	2015
		Peattie	1999
		Straughan and Roberts	1999
		Laroche et al.	2001
		Peattie	2001a
	Polonsky and Rosenberger III	2001	
	Ginsberg and Bloom	2004	
	Koszeghy	2004	
	Cleveland and Laroche	2005	
	D'souza et al.	2006	
	Jain and Kaur	2006	
	Chitra	2007	
	Rex and Baumann	2007	
	Finisterra do Paço et al.	2009	
	Mostafa	2009	
	Banyte et al.	2010a	
	Banyte et al.	2010b	
	Finisterra do Paco and Raposo	2009	
	Finisterra do Paco and Raposo	2010	
	Awad	2011	
	Modi and Patel	2013	
	Burke et al.	2014	
	Park and Lee	2014	
	Yilmazsoy et al.	2015	
	Positioning/ Differentiation	Shrum et al.	1995
		Crane	1997
Polonsky and Rosenberger III		2001	
Prakash		2002	
Hartmann et al.		2005	
Ottman et al.		2006	
Rex and Baumann		2007	
Chen		2010	
Chen and Chang		2012	
Mishra and Sharma		2012	
D'Souza et al.		2013	
Marketing Mix	all 4Ps	Nagar	2013
		Lampe and Gadza	1995
		Polonsky and Rosenberger III	2001
	Product	Ginsberg and Bloom	2004
		Davari and Stratton	2012
		Esmaili and Fazeli	2015
		Kordshouli et al.	2015
		Peattie	2001b
		Smith	2010
		Luchs et al.	2010
		Mishra and Sharma	2012
Sharma and Iyer	2012		
Singh	2013		
Tseng and Hung	2013		
Finisterra do Paco et al.	2014		
Scott and Vigar-Ellis	2014		

(continued)

Topic	Sub-topic	Author	Year	
	Price	Kapelianis and Strachan	1996	
		Peattie	2001a	
		Hartmann et al.	2005	
		Peattie and Crane	2005	
		Essoussi and Linton	2010	
		Drozdenko et al.	2011	
		Michaud and Llerena	2011	
		Grimmer and Woolley	2014	
		Place	Lee and Lee Lam	2012
			Tomasin et al.	2013
	Promotion		Davis	1993
		Mendleson and Polonsky	1995	
		Thorson et al.	1995	
		Polonsky et al.	1997	
		Kaufman	1999	
		Vlosky et al.	1999	
		Hussain	2000	
		Hansen	2002	
		Molina-Murillo and Smith	2005	
		Chamorro and Bañegil	2006	
		D'Souza et al.	2007	
		Rex and Baumann	2007	
		Teisl et al.	2008	
		Chamorro et al.	2009	
		Grundey	2009	
		Ferguson and Goldman	2010	
		Pranee	2010	
	Pranee	2012		
	Woolverton and Dimitri	2010		
	Borin et al.	2011		
Leonidou et al.	2011			
Testa et al.	2011			
Bickart and Ruth	2012			
Fowler III and Close	2012			
Kronrod et al.	2012			
Ku et al.	2012			
Nyilasy et al.	2012			
Purohit	2012			
Smith and Brower	2012			
Hartmann and Ibáñez	2013			
Hoek et al.	2013			
Tu et al.	2013			
Papadas and Avlonidis	2014			
Smith	2014			
Chang et al.	2015			
Cho	2015			
Rademaker et al.	2015			
Raska et al.	2015			
Testa et al.	2015			

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