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# Green marketing orientation: Conceptualization, scale development and validation

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## ABSTRACT

As green marketing becomes an essential tool for sustainable business strategy, companies are adopting green marketing practices to achieve better business performance. However, no research has yet operationalized all the organizational facets that are necessary to become a green marketing oriented company. To address this omission, following the literature in measurement theory, this investigation reports a series of 4 studies and develops a scale to capture the holistic approach of green marketing. This study introduces the construct of green marketing orientation, which comprises three dimensions: strategic green marketing orientation, tactical green marketing orientation and internal green marketing orientation. The scale shows internal consistency, reliability, construct validity and nomological validity. Directions for future research and managerial implications of the new construct are discussed.

## 1. Introduction

Despite the ubiquity of green/environmental narratives in the marketing literature remarkably few empirical studies guide businesses to integrate and operationalize green marketing in everyday business practice (Fuentes, 2015). Consequently, green marketing fails to achieve its potential for improving the quality of life for consumers, nor benefits the ecosystem (Polonsky, 2011). Past reliance upon economic logic, technological fixes, eco-innovations and environmental add-ons at the periphery of marketing strategy have not delivered transformative change for individuals and society, nor significant competitive advantage and value for business (Geels, McMeekin, Mylan, & Southerton, 2015; Kotler, 2011). This paper addresses the need for a more integrated and holistic analysis of green marketing practice through the development of a conceptualization of *green marketing orientation* to capture the organizational facets that operationalize a green marketing oriented organization.

The focus on sustainable consumption and production represents a policy and research imperative, stretching back to the mid-1990s' environmental reports from the UN, OECD and World Business Council for Sustainable Development (Peattie & Crane, 2005). Global financial crises, post-Brexit challenges and a shifting corporate social responsibility landscape (Porter & Kramer, 2011; Stoeckl & Luedicke, 2015) are pushing sustainable development to the fore, and managers

recognize the need to operationalize green marketing throughout the organization, and build sustainability into the performance of their people, products and services (Unruh & Ettenson, 2010). Companies that implement holistic environmental strategies send a strong message to their stakeholders that they recognize the business risks and importance of today's environmental challenges, demonstrate care for society and the ecosystem, but also understand green marketing as an internal and external opportunity (Lash & Wellington, 2011) that can achieve low costs, additional profits, competitive advantage through differentiation, and business development (Gordon, Carrigan, & Hastings, 2011; Kotler, 2011).

Researchers and business leaders urge companies to meet their social responsibilities, but this can only be achieved via the combination of good business practice and sustainability (Geels et al., 2015; Polonsky, 2011). Researchers and practitioners have made considerable efforts (for more comprehensive reviews see; Chamorro, Rubio, & Miranda, 2009; Charter & Polonsky, 1999; Leonidou & Leonidou, 2011; Papadas & Avlonitis, 2014) to address pressing environmental challenges and operationalize green marketing (Kotler, 2011). However, Peattie and Crane (2005) conclude that green marketing has significantly underachieved and the current literature in environmental/green marketing remains emergent regarding its applied value in practice (Fuentes, 2015). While past studies generate useful theoretical and conceptual insights into the attitudes and

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behavior of green consumers, and provide valuable debate concerning green marketing programs, they have limitations. Although the question of how green marketing should be undertaken is well rehearsed, few contributions provide any practical construct that could combine the fields of both environmental orientation and environmental/green marketing concepts. Recognized shortcomings include weak conceptualizations of Green Marketing, the absence of a generally accepted Green Marketing framework, and the absence of a rigorous operationalization of the construct.

Against this background, this study advances the extant literature and makes several contributions beyond a theoretical perspective, including adding value to the application of green marketing in practice. It provides a clear definition for Green Marketing Orientation, and for the first time conceptualizes and operationalizes its domain; empirically tests the influencing factors and outcomes of such an orientation in organizations, and provides a coherent, evidence based and empirically tested framework for successful green marketing strategy. The findings extend prior empirical studies by supporting the relationship between green marketing and performance, and highlight the importance of studying the effects of different elements of – external and internal – green marketing strategy on business performance. More generally the findings provide managers with a comprehensive view of what constitutes a green marketing orientation, and how it could be holistically operationalized for external and internal effect. The research contribution presents academia with a developed theory of Green Marketing Orientation, and a reliable and valid scale to measure the level of this orientation in an organization. The findings offer opportunities for researchers to undertake research using a novel concept to further validate the proposed theory and both confirm and further explore the importance of a Green Marketing Orientation for an organization's success.

## 2. Theoretical background of ecological/environmental/green marketing

Early research positions marketing within an environmental context by integrating ecological issues to marketing strategy, and introducing concepts such as *ecological marketing* (e.g. Fisk, 1974; Henion & Kinnear, 1976), *green marketing* (e.g. Ottman, 1993) or *environmental marketing* (e.g. Coddington, 1992; Peattie, 1995). Authors mostly draw attention to the negative impacts of marketing on the natural environment, including Henion and Kinnear (1976) who first debated the interdependency of marketing and ecology. Despite the novelty of the concept, *ecological marketing* tends to focus on the most toxic and damaging industries (such as mining or chemicals) while few of those industries adopt ecological principles. Historically, the majority of companies perceived environmental issues as a constraint and cost factor rather than a marketing function (Shrivastava, 1995), a view that endures for

some organizations (Geels et al., 2015).

In the late 1980s, changing social and business landscapes mirrored the appearance of environmental and green marketing within the marketing literature (Prothero, 1998). Compared to Ecological Marketing, Green/Environmental marketing narratives are not limited to energy consumption and resource depletion but capture environmental issues like species extinction, ecosystem destruction and the broader moral externalities or unintentional harms (Gowri, 2004) that can occur at each stage of the marketing supply chain (Charter & Polonsky, 1999). Environmental issues are now a core competitive factor in product markets (Belz & Peattie, 2009; McDonagh & Prothero, 2014). There is a much broader adoption of environmentally friendly behavior across all industries compared to the ecological marketing era where the focus was primarily on what remain the front line polluters. Since the 1990s, green/environmental marketing features across the consumer goods industries, for example clothing (Fuentes, 2015), electronics (Gershoff & Frels, 2015), even services and tourism (Wells, Manika, Gregory-Smith, Taheri, & McCowlen, 2015).

The term green marketing prevails in managerially oriented studies due to its unique promise to deliver both commercial and environmental sector wins (Grant, 2010). By its nature, green marketing seeks to address the lack of fit between current marketing practices, and the ecological and social realities of the wider marketing environment (Belz & Peattie, 2009). Following from the aforementioned research, this study uses the widely accepted term, *green marketing*. While many green/environmental marketing definitions exist (e.g. Fraj, Martínez, & Matute, 2011; Peattie, 1999), most suggest that the firm's, consumer's and society's needs be satisfied in a profitable and sustainable way, and be compatible with the natural environment and eco-systems.

## 3. Conceptualization of green marketing orientation

Previous green marketing research (e.g. Chamorro et al., 2009; Leonidou & Leonidou, 2011) identifies three pillars that are central tenets of the discipline, namely strategic green marketing, tactical green marketing and internal green marketing. However, surprisingly few empirical studies provide an integrative framework that offers a whole organizational approach to the green marketing concept. Empirical evidence demonstrates the existence of multidimensional approaches to green marketing as well as performance linked outcomes (e.g. Baker & Sinkula, 2005; Fraj et al., 2011). Despite the empirical contribution of these works, the present study builds on the current literature by capturing the more integrative perspective of a green marketing strategy. For that purpose, the term green marketing orientation (GMO) is coined to address a firm's holistic orientation to the natural environment. Table 1 also provides an overview of related constructs and reflects what the study contributes to existing knowledge in the field.

**Table 1**  
Related constructs on green/environmental marketing.

Construct	Overview	Green marketing orientation (GMO)
Enviropreneurial marketing Menon and Menon (1997)	A multiple stakeholder view - integration of environmental goals within corporate strategy.	This strategic approach is reflected in the strategic dimension of GMO which also includes the perspective of innovation, technology and market research.
Green marketing strategy Fraj et al. (2011)	A two-dimensional construct consisting of <i>process-oriented market environmental actions</i> and <i>market-oriented environmental actions</i> . The former refers to internal processes such as eco-design and green logistics. The second refers to short-term focus on green advertising and use of eco-labels.	The approach of GMO is that such activities should be considered as tactical, short-term activities based on the nature of their decisions. This clarification helps in better understanding the functionality of a green marketing strategy and the separation of strategic, tactical and internal green marketing activities.
Green marketing programs Leonidou et al. (2013)	Focus on the marketing mix and the minimization of its negative environmental impact.	Tactical dimension addresses this marketing mix approach – In addition, GMO provides a holistic view of a green marketing strategy which brings together strategic, tactical and internal marketing activities.

This study conceptualizes the GMO construct as a set of dimensions that are: strategic green marketing orientation, tactical green marketing orientation and internal green marketing orientation. The dimensionality draws on key themes emerging from the green marketing literature and the distinction between long-term (i.e. strategic), short-term (i.e. tactical) and internal green marketing-oriented activities.

### 3.1. Strategic green marketing orientation

Strategic green marketing orientation (SGMO) refers to long-term, top management actions and policies specifically focusing on corporate environmental strategy (Banerjee, 2002); proactive environmental strategies (Aragón-Correa, 1998) and external environmental stakeholders (Polonsky, 1995). For example, partnerships and collaborations with organizations that pursue relevant environmental policies would constitute a strategic green marketing action.

Menon and Menon (1997) introduce the term *enviropreneurial marketing* by integrating social performance objectives and marketing, and linking them to the environmental cause. Strategic enviropreneurial initiatives reflect social responsibility and a desire to align marketing activities with the expectations of current and future stakeholders. Enviropreneurial marketing decisions create long-term, corporate-wide activities for environmental sustainability (Charter & Polonsky, 1999), attempting to integrate environmental goals and interests with the strategic concern of achieving competitive advantage within current business and markets (Shrivastava, 1995).

Banerjee (2002) states such integration of green values into the firm's corporate strategy is a response to those that challenge the traditional marketing orientation of increased sales and profit maximization (Dolan, 2002; Kilbourne, Beckmann, & Thelen, 2002). Research that questions a marketing ideology of escalating consumption is gaining traction, recognizing how such positioning conflicts with sustainability and responsibility (Crane, Palazzo, Spence, & Matten, 2014; Stoeckl & Luedicke, 2015). This requires firms to widen their marketing scope and include the protection of social stakeholders and the natural environment among their strategic marketing objectives – referred to as the triple bottom line of economic, social and environmental performance (Aguinis, 2011). Environmental proactivity supports that orientation since adopting environmental protection strategies that go beyond legal compliance is a significant step further (Sharma & Vredenburg, 1998). This concept is also associated with environmental strategy patterns dominated by voluntariness and anticipation (Aragón-Correa, 1998) and pollution prevention rather than reduction (Buysse & Verbeke, 2003).

Stakeholder integration is also critical to a firm's level of green marketing practices. For example, supply chain stakeholders such as clients require their vendors to adopt proactive environmental strategy to improve their environmental performance (Zhu & Sarkis, 2004). Corporate customers also require their suppliers to demonstrate formal certification of their compliance with appropriate environmental regulations (Delmas & Montiel, 2007).

### 3.2. Tactical green marketing orientation

Tactical Green Marketing Orientation (TGMO) involves short-term actions that transform the traditional marketing mix into a greener one. This dimension includes product-related decisions to reduce the environmental footprint (e.g. Pujari, Wright, & Peattie, 2003), promotion tools that reduce the negative environmental impact of the firm's marketing communications and communicate products' environmental benefits (e.g. Kilbourne et al., 2002); actions to improve environmental performance in the supply chain (e.g. Zhu & Sarkis, 2004) and adjusted pricing policies for green products (e.g. Chen, 2001). Such tactics offer flexibility to firms seeking to protect or benefit the natural environment

by conserving energy and/or reducing pollution (Ottman, 1993).

In product strategy, green marketing-oriented tactics include environmentally responsible packaging and ingredients; recyclable or reusable content; re-examination of the product life-cycle and renewable energy (Cronin, Smith, Gleim, Ramirez, & Martinez, 2011; Kotler, 2011; Leonidou, Katsikeas, & Morgan, 2013). Increasingly it means the adoption of a circular economy orientation to maintain the value of products, materials and resources for as long as possible (MacArthur, 2014). New product development requires a substantial refocus to improve the environmental performance of a product rather than merely introducing cosmetic changes (Peattie, 1995).

Environmentally-conscious pricing strategy can use price positioning that reflects a product's ecological ingredients, donations to environmentally responsible organizations, and promotional pricing tactics that engage end-users to support green initiatives (Kotler, 2011; Peattie, 1999). Other approaches involve techniques such as life-cycle costing (to reflect cradle-to-grave sustainability impacts), carbon offset pricing and competitive pricing (Lovell & Liverman, 2010; Shrivastava, 1995).

In distribution programs, environmental efforts include working with environmentally responsible channel partners to identify reduction and reuse/repurposing opportunities, and encouraging end customers to return recyclable materials (Leonidou et al., 2013). It includes the reverse supply chain approach (cradle-to-cradle) to recover the product's maximum possible value (Kleindorfer, Singhal, & Wassenhove, 2005). These environmental policies requiring suppliers and distributors to co-create a greener supply chain can reduce the environmental impact of the firm's distribution strategy (Zhu & Sarkis, 2004).

Promotion is crucial to TGMO as the development and implementation of successful green strategies depends upon good communications (Prothero, Peattie, & McDonagh, 1997). Promotional strategies can communicate environmental sponsorships, environmental-driven product modifications and tangible environmental actions (Polonsky & Rosenberger, 2001). Belz and Peattie (2009) suggest that social media, blogs and websites can enhance this communication by engaging in direct, public dialogue about green products and services, and educate consumers with openness, exchange and authenticity. This implies companies need to consider how much to shift their communication from print to online to capture new and strategic audiences (Kotler, 2011).

### 3.3. Internal green marketing orientation

Internal green marketing orientation (IGMO) involves the pollination of environmental values across the organization to embed a wider corporate green culture (Papadas & Avlonitis, 2014). Such actions include employee training; efforts to promote environmental awareness inside the organization (Charter & Polonsky, 1999; McDaniel & Rylander, 1993; Wells et al., 2015) and environmental leadership activities (Ramus, 2001).

Kotler, Kartajaya, and Setiawan (2010) reiterate the need for a reinvented, greener marketing that more responsibly balances growth goals with sustainability, and aligns behaviors with values and a corporate culture embedded with integrity. That a company markets its green values to its employees is as important as marketing its mission to consumers (Wells et al., 2015), thus environmental values need to be shared and communicated across departments. Pioneering companies will establish an entire independent department dedicated to environmental sustainability and CSR.

Managers develop internal culture to disseminate a set of values that will guide the corporation and its employees (Geels et al., 2015). Disseminating knowledge and embedding an environmental culture throughout the entire organization supports employees to develop

**Table 2**  
Scale development process.

Stages of scale development process	Details
Study 1 – construct definition and content domain	<ul style="list-style-type: none"> <li>● 22 interviews</li> <li>● Qualitative analysis of interview transcripts to clarify the construct and its dimensions</li> <li>● This process results in the confirmation of the three-dimensional construct according to the literature review and provides novel insights about the organizational dimensions of a successful green marketing strategy.</li> </ul>
Study 2 – item generation and expert review	<ul style="list-style-type: none"> <li>● Operational definitions of construct and its dimensions</li> <li>● Generation of 60 items based on 3 dimensions</li> <li>● 6 expert marketing practitioners and 4 expert marketing faculty members judge items for content and face validity</li> <li>● 46 items are retained for further elimination</li> <li>● 5 marketing doctoral researchers judge items for dimensionality</li> <li>● 36 items are retained for the next step</li> </ul>
Study 3 – scale purification and item refinement	<ul style="list-style-type: none"> <li>● Survey to 103 manager-level executives</li> <li>● 23 items meet the psychometric criteria and are retained for the next and final step</li> </ul>
Study 4 – finalization of the scale	<ul style="list-style-type: none"> <li>● Initial reliability assessment</li> <li>● Factor loadings</li> <li>● Dimensionality</li> <li>● Item refinement and reduction</li> </ul>
Study 4 – finalization of the scale	<ul style="list-style-type: none"> <li>● Survey to 226 firms</li> <li>● 21 items meet the psychometric criteria and are retained for the validity tests</li> <li>● Validation of the scale</li> <li>● Establishment of nomological validity</li> </ul>
	<ul style="list-style-type: none"> <li>● Reliability assessment and dimensionality</li> <li>● Confirmatory factor analysis</li> <li>● Convergent validity</li> <li>● Discriminant validity</li> <li>● Nomological validity</li> </ul>

skills and abilities to implement successful environmental strategies (McDonagh & Prothero, 2014). Environmental awareness education and training across the whole organization can also create environmental champions for the organization (McDaniel & Rylander, 1993).

From an internally driven perspective, top management behaviors in environmentally proactive companies include: communicating and addressing critical environmental issues; initiating environmental programs and policies; rewarding employees for environmental improvements; and contributing organizational resources to environmental initiatives (Menguc, Auh, & Ozanne, 2010). Coddington (1992) & Hart (1995) conclude that corporate vision and strong leadership are the two fundamental facilitators that implement a corporate-wide, environmental management strategy. In general, the advancement of new ways of thinking and efforts to develop an environmental orientation throughout the firm are possible when all members of the organization share the same vision as top management (Charter & Polonsky, 1999).

#### 4. Scale development methodology

To develop a reliable and valid scale of green marketing orientation for effectively measuring its intensity within an organization, we follow rigorous stages of scale development. Table 2 outlines the process, which includes a qualitative study; item generation and expert review; a quantitative study for the purification of the scale; and a quantitative study for the finalization of the scale. This section describes the scale development process following established procedures advocated in the previous literature (e.g. Churchill, 1979; Netemeyer, Bearden, &

Sharma, 2003). Appendix A1 provides the full initial list of items of the GMO scale as well as its progression through until the end of Study 4.

##### 4.1. Study 1 – construct definition and content domain

Construct definition demands a careful examination of the literature (Netemeyer et al., 2003). This study undertakes a thorough review of the extant environmental/green marketing literature, and focuses on the holistic way that organizations should work to build and implement green marketing strategies (e.g. Charter & Polonsky, 1999; Kotler, 2011; Peattie, 1999). 22 in-depth interviews undertaken with experts and individuals from relevant populations in multinational companies (typically Chief Marketing Officers and Sustainability/CSR Directors), enhanced the accuracy and the comprehensiveness of the construct definition. Recognizing the need for representativeness within the sample, we included as many sectors as possible such as fast-moving consumer goods (FMCG), B2B companies (e.g. chemicals, energy), financial services etc. Therefore, the sample included key-informants in consumer, industrial and service industries (FMCG: 4, Industrial: 3, Food: 3; Cosmetics: 3; Financial services: 3; Telecoms: 2; Manufacturing: 2, Supermarkets: 2). The majority of participants were members of fast-moving consumer goods companies, where a) long term experience of green marketing exists and b) environmental responsibility activities often occur. Table 3 provides indicative quotes from the interviews with the managers of green marketing oriented organizations. Their insights were combined with existing knowledge on green marketing to further clarify the GMO construct and its domain.

**Table 3**  
Study 1 - indicative quotes from the qualitative study.

Dimensions	Quotes
Strategic green marketing orientation	"...in our case, the environmental marketing strategy is identical to the general corporate strategy and this is the reason for naming our forthcoming business plan 'the sustainability business plan'." – CEO, Company A
Tactical green marketing orientation	"...we are trying to use raw materials and ingredients that are eco-friendly, as well as recyclable, to create natural products ... we're not transferring the extra cost for a green product to the customer via an increase in price." – Marketing Director, Company B
Internal green marketing orientation	"...the pollination of our values and philosophy to our people is a very important stage of our green marketing strategy ... we are talking about holistic green marketing; every employee should be aware of our green marketing strategy." – Head of Sustainability, Company C



**Table 4**  
Study 1 - green marketing orientation dimensions.

Dimensions	Definitions
Strategic green marketing orientation	The extent to which organizations integrate the environmental imperative in strategic marketing decisions.
Tactical green marketing orientation	The extent to which organizations embody environmental values in tactical marketing decisions.
Internal green marketing orientation	The level of assimilation of corporate environmental values by all internal stakeholders.

Synthesizing the extant literature and the data from the in-depth interviews, *green marketing orientation* is defined as *the extent to which an organization engages in strategic, tactical and internal processes and activities which holistically aim at creating, communicating and delivering products and/or services with the minimal environmental impact*. Following the qualitative analysis, which confirmed the three-dimensional construct drawn from the literature review, the results were reconciled and a preliminary listing of 3 dimensions of GMO along with their operational definitions was developed as shown in Table 4 (Netemeyer et al., 2003; Rossiter, 2002).

4.2. Study 2 – item generation and expert review

Accurately defining GMO and delineating its domain allows the development of scale items that can measure the strength with which each dimension exists in an organization. To generate a pool of items the literature was thoroughly reviewed and the interview narratives analyzed (Churchill, 1979); this generated a total of 60 items. At this stage several issues were taken into consideration, including wording clarity, redundancy and response formats (De Vellis, 1991). Following the initial item generation, content and face validity (Netemeyer et al., 2003) was established using 10 judges to undertake the appraisal of those items in a 5-point evaluation scale in terms of representativeness, specificity and clarity (e.g. Haynes, Richard, & Kubany, 1995). 4 expert marketing faculty members (for content validity) and 6 marketing practitioners (for face validity) were invited to judge all 60 items. The judges were instructed to raise any concerns while completing the scale. After this step, 46 items that score above 3 out of 5 in all categories were retained. Following the experts' suggestions some of the remaining items were refined. Finally, the resultant 46 were further trimmed out through a second round of judgments by 5 marketing doctoral researchers, directed to assign each item to the most appropriate dimension based on their judgment. The result is a set of 36 items for the following step of scale development process.

4.3. Study 3 – scale purification and item refinement

Based on an established scale development process (Clark & Watson, 1995), once an item pool was thoroughly judged, modified and

**Table 5**  
Study 3 - sample characteristics.

(N = 103)		
Market	B2C	68.9%
	B2B	31.1%
Type	Domestic	59.2%
	Multinational	40.7%
Job post	Product/marketing	56.3%
	Other managerial post	43.6%
	> 5 years	100%

trimmed by marketing experts and academics, pilot testing of the items took place on a larger sample (n = 100–200) from a relevant population. This further testing and scale purification helps to reduce the number of items in an initial pool to a more manageable number by deleting items that do not meet certain psychometric criteria. For pilot testing, convenience samples (e.g. university students) may suffice, but a sample from a relevant population of interest is preferable (Netemeyer et al., 2003). To guarantee sample representativeness, we intentionally chose a specific international MBA class from a local university. Following this, 103 manager-level executives attending a part-time program participated in this stage (see Table 5 for sample characteristics). Given that the entry criteria to this executive post-graduate program included a requirement for 5-years professional experience, the participants were judged appropriate for the pilot test. After familiarization with the GMO concept, using a 7-point Likert scale the participants evaluated the extent to which the 36 items describe behaviors in their company.

Next, EFA analysis using rotation was performed to reduce the number of items and test the underlying dimensions of the construct. The factor analysis reveals consistent to theory, a three-factor solution with eigenvalues > 1 (variance explained = 68%). However, based on specific psychometric criteria (Robinson, Shaver, & Wrightsman, 1991) such as avoidance of cross loadings, factor loadings ranging between 0.40 and 0.90, and corrected item-to-total correlations of 0.50 and above, 13 items were deleted as they did not meet the above criteria. A final set of 23 items was retained for the next and final step of scale development process.

4.4. Study 4 – finalization of the scale

A second, large quantitative study was undertaken to finalize the scale and the confirmation of its dimensionality, reliability and validity. A formal questionnaire was designed, to include the GMO scale developed, as well as the corporate social responsibility (CSR) scale (Turker, 2009), the environmental orientation (EO) scale (Banerjee, 2002) and a marketing performance (MP) scale (Fraj et al., 2011) for validity purposes. A representative proportion from each sector (B2B

**Table 6**  
Study 4 - sample characteristics.

(N = 226)		
Market	B2C	40.2%
	B2B	29.2%
	Both	30.5%
Type	Domestic	60.6%
	Multinational	39.3%
Sector	FMCG	26.9%
	Services	25.6%
	Industrial products	19.9%
	Wholesalers & retailers	13.7%
	Construction-remaking-other	13.7%
Age of company (in years)	1–5	7.5%
	6–10	10.1%
	11–20	15%
	21–40	23.8%
	> 40	43.3%
Number of employees	11–50	23%
	51–250	30.5%
	> 250	46.4%
Job title	Marketing manager	50.4%
	Product manager	22.1%
	CSR/sustainability manager	12.8%
Age of respondents (in years)	CEO	14.6%
	21–30	27.8%
	31–40	44.2%
	41–50	22.5%
	51–60	3.9%
> 60	1.3%	

**Table 7**  
Study 4 - scale items, descriptive statistics, and factor loadings.

Factor item	Range	Mean	SD	Factor loading
<i>Strategic green marketing orientation (alpha = 0.94)</i>				
1. We invest in low-carbon technologies for our production processes.	1–7	4.19	2.02	0.82
2. We use specific environmental policy for selecting our partners.	1–7	3.83	1.90	0.77
3. We invest in R & D programs in order to create environmentally friendly products/services.	1–7	4.15	1.92	0.76
4. We make efforts to use renewable energy sources for our products/services.	1–7	4.33	1.93	0.74
5. We have created a separate department/unit specializing in environmental issues for our organization.	1–7	3.55	2.18	0.73
6. We participate in environmental business networks.	1–7	3.99	2.05	0.70
7. We engage in dialogue with our stakeholders about environmental aspect of our organization.	1–7	3.67	1.89	0.68
8. We implement market research to detect green needs in the marketplace.	1–7	3.38	1.98	0.64
9. Among other target markets, we also target to environmentally-conscious consumers.	1–7	4.14	1.90	0.64
<i>Tactical green marketing orientation (alpha = 0.78)</i>				
1. We encourage the use of e-commerce, because it is more eco-friendly.	1–7	3.79	2.01	0.78
2. We prefer digital communication methods for promoting our products/services, because it is more eco-friendly.	1–7	4.88	1.73	0.72
3. We apply a paperless policy in our procurement where possible.	1–7	4.61	1.87	0.67
4. We use recycled or reusable materials in our products/services.	1–7	4.63	1.83	0.53
5. We absorb the extra cost of an environmental product/service.	1–7	4.44	1.90	0.52
<i>Internal green marketing orientation (alpha = 0.92)</i>				
1. Exemplar environmental behavior is acknowledged and rewarded.	1–7	3.30	1.85	0.80
2. Environmental activities by candidates are a bonus in our recruitment process.	1–7	2.73	1.65	0.76
3. We have created internal environmental prize competitions that promote eco-friendly behavior.	1–7	2.43	1.67	0.75
4. We form environmental committees for implementing internal audits of environmental performance.	1–7	3.03	1.90	0.63
5. We organize presentations for our employees to inform them about our green marketing strategy.	1–7	3.25	1.86	0.60
6. We encourage our employees to use eco-friendly products/services.	1–7	4.00	1.91	0.57
7. Our employees believe in the environmental values of our organization.	1–7	4.19	1.73	0.55

and B2C) was desirable, and large firms with a turnover > 10 m. Euros were included in the study population to guarantee the minimum expectation of an environmental policy. To satisfy our criteria, we used a list of 1596 firms from the database of a Gallup subsidiary in a single European country as a sampling frame. A stratified sample of 700 firms was selected from these companies. A web-based survey procedure was used for data collection, through which questionnaires were distributed to Marketing or Sustainability/CSR managers from the selected firms (see Table 6 for sample characteristics). From the 700 questionnaires sent, 226 usable questionnaires represented a 32.3% response rate.

#### 4.4.1. Reliability assessment and dimensionality

An exploratory factor analysis with rotation revealed a clear three-factor structure with eigenvalues > 1, explaining 65% of the total variance. After the deletion of 2 items that did not satisfy the necessary psychometric criteria, all items loaded predominantly on a single factor, suggesting that no further elimination was needed. The resultant GMO scale now consisted of a total of 21 items. Internal reliability of the three dimensions of GMO was assessed by calculating the Cronbach's alpha. The values were found to be satisfactory (SGMO = 0.94, TGMO = 0.78, IGMO = 0.92), exceeding the accepted reliability threshold of 0.70 (Nunnally & Bernstein, 1994). All individual items within each dimension average item-to-total correlations of 0.69, and all exceed 0.52, indicating satisfactory levels of internal consistency. Table 7 provides a complete listing of all items retained for the final version of the scale as well as their respective ranges, means, standard deviations, and factor loadings.

#### 4.4.2. Convergent and discriminant validity

In this phase of scale development process, a confirmatory factor analysis was conducted where all items of the scale loaded on their respective constructs. The measurement model provided a good fit to the data ( $\chi^2 = 491$ ;  $df = 186$ ;  $p < 0.001$ ; CFI = 0.91; RMSEA = 0.76; TLI = 0.90). All indicators, as shown in Fig. 1, loaded significantly on their hypothesized latent construct, and average inter-item correlations of each dimension exceeded 0.50, which demon-

strated convergent validity. For each construct average variance extracted (AVE) exceeded the 0.5 level that Hair, Anderson, Tatham, and Black (1998) recommend. In addition, the AVE for each construct was higher than the squared correlation between that construct and any other construct (including CSR, EO and MP), indicating discriminant validity based on Fornell and Larcker (1981). Table 8 illustrates in detail the discriminant validity test for the GMO scale.

#### 4.4.3. Nomological validity

Evidence of nomological validity is provided by a construct's possession of distinct antecedents and consequences, investigating theoretical relationships between different constructs derived from the literature (Iacobucci, Ostrom, & Grayson, 1995). In assessing the nomological validity of the GMO scale, this study relies on structural equation modeling and investigates two antecedents of a green marketing strategy and one consequence which are identified from the literature. For the operationalization of the antecedents, the well-established scales of CSR (Turker, 2009) and EO (Banerjee, 2002) were used while a MP scale (Fraj et al., 2011) was used for the operationalization of the consequence (see Appendix A2 for the measures and Table 9 for their performance). A structural model was estimated with AMOS and provided good fit to the data ( $\chi^2 = 1494$ ;  $df = 768$ ;  $p < 0.001$ ; CFI = 0.91; RMSEA = 0.07; TLI = 0.90).

Given that CSR has been a proactive strategic decision for corporate environmental behavior (e.g. Kärnä, Hansen, & Juslin, 2001), the nomological validity test examines the role of CSR as an antecedent, which seems to drive SGMO ( $\beta = 0.45$ ,  $p < 0.01$ ). However, the effects of CSR on TGMO and IGMO are non-significant ( $\beta = 0.24$ ,  $p = 0.39$  &  $\beta = 0.08$ ,  $p = 0.65$ ). Considering that the above antecedent includes items related to long-term CSR objectives, this outcome could be explained by the non-strategic nature of those two GMO dimensions. Banerjee (2002) suggests green marketing goes one step further than the EO of a firm, implying that it might be a critical antecedent of the GMO dimensions. The nomological validity test confirms that EO might be a potential driver of SGMO ( $\beta = 0.51$ ,  $p < 0.001$ ), TGMO ( $\beta = 0.47$ ,  $p < 0.05$ ) and IGMO ( $\beta = 0.78$ ,  $p < 0.001$ ) which means

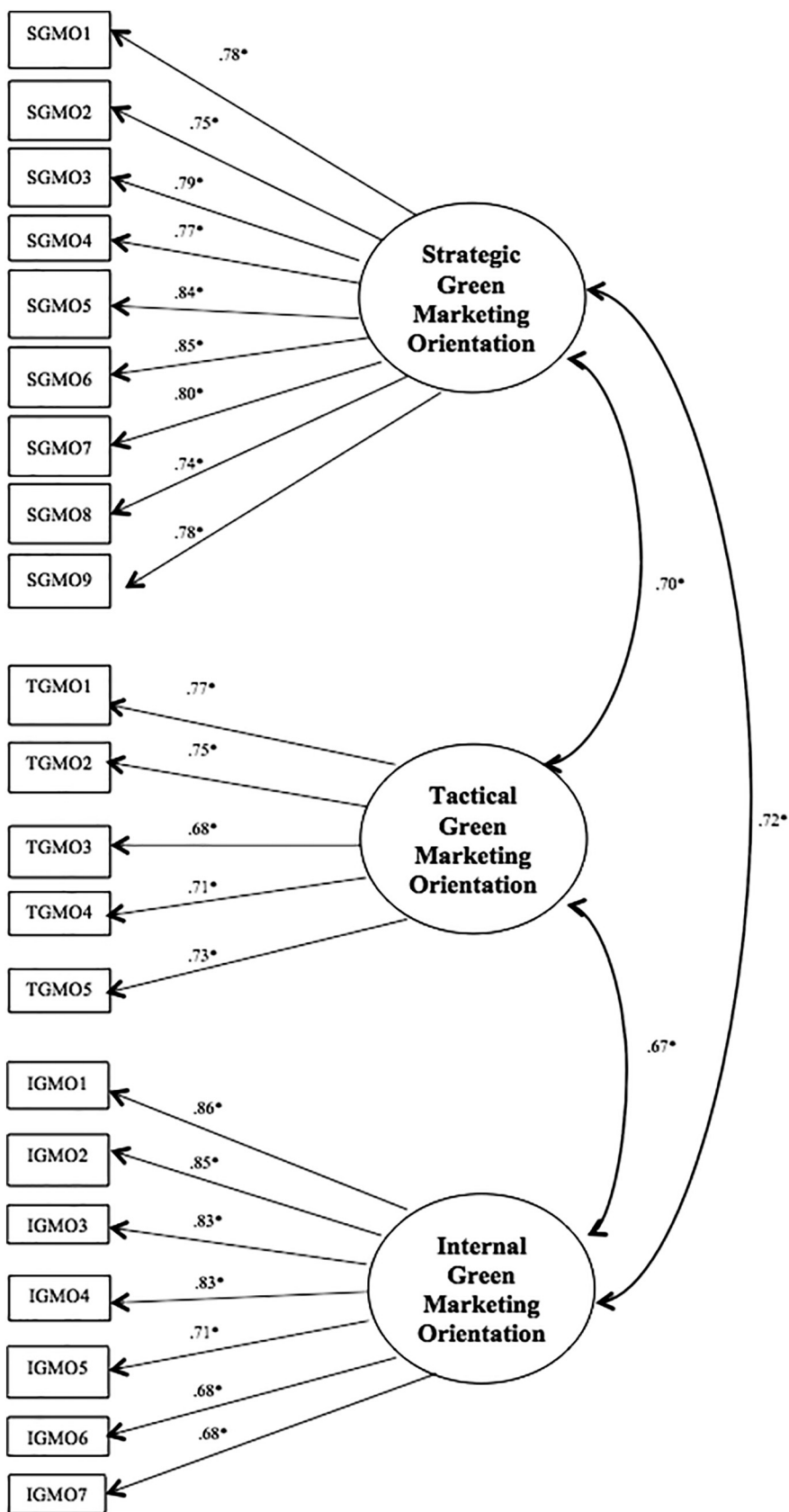


Fig. 1. Study 4 - CFA model and results for the green marketing orientation scale.  
 Notes: all coefficient values are standardized and appear above the associated path.  
 \* $p < 0.001$ .

**Table 8**  
Study 4 - discriminant validity test.

Construct	AVE	Squared correlations		
		1	2	3
1. SGMO	0.62			
2. TGMO	0.53	0.49		
3. IGMO	0.61	0.52	0.45	
4. CSR	0.63	0.52	0.45	0.46
5. EO	0.67	0.50	0.45	0.49
6. MP	0.60	0.11	0.11	0.09

**Table 9**  
Study 4 - model fit statistics of the scales used in the nomological validity test.

Measure	$\chi^2$	df	RMSEA	GFI	CFI
CSR	33.9	14	0.08	0.96	0.98
EO	75.3	20	0.10	0.92	0.97
MP	17.8	5	0.10	0.96	0.98

that an organization should have clear environmental values in order to undertake strategic green marketing initiatives, implement green marketing-mix related activities, and also communicate green marketing strategy inside the organization, respectively.

With regards to consequences, previous studies suggest that green marketing leads to increased levels of marketing performance (e.g. Menon & Menon, 1997; Miles & Covin, 2000). Our model shows that SGMO ( $\beta = 0.25, p < 0.05$ ) and TGMO ( $\beta = 0.20, p < 0.05$ ) may have a positive effect on marketing performance corroborating the aforementioned studies. On the other hand, the effect of IGMO on the marketing performance is non-significant ( $\beta = -0.04, p = 0.79$ ), which could possibly result from the contradiction of the market-related items of the marketing performance scale compared to the internal focus of IGMO. However, since IGMO captures the internal aspects of a green marketing-oriented organization, it could be positively linked to other performance variables of critical importance such as employee satisfaction. Fig. 2 shows the nomological network of the GMO construct and Table 10 provides the statistics for its paths.

It is important to acknowledge that since MP is measured subjectively in our study, it can only be confirmed as a positive link in the context of a nomological validity test and not a causal relationship. Furthermore, Table 11 provides an overview of the nomological validity test by illustrating the correlations among the three GMO dimensions, the two antecedents (CSR and EO) and marketing performance.

**Table 10**  
Study 4 - statistics for the paths of nomological validity test.

Path	$\beta$	S.E.	t-Value
CSR $\rightarrow$ SGMO	0.45	0.14	3.08**
CSR $\rightarrow$ TGMO	0.24	0.21	0.86
CSR $\rightarrow$ IGMO	0.08	0.15	0.44
EO $\rightarrow$ SGMO	0.51	0.14	3.50***
EO $\rightarrow$ TGMO	0.47	0.21	2.26*
EO $\rightarrow$ IGMO	0.78	0.15	4.17***
SGMO $\rightarrow$ MP	0.25	0.12	2.34*
TGMO $\rightarrow$ MP	0.20	0.12	2.41*
IGMO $\rightarrow$ MP	-0.04	0.08	-0.26

Notes: all path coefficients are standardized estimates.

\*\*\*  $p < 0.001$ .

\*\*  $p < 0.01$ .

\*  $p < 0.05$ .

**Table 11**  
Study 4 - correlations among and AVEs of constructs of nomological validity test.

Construct	1	2	3	4	5	6
1. SGMO						
2. TGMO	0.70					
3. IGMO	0.72	0.67				
4. CSR	0.72	0.67	0.68			
5. EO	0.71	0.67	0.70	0.79		
6. MP	0.33	0.33	0.30	0.38	0.35	
AVE	0.62	0.53	0.61	0.63	0.67	0.60

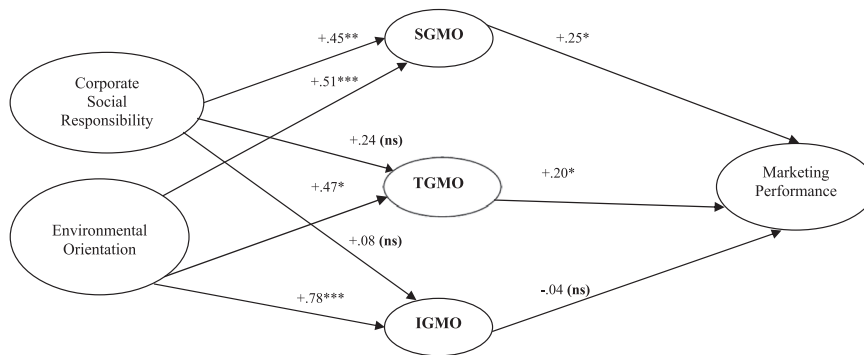
Notes: all correlation are significant at the 0.01 level.

**5. Discussion**

Given the importance of sustainability in today's competitive marketplace, the contribution of our study in the literature is three-fold: 1) using a rigorous scale development methodology, we demonstrate for the first time a holistic, integrative approach for green marketing; 2) incorporating prior research about the concept and the role of green marketing, we uncover three distinct dimensions of a green marketing strategy; 3) validating the nomological network of the GMO scale, we corroborate with previous studies regarding the potentially positive effect of green marketing on performance. These results offer a series of useful theoretical and managerial implications which are analyzed below.

**5.1. Theoretical implications**

Since this study constitutes the first attempt to a) conceptualize and operationalize the broad meaning of green marketing, and b) construct



**Fig. 2.** Study 4 - test of the nomological validity of the scale.

Notes: all path coefficients are standardized estimates.

\*\*\*  $p < 0.001$ .

\*\*  $p < 0.01$ .

\*  $p < 0.05$ .



a comprehensive and empirically tested framework of this notion, this work is a significant contribution to the further development of the environmental/green marketing field. Overall, our results offer four main theoretical implications. First, the development of a parsimonious green marketing scale benefits research in the field of green marketing. From a methodological perspective, marketing scholars now have at their disposal a robust theory of GMO (Study 1–Study 4), which provides a holistic concept of green marketing from the firms' perspective. Four studies, including qualitative insights from interviews with managers and two quantitative studies from a relevant population, confirm the reliability and the validity of the scale and offer confidence for any future scholarly research design.

Second, our results extend earlier studies in green marketing (e.g. Menon & Menon, 1997) by providing an updated and comprehensive investigation into green marketing strategies. In the broader environmental/green marketing literature, most empirical studies focus on the functional/tactical activities related to green marketing strategy (e.g. Fraj et al., 2011; Leonidou et al., 2013). Our results suggest that a green marketing oriented organization is one which employs green initiatives at a strategic, tactical and internal level. Considering that a contemporary green marketing strategy should transcend the whole organization at all decision levels (Kotler, 2011), our findings further corroborate this view by introducing and testing an all-encompassing concept. This clarification also highlights the need to distinguish holistically-driven from greenwash-driven organizations which take isolated actions to merely improve their corporate image.

Third, the results of the nomological validity test further support prior empirical research regarding the crucial green marketing-performance relationship. Previous studies in green marketing have identified positive outcomes of environmental strategies for marketing performance (e.g. Baker & Sinkula, 2005; Menguc et al., 2010). We corroborate this research stream by finding that SGMO and TGMO may well be positively linked to marketing performance. Thus, strategic green marketing initiatives and tactical green marketing activities together may lead to better marketing performance. Furthermore, after the confirmation of the nomological network, our findings also contribute further nuanced insights to previous studies related to the conceptual distinction of green marketing from CSR (e.g. Hult, 2011).

Fourth, our study highlights the value of examining the effects of different elements of green marketing strategy on business performance. Whereas, the research in this domain is limited to the focus of a specific aspect of green marketing strategy and its consequences on business performance (e.g. Banerjee, 2002; Cronin et al., 2011), our analyses show that each GMO dimension can have different drivers and performance implications (Fig. 2). Strategic and tactical activities appear to be driven from CSR and EO respectively, while both dimensions seem to have a positive effect on performance. With regards to IGMO, the organization's environmental culture is likely to be a significant antecedent of such internal actions.

## 5.2. Managerial implications

This study also offers useful insights for practitioners. Firstly, the strategic, tactical and internal level of this scale provides some potential benefits by helping managers to allocate green marketing actions appropriately. For instance, forming strategic green alliances might be a C-level executive decision, while employing a green pricing policy may fall to a manager-level executive. As such, a hierarchy of green marketing actions provides a useful template for companies.

Secondly, our findings suggest interesting implications regarding the application of each GMO dimension. A strategic green marketing dimension seems to be a significant element of a green marketing strategy as it represents the long-term commitment and investment of top management to environmental strategies. That is, strategic initiatives such as investment in low-carbon technology and R & D related projects can be considered as potential objectives in the business plan of

a green marketing oriented organization. In addition, our analyses show that CSR may be a forerunner of SGMO, however the latter requires a different approach since it involves marketing-related tasks. In practice, this means that a CSR policy may be necessary but not sufficient for the design and implementation of a green marketing strategy. Our study also provides empirical support for implementing green marketing mix-related programs. This suggests that tactical activities (i.e. use of recycled materials, green pricing policies) offer flexibility to managers for a) improving their firm's green brand image in the short-medium term and b) adjusting their green marketing strategy according to external and internal environmental changes. Furthermore, our analyses show that internal green marketing actions comprise another distinct dimension of green marketing strategy. This indicates that firms should align their green marketing strategy to those people who are expected to serve and implement it. That is, managers should note that green oriented human capital may ultimately lead to the creation of green brand champions who may prove critical to a firm's environmental reputation. This internal perspective of green marketing emerges from the qualitative interviews, and is later confirmed from the main survey, emphasizing its value as a recommendation derived from practice.

Third, based on the findings of the inter-correlations among the GMO dimensions (Fig. 1), the effective implementation of strategic green marketing activity appears to depend upon the support of internal green marketing actions. For example, the success of R & D projects aimed at the development of eco-friendly products will potentially rely upon targeted environmental support by employees in the marketing department. The same stands for tactical green marketing efforts (i.e. implementing a paperless policy in procurement) and the information received through internal green marketing initiatives (i.e. internal corporate presentations to communicate green marketing strategy to employees). The findings could imply the integration of any green marketing programs and the co-operation among different departments is critical to the efficiency of a green marketing strategy. This suggests an organization should primarily employ a holistic and synergistic approach if a green marketing orientation is to be achieved at the strategic, tactical and internal level.

## 5.3. Limitations and directions for further research

This research has several limitations. First, with regards to Study 1 of the scale development process (qualitative research), a more balanced and diverse review from all sectors might capture a wider application of green marketing practice.

Second, green marketing practices are increasingly recognized as context specific, with their own unique characteristics (McDonagh & Prothero, 2014), suggesting it would be useful, methodologically, to investigate how the proposed framework operates in different cultural, social, economic and political environments, particularly comparing contexts in the global North and South (Steg & Vlek, 2009). Third, although the FMCG sector represents the majority of our sample in Study 4, we acknowledge other areas have more negative environmental impact such as B2B and services; this constitutes another potential limitation of this paper. Consequently we suggest future studies focus on different firm types, specific sectors or industries (e.g. B2B), to draw comparative results and better understand how GMO operates in different settings.

Our results also suggest several paths for further research. Opportunities for future studies arise in terms of how other variables might moderate the effect of antecedents on the GMO dimensions as well as the effect of the latter on marketing performance. For instance, stakeholders' pressures (i.e. employees, partners) may moderate the relationship between CSR and SGMO, while the TGMO–MP relationship could also be moderated from an external environmental force (e.g. the growing sustainable consumption culture, or tougher environmental regulations). Based on previous studies (e.g. Leonidou et al., 2013),

slack resources could be another potential driver of both SGMO and IGMO since environmental investments are often considered as significant expenditures with long-term payback. Companies with slack resources are sometimes eager to make such investments (e.g. Campbell, 2007). In the same context, prior research supports industry environmental reputation as a possibly significant moderator of the SGMO-MP relationship (e.g. Menon & Menon, 1997). The outcome of the nomological validity test could also encourage researchers to examine if GMO dimensions act as moderators of other variable-marketing performance relationships.

Given the overarching aim of any green marketing measure is to reduce the organization's environmental impact, future studies should also include an agreed, objective measure of environmental performance (e.g. detailed lifecycle analysis, CO<sub>2</sub> emissions) to identify where the most substantive environmental impacts occur to allow comparisons to be drawn about the benefits of a green marketing strategy on the natural environment.

Finally, a major outcome of the study is the development of a comprehensive GMO scale with encouragingly satisfactory results in terms of reliability and validity. Although two quantitative studies provide evidence of the measurement's applicability, multiple tests and applications are required to more confidently infer the construct's validity. Some of these tests could lead to a refinement of the construct itself. Additionally, although two antecedents and one consequence of GMO are examined in this study, the proposed nomological GMO framework is by no means exhaustive. Building on the present research framework, further research should explore the relevance of other external and internal factors to a firm's green marketing-oriented strategy.

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## Appendix A. Supplementary data

Supplementary data to this article can be found online at <http://dx.doi.org/10.1016/j.jbusres.2017.05.024>.

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