

# A Multidimensional Approach to the Influence of Environmental Marketing and Orientation on the Firm's Organizational Performance

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**ABSTRACT.** Since it implies a reduction in the quality and the quantity of the natural resources, environmental degradation is a present day problem that requires immediate solutions. This situation is driving firms to undertake an environmental transformation process with the purpose of reducing the negative externalities that come from their economic activities. Within this context, environmental marketing is an emerging business philosophy by which organizations can address sustainability issues. Moreover, environmental marketing and orientation are seen as valuable strategies to improve a firm's competitiveness. However, the literature that has analyzed the link between environmental strategies and firms' results has been inconclusive and contradictory. In this study, we propose and test a model that analyses how the implementation of ecological issues within a firm's marketing strategy and orientation influences organizational results. Data were obtained through a survey sent to Spanish manufacturing firms. The results show that environmental marketing positively affects firms' operational and commercial performance and this improvement will influence their economic results. Moreover, environmental marketing is revealed as an excellent strategy to obtain competitive advantages in costs and in product differentiation. Thus, this study agrees with the researchers who affirm that environmental strategies positively affect firm's competitiveness while reducing environmental impact.

**KEY WORDS:** environmental marketing, environmental orientation, sustainability, operational performance, commercial performance, economic performance

## **Introduction**

Nowadays, environmental degradation is considered a major threat for the survival of humanity.

The progressive degradation in the quantity and quality of the environmental resources has encouraged societies to consider their responsibility in current environmental problems. Companies, governments, and consumers should be responsible for these environmental conditions and must take initiatives to attain sustainable development. Many firms are currently undertaking an environmental transformation process with the purpose of reducing the negative externalities that come from their economic activities (González and González, 2005a).

Several authors have analyzed how economic and political agents can implement different environmentally friendly initiatives and policies aimed at reducing the impact of industrial and consumer activities on the natural environment (Anderson and Bateman, 2000; Aragón-Correa, 1998a; Porter and van der Linde, 1995). This has provoked a debate about the effect of environmental strategies on firms' competitiveness. Traditionally, environmental issues have been seen as a threat to firms' profitability because environmental management requires big investments in prevention technologies (Walley and Whitehead, 1994). However, in recent decades, firms have started to consider the natural environment as a potential source of competitive advantage (Christmann, 2000; Hart, 1995; Porter and van der Linde, 1995) that can generate win-win-win situations for society, the business world, and ecosystems (Porter, 1991). Nevertheless, empirical support for the positive link between environmentally friendly initiatives and profitability is still scarce and, often, contradictory.

As the society has paid greater attention to sustainable development issues, firms have become more

interested in implementing environmental marketing initiatives. Concepts like the green marketing philosophy, environmental marketing, or environmental orientation have arisen as a bridge between firms' environmental protection activities and the satisfaction of different stakeholders (Kärna et al., 2003). Following Banerjee et al. (2003), companies' environmental transformation has consequences not only at the operational and functional levels, but also it affects their internal culture and values and beliefs. Hence, companies' environmental orientation supposes an evolution of the traditional conception of marketing. This new way of conceiving marketing orientation must consider not only customer satisfaction and the achievement of the firm's economic objectives but must also take care for its social and environmental impacts (Miles and Munilla, 1993).

Environmental marketing is a firm's response to society's and governmental environmental awareness. It could also serve as an important business philosophy (Chamorro and Bañegil, 2006) to maximize its financial results. Developing environmental initiatives at the operational, managerial, and functional levels can contribute to reducing production costs (Shrivastava, 1995) and to improving firms' external market image and corporate reputation (Miles and Covin, 2000).

The purpose of this study is to empirically analyze the influence of environmental marketing and environmental orientation on organizational results. It adopts a multidimensional approach of the firm's environmental strategies that can facilitate the understanding of the complex relationships between environmental management and organizational results.

Previous literature defines environmental proactivity as a linear approach, from reactive to proactive attitudes, that companies follow in order to develop their environmental commitment. This study considers that there is no single path and that a wide variety of environmental practices can be developed at different levels. We consider that environmental orientation represents the degree of the firm's acknowledgment of their responsibility in environmental degradation, while environmental marketing deals with the extent to which firms have integrated this responsibility into their marketing mix decisions.

While other studies have specifically considered the relation between environmental strategies and

organizational performance using financial measures (Klassen and McLaughlin, 1996; Russo and Fouts, 1997), we propose a multidimensional approach to the firm's results. To be precise, our study considers that environmental marketing and environmental orientation will contribute to optimizing operational and commercial performance and that improvement will be translated into better economic results.

To test the effect of environmental marketing and orientation on the different dimensions of a firm's organizational results, a market study was developed using a sample of Spanish manufacturing firms belonging to different industries. Most of the literature that has previously analyzed environmental marketing has focused on green consumer behavior, with the aim of providing information for decision makers to be able to target these profitable market segments more accurately. There are still few empirical studies that have depicted what environmental marketing and orientation really means for business and there is no consensus about what activities are involved with it. This study aims to validate a new scale for measuring the environmental marketing concept based on a qualitative approach that was developed through in-depth interviews with important Spanish manufacturing companies.

This paper is structured in five sections. First, the concepts of environmental marketing and orientation are reviewed along with their relationships with the different manifestations of organizational performance. Second, the methodology is explained, focusing on the sample data collection and on the measures employed. Third, the scales are validated through exploratory and confirmatory factor analyses. Fourth, we present the results of the proposed model that has been tested using structural equations modeling. In the final section, conclusions are drawn and implications are discussed.

## **Background: literature review and hypotheses development**

*The integration of environmental values within a firm's strategy: environmental orientation and environmental marketing*

Strategic response to environmental pressures can vary depending on the intensity of these pressures,

managers' personal values and beliefs and the firm's characteristics (size, resources availability, position on the value chain, etc.) (Buisse and Verbeke, 2003; Levy, 1995; Min and Galle, 2001; Rivera, 2007). This response is usually classified on a linear scale that presents two extreme positions: a reactive attitude, typical of companies that perceive the natural environment as a threat to their competitiveness and only carry out the minimal changes to meet clients' and regulatory expectations; and a proactive attitude that expresses the behavior of firms that voluntarily develop environmental initiatives that contribute to minimizing their environmental impact (Henriques and Sadosky, 1999; Sharma and Vredenburg, 1998; Winn and Angell, 2000).

This approach has not been without its critics and, in recent years, some authors have proposed a multidimensional view of environmental proactivity (Aragón-Correa, 1998a; Cramer, 1998; González and González, 2005a, b). These researchers argue that a firm's response to environmental pressures cannot be classified on a linear scale because there is a great variety of initiatives that represent different manifestations of environmental behavior. Aragón-Correa (1998a) obtained three different dimensions in firms' environmental practices: the traditional technologies aimed at responding to legal requirements; the modern and voluntarily technologies and initiatives that prevent pollution; and the implementation of training and information programs for employees. Bansal and Roth (2000) showed that there are different motivations for embracing environmental aspects in firms' strategies and each motivation will lead to the adoption of a different portfolio of environmental initiatives. González and González (2005a, b) considered different categories of environmental practices that may be implemented, responding to ethical, competitive and relational pressures. These authors went further and found that different portfolios of environmental practices can lead to different improvements in firms' organizational results.

Following the multidimensional approach to environmental proactivity, Banerjee (2001) proposed a framework by which the integration of environmental issues in different organizational areas is analyzed. Companies face a great variety of strategic options when dealing with environmental issues and these aspects may be integrated at different

strategic levels depending on managerial perceptions of environmental risks and market opportunities. Therefore, while firms' attitude toward the environment can range from reactive to proactive positions, the main levels where this attitude is materialized are enterprise strategy, corporate strategy, business strategy, and functional strategy. Later Banerjee (2002) and Banerjee et al. (2003) empirically tested this proposal and found that firms' ecological behavior can be manifested through two dimensions that reflected, on the one hand, the degree of acceptance of ecological ideals within the firm's culture (environmental orientation) and, on the other hand, to what extent environmental issues are implemented into the strategic planning process (environmental strategy).

Focusing on the strategic dimension, environmental marketing plays a crucial role for firms aiming to reduce the negative environmental and social impacts coming from existing products and production systems (Peattie, 2001). Currently, environmental marketing is not seen as an isolated single strategy to sell green products targeted at consumers that are more sensitive to environmental ideals. Environmental marketing is employed as a business philosophy that expresses to what extent corporate commitment to environmental protection is beyond a mere communication strategy (Chamorro and Bañegil, 2007). Thus, environmental orientation and environmental marketing are closely linked concepts since they involve integrating ecological values and ideals into the firm's internal culture and translating this commitment into specific strategies at the communicational and operational levels.

#### *Environmental orientation*

Environmental orientation reflects the firm's responsibility toward the natural environment and its acknowledgment of the need to reduce the environmental impact of the firm's productive activities (Banerjee, 2002). This integration of green values into the firm's culture responds to a change in the traditional marketing orientation that requires firms to widen their marketing scope and include the protection of the social stakeholders and the natural environment among its marketing objectives (Miles and Munilla, 1993).

Menguc and Ozanne (2005) considered that firms' orientation to the natural environment linked

internal strategic resources, like corporate social responsibility, entrepreneurial attitude, and environmental commitment. Firms adopting this orientation must acknowledge the importance that environmental protection has for their economic interests so that environmental issues become implemented into the strategic planning process.

Banerjee (2002) empirically obtained that environmental orientation was a two-dimensional construct that reflected the firm's attitude toward the environment. The first, internal environmental orientation focuses on the firm's internal values, its ethics and, its commitment to ecological ideals. At this level, environmental orientation means that the adoption of ecological values must be manifested in the ethical behavior of all the departments, areas and strategic levels. Therefore, firms with an internal environmental orientation consider environmental objectives as inherent to their economic goals (Shrivastava, 1995). Consequently, this dimension involves decisions related to the generation and dissemination of environmental information like the publication of periodical reports, the appointment of environmental managers, and the implementation of formation projects for the firm's employees (Stone and Wakefield, 2000; Stone et al., 2004).

The second dimension, titled external orientation, reflects the need to satisfy the demands of environmental external stakeholders. It involves balancing environmental protection with the demands of other financial stakeholders in order to guarantee the economic health of the organization (Banerjee et al., 2003). Kotler (1982) considered the environment as a factor of the firm's external macro-environment, arguing that management actions should not be limited to merely interpreting external needs, but should adopt a new philosophy that promotes policies aimed at environmental protection, both in the internal and external settings of the company.

In summary, environmental orientation reflects the degree of integration of environmental values within the firm's culture. This integration can be manifested internally, through the acceptance of environmental protection as a corporate objective that must be understood and shared among all the organizational areas, and externally, by balancing the firm's economic interests with the demands of important environmental stakeholders whose decisions may determine the company's competitiveness.

#### *Environmental marketing*

Environmental issues have modified the way businesses compete in the marketplace, forcing them to adapt their strategic planning process to new legal, social, and economic requirements. The consideration of the ecology as a relevant variable for the achievement of the economic goals of the organization has led to the appearance of the concept of environmental marketing (Calomarde, 2000). The objective of this new vision of marketing is to satisfy the firm's and the consumer's needs in such a way that the external impact of their economic activity is minimized. In other words, the final aim of environmental marketing is to attain coherence between the general objectives of marketing as a discipline and the objectives of the natural system as an element of firm's environment (Coddington, 1993; Fuller, 1999; Peattie, 1995; Polonsky, 1995).

The evolution of the marketing function and a greater social awareness with respect to these issues have given the concept of environmental marketing a more global perspective in relation to the firm's economic activity. Some authors have considered environmental marketing as a wider concept whose responsibility to the environment is not confined to marketing green products, but also demands a reorientation of the environmental responsibility in all the areas, activities, and departments of the organization. These concepts stem from the fact that environmental marketing embraces a vast array of activities such as modifying products, changing the production process, adopting new technologies, or using green arguments in the communication policy (Polonsky, 1995). Coddington (1993, p. 1) considered environmental marketing as "marketing activities that recognize environmental stewardship as a business development responsibility and a business growth opportunity."

Thus, the scope of this concept goes beyond the launch and promotion of environmental products, since the response of marketing to the customers' environmental interests requires a commitment from the whole culture of the firm. As Peattie (1995, p. 28) indicated, "environmental marketing is the holistic management process responsible for identifying, anticipating and satisfying the requirements of customers and society, in a profitable and sustainable way." Since the sporadic use of "green" arguments in communication may lead to confusion,

environmental marketing has to be firmly supported by a transformation of the firm's management (Coddington, 1993; Hutchinson and Hutchinson, 1997). Otherwise, these strategies might be perceived by the market as opportunistic, negatively affecting the organization's reputation.

Fuller (1999, p. 4) broadened the scope of the environmental marketing concept introducing the term sustainable marketing as a new business philosophy defined as: "A process of planning, implementation and development control, price policy, promotion and distribution of a series of products, in a way that the following three criteria are met: satisfying the consumers' needs; achieving the firm's aims; making this process compatible with ecosystems."

In summary, in spite of the fact that the literature has employed different terms, like green marketing, ecological marketing, or sustainable marketing, when referring to environmental marketing, it can be defined as a business philosophy which aims to:

- Satisfy consumers' needs for environmentally friendly products and services and to adapt the firm's behavior to the social and environmental values and ideals that prevail in today's societies.
- Meet the firm's economic objectives, making companies realize that reaching this aim is not incompatible with the achievement of environmental objectives.
- Achieve these objectives provoking the minimum environmental damage.

Thus, to develop and implement an environmental marketing strategy, firms must integrate ecological issues into their marketing mix (Rivera, 2007). This transformation process should be supported by the integration of green ideals into the organization's whole culture.

#### *The relation between environmental orientation and environmental marketing*

Following Banerjee et al. (2003), organizational learning about environmental issues implies the generation and dissemination of environmental information and knowledge that can be shared between the different departments. The implementation of ecological values within a firm's culture means that firms must find a new way to manage

their relations with the natural environment and the stakeholders who demand a shift in company's environmental behavior. Consequently, truly environmentally oriented firms hire or appoint managers that have specific training in environmental management (Aragón-Correa et al., 2004). These managers are continuously searching for information about the best environmental practices in the industry and they may contribute to the marketing function by developing green strategies that are normally the responsibility of the marketing area. Therefore, the integration of ecological values and ideals into the firm's culture may affect the development of green strategies at the marketing level.

For example, the implementation of environmental management systems may positively affect the development of voluntary environmental marketing strategies such as product and packaging eco-design activities, the implementation of environmentally friendly distribution systems, or the integration of green messages into the firm's advertising (Sroufe, 2003). In line with these arguments, some authors have demonstrated that the acceptance of environmental values and norms within business' culture directly determines the nature and scope of the environmental marketing strategy (Kärna et al., 2003; Langerak et al., 1998). This discussion leads to the following hypothesis:

*H1: A firm's environmental orientation will positively influence the development of environmental marketing.*

#### *The effect of environmental marketing and orientation on the firm's organizational performance*

One of the most controversial debates about the consequences of environmental strategies has been to ascertain whether there really are competitive advantages and opportunities associated with these practices. Many authors have analyzed the effect of environmental proactivity on organizational performance and the results indicate that the empirical research has not been conclusive and that researchers' opinions are not unanimous.

The works that sustain that environmental management negatively affects the firm's competitiveness

are based on the idea that environmental initiatives require large initial outlays that may be an obstacle to achieving a return on that investment (Walley and Whitehead, 1994). Developing voluntary initiatives that go beyond regulations may be costly for firms when the environmental externalities may be solved by adopting a reactive attitude that requires acting only when the firm's economic health is affected. Some empirical evidence shows a neutral or negative relation between environmental performance and economic results (Filbeck and Gorman, 2004; Jaggi and Freedman, 1992; Hassel et al., 2005; Lorraine et al., 2004), and other authors have criticized environmental management literature, accusing it of using an evangelic language that relies on the idea that organizational eco-change is a voluntarily decision instead of being a consequence of state stricter regulation (Newton and Harte, 1997).

However, in recent years, an increasing number of investigations have shown that environmental management can contribute to maximizing the firms' profitability (Chen et al., 2006; Christmann, 2000; Klassen and McLaughlin, 1996; Menguc and Ozanne, 2005; Russo and Fouts, 1997). Most of this recent literature has analyzed the effect of different environmental practices, actions, and technologies on the firm's performance instead of using its environmental performance as a proxy variable that reflects its ethical behavior toward the environment. Hart (1995) proposed a new orientation of the resource-based view of firms, considering ecology as a source of competitive advantage. This author affirmed that integrating environmental constraints into an organization's management processes will allow them to build resources and capabilities that can improve their competitiveness. Other authors have adopted this theory in their empirical research and have found that environmental management leads firms to develop distinctive resources like technology, human capital and other intangible assets (Klassen and Whybark, 1999; Russo and Fouts, 1997; Sharma and Vredenburg, 1998). Other authors have considered that environmental strategies and technologies may help firms to obtain costs and differentiation advantages and that these are not incompatible (Christmann, 2000; Shrivastava, 1995). Sharma and Vredenburg (1998) found that proactive firms obtained better organizational results, and not only in their economic performance. They also

found that sustainable strategies allow firms to satisfy their employees, to improve their market reputation and to optimize their relations with the community and their customers.

This article is based on the idea that environmental orientation and environmental marketing will positively affect different dimensions of organizational performance. Most previous literature has employed economic, financial, or stock market measures to study the effect of environmental strategies on organizational performance. This study, following the suggestions of González and González (2005b), considers that the different manifestations of environmental proactivity will generate different performance improvements. In particular, some empirical evidence and theoretical models pointed out that better economic result could be generated through the prior improvement of two differentiated dimensions of organizational performance, "operational and commercial performance" (Menon and Menon, 1997; Miles and Covin, 2000; González and González, 2005b).

The concept of organizational performance involves all the additional indicators that complete traditional economic and financial measures in order to improve and complete the conceptualization of the company's overall performance (Mann and Kehoe, 1994). Within this context, operational performance refers to all those indicators that cover aspects related to the improvement of the processes' efficiency. For instance, the product quality, processes' time and flexibility, or the firm's innovation capacity are aspects that contribute to improve its operational performance (Venkatraman and Ramanujam, 1986; Zhang, 2000). Therefore, this dimension of organizational performance reflects the effectiveness of the production and operations systems in terms of costs, quality, flexibility, speed, etc. (González and González, 2005b). Organizational performance also must take into account other performance measures that refer to the firm's capacity to manage and improve its relationships with the society, customers, suppliers, or the local community (Kotler, 1994). Consequently, the company's commercial performance refers to the effectiveness of the commercial function. In other words, it assesses the firm's ability to meet the clients' demands and, given the nature of environmental marketing, to align the firm's behavior and

commercial offer to the society's environmental values (Menon et al., 1999). Finally, economic and financial performance includes the monetary consequences of business' economic activity. Economic performance is the most traditional and frequently considered dimension of organizational performance and may include indicators based on accounting information, on market share or sales' growth, or on market value or stock prices (Menguc and Ozanne, 2005; Russo and Fouts, 1997). This study adopts a multidimensional approach of organizational performance, suggesting that environmental proactive marketing: may have important positive consequences for its processes that will contribute to increase the operational efficiency; that will contribute to improve the relationships with customers and other external stakeholders by adopting a responsible attitude toward the environment; and that such operational and commercial benefits will allow firms to improve their economic results.

In this study, we seek to identify two types of improvements derived from the application of environmental strategies that contribute to increasing the firm's benefits. On the one hand, environmental marketing can positively influence the organization's operational and commercial results. On the other, environmental orientation may positively affect commercial performance.

#### *Environmental orientation and marketing and operational performance*

Since pollution can be considered a result of inefficient processes (Kleiner, 1991; Porter and van der Linde, 1995), environmental marketing strategies require transformations of the managerial, productive, and commercial systems that will allow firms not only to reduce their externalities, but also to: optimize the productivity of their resources; reduce costs; and increase product quality and process flexibility (Hammer and Champy, 1993; Stalk and Hout, 1990). For example, practices related to eco-design, the substitution of contaminating materials, or the implementation of prevention technologies contribute to optimizing the efficient use of resources because these practices involve the use of fewer, cheaper, and cleaner raw materials and the recuperation and recycling of outputs derived from the production operations (Ashford, 1993; Florida, 1996; Hart, 1995). Moreover, as Henn and Fava

(1994) argue, total product quality is not possible if the design of products and processes does not take ecological issues into account. Thus, firms' contribution to environmental problems is a dimension of quality faults that can be reduced by implementing environmentally proactive strategies (Aragón-Correa, 1998b). In addition, environmental practices at the operational levels may improve the productivity of the resources because the lower the volume of waste, the lower the cost of the raw materials and the management of the waste, which positively affects the quality of the final product (Hart, 1995). In addition, environmental strategies and technologies aimed at preventing pollution can help to reduce other costs related to the reduction of production cycles by eliminating inefficient processes and procedures (Stalk and Hout, 1990; Hammer and Champy, 1993) and the exemption of taxes derived from failure to comply with environmental regulations (Rooney, 1993). Nevertheless, environmental orientation does not directly require the transformation of the operational processes since it reflects the degree of acceptance of environmental values within the firm's culture (González and González, 2005a). Thus, environmental orientation will not influence operational performance because environmental orientation only implies organizational changes which contribute to reduce pollutant emissions, and to improve operation's efficiency, is reduced. In consequence, we propose that environmental marketing activities will favorably influence operational results and that this performance will positively affect economic performance:

- H2: The development of environmental marketing will positively influence the firm's operational performance.
- H3: The firm's operational performance will positively influence its economic performance.

#### *Environmental orientation and marketing and commercial performance*

The design, production, and commercialization of environmentally friendly goods and services may generate important commercial advantages for proactive firms. Some authors have analyzed the less tangible consequences of adopting advanced environmental initiatives (Chen, 2007; Hamilton, 1995; Waddock and Graves, 1997), finding that cleaner

strategies can improve firms' market reputation and external image (Miles and Covin, 2000). Moreover, targeting green consumers can lead firms to maximize their profits since environmental marketing strategies may directly influence customers' satisfaction and loyalty (Crane, 2000; Menon et al., 1999).

The benefits that environmental strategies are able to generate have their origin in: an improvement of the firm's image and reputation; the higher satisfaction of the company's employees; an improvement in relations with the authorities; and even, in the higher satisfaction and loyalty of customers (Menon and Menon, 1997; Menon et al., 1999).

As regards the firm's image and reputation, organizations that develop greener strategies will be more able to transmit their environmental concern not only to society and consumers but also to other internal and external environmentally conscious stakeholders, all of which will positively affect their image. Hosmer (1994) verifies that including ethical principles in strategic decision-making processes can lead the firm to gain its stakeholders' confidence and commitment, thus generating a shift in consumption and investment patterns of relevant pressure groups. Therefore, environmental marketing proves to be a source of advantage in terms of competitiveness, finance, image, and reputation. Consequently, if the firm is environmentally oriented, its reputation will be reinforced since this will affect how consumers perceive its credibility, reliability, responsibility, and honesty (Miles and Covin, 2000).

Marshall and Mayer (1992) state that being labeled as environmental or responsible with the environment can generate potential benefits for a firm. More exactly, the projection of an environmental image produces a better and more positive public image that increases the firm's sales and opens new markets of hidden capital. Consumer loyalty and satisfaction can also be strengthened through the application of environmental marketing programs that transmit the ethical behavior of the organization's environmental orientation. Many firms, in an attempt to connect with consumers, have already started to establish associations of their brands with certain environmental causes through sponsorship programs and supporting non-profit organizations (Menon et al., 1999). Furthermore, an environmentally responsible image can strengthen consumer perception of the quality of the product (Lozada, 1999).

Orientating business toward environmental protection may help firms to build an external image that communicates its effort to protect natural resources. Actions like creating an internal climate of cooperation where employees understand and share environmental values and satisfying environmental stakeholders' needs will contribute to improving the firm's reputation and gaining the loyalty of their customers. Thus, this strategy may directly affect commercial results. In view of this, the following hypotheses are formulated:

- H4: The development of environmental marketing will positively influence the firm's commercial performance.
- H5: The firm's environmental orientation will positively influence its commercial performance.
- H6: The firm's commercial performance will positively influence its economic performance.

This study has summarized the literature on environmental marketing and orientation and firms' organizational performance. Although many authors have employed a progressive approach to measure environmental proactivity, we consider that multi-dimensional frameworks fit better with the firms' reality because there are many different areas where environmental behavior can be manifested. Moreover, because there is no single path for environmental proactivity, the consequences of implementing environmental strategies may be diverse. We are going to focus on the analysis of the consequences of implementing an environmental marketing philosophy on different dimensions of organizational results like operational and commercial performance. The improvement of these results, derived from the application of environmental marketing and orientation activities, will lead firms to obtain better economic results. The research framework and hypotheses proposed are shown in Figure 1.

## Methodology

### Data

To test the proposed hypotheses, we carried out a multi-industry market research within the Spanish



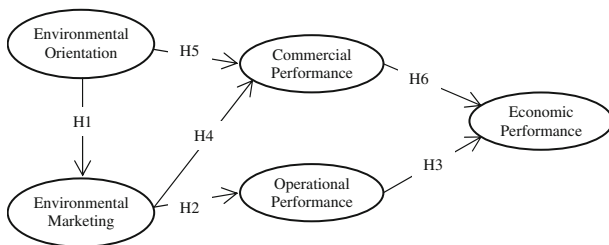


Figure 1. Research framework.

industrial context. From the data-base SABI-AMADEUS,<sup>1</sup> we selected the firms that comprised the target population of the study, establishing two selection criteria. First, the target entries had to have at least 150 employees in the last year. This condition was imposed because firm size is expected to have a positive influence on the firms' environmental behavior (Arora and Cason, 1996; King and Lenox, 2001). Second, the firms' economic activity had to be based on a production process, so service companies and primary industries were not included in the final population. This condition was imposed because industrial firms are considered highly polluting and, thus, face more social and legislative pressures to develop sustainable practices. The selection of the target population is consistent with other studies that have analyzed topics related to environmental strategies (Banerjee et al., 2003; González and González, 2005a, b; Menguc and Ozanne, 2005). The selected population included 2098 firms belonging to the following industries: food, textile, wood and paper, chemical and plastics, metallurgy, electronic and electric equipment, vehicle manufacturing, and utilities.

The data collection was carried out through a postal survey that was sent to each company's environmental manager. If the company did not have a specific environmental manager, we asked that the survey be completed by the marketing manager or by the executive most familiar with the topic. With the purpose of improving the response rate, we also designed a web-site where the survey was displayed, giving the respondent more flexibility and time to answer the questionnaire. Moreover, the postal and the on-line surveys were carefully designed in such a way that it could be brief for the respondent and at the same time all the items required were included on them. Additionally, we

granted the managers the possibility of receiving a report with the main findings of the study and we guaranteed the confidentiality of the data provided. Of the managers who responded 71.9%, asked for this report. In both cases, postal and on-line, the survey was accompanied by a presentation letter where the main objectives of the study were explained. We finally received a total of 361 valid questionnaires, which means a response rate of 17.20% and is similar to other studies within this research field (Chen, 2007; Chen et al., 2006; Baker and Sinkula, 2005; Banerjee et al., 2003; Menguc and Ozanne, 2005).

To check the possible existence of such non-response bias, the procedure suggested by Armstrong and Overton (1977) was followed. We divided the sample into two groups, differentiating between early and late respondents. *T*-tests revealed no significant differences between early and late respondents for any item employed in the study, so the non-response bias does not seem to be a problem in this study.

Additionally, we established a comparison between organizational characteristics in the population and the obtained sample. Attending to firms' size (measured as number of employees and as total income) and industrial sector, we found no significant differences between the structure, in percentage terms, of the sample and the population, with the highest deviation not greater than 7% (Table I). No significant differences were found analyzing geographic location either.

Regarding the sample's characteristics, as Table I displays, the greatest industrial sector is chemical and plastics industry (16.7%) followed by food and beverages (16.2%) and metallurgic industry (11.7%). Also, wood and paper industry (10%), electronics (10.3%), vehicles manufacturing (10.3%), and non-mineral products sectors (9.2%) have an important presence in the sample. Moreover, almost 50% of the sample's companies have between 150 and 300 employees, while 21.1% have between 300 and 500 and 29% have more than 500 workers.

### Measures

A literature review was undertaken to select the most appropriate measures for each variable used in

TABLE I  
Sample's characteristics

	Sample (%)	Population (%)
<i>Industrial sector</i>		
Food and beverages	16.2	16.5
Textile	3.1	5.5
Wood and paper	10	11.9
Chemical and plastics	16.7	17.2
Metallurgy	11.7	12.3
Machinery industry	7.2	5.8
Electronic industry	10.3	7.8
Vehicles manufacturing	10.3	9.9
Non-Mineral products	9.2	8.3
Utilities	3.9	4.2
Others	1.4	0.6
<i>Number of employees</i>		
Between 150 and 300	49.9	56.1
Between 301 and 500	21.1	20.8
More than 500	29	23.1

the model. Environmental orientation was measured using the scale proposed by Banerjee (2002) and later empirically tested by Banerjee et al. (2003). This scale presented 11 items where managers were asked to score whether they agreed with different propositions (5 point Likert scale: 1 = strongly disagree; 5 = strongly agree).

Given the lack of previous empirical literature that has analyzed environmental marketing strategies from the firms' point of view, we decided to develop a valid measure applying earlier qualitative research toward a new marketing construct. We made an in-depth review of the environmental marketing literature analyzing papers that involved themes like the environmental marketing mix (product, price, distribution, and communications), the scope of the environmental marketing strategy, and the evolution of the construct. Then we proposed an initial selection of items that was validated using the qualitative approach through in-depth personal interviews with seven marketing and environmental managers of important large companies in the manufacturing sector. Expert researchers in marketing and in environmental management also evaluated the different indicators that comprised the environmental marketing construct. The proposed final scale collected 14 items, where managers scored

the intensity with which these activities were developed in their firms (5 point Likert scale: 1 = null intensity; 5 = high intensity).

In order to identify the dimensions or strategies underlying the environmental orientation and environmental marketing scales, we carried out a principal component analysis. Table II shows the structure matrix of these constructs after carrying out a varimax orthogonal rotation. Despite the findings by Banerjee (2002) and Banerjee et al. (2003), we considered important to explore the structure of such constructs considering all the items jointly in the exploratory factor analysis because the sample differs from those studies. Results demonstrate that two factors emerge from the environmental orientation scale that explain 76.72% of the variance, confirming the results obtained by Banerjee (2002) and Banerjee et al. (2003). The first refers to the firm's desire to make environmental values a corporate goal and to the effort made for promoting these ideals across all the departments. This factor receives the name of *internal environmental orientation*. The second factor involves managerial perceptions about the dependence of the firm's economic health on environmental protection. Thus, this factor expresses the degree to which environmental objectives and stakeholders' objectives are complementary and not rival interests. This factor receives the name of *external environmental orientation*.

Regarding the environmental marketing scale, as can be observed in Table II, the results of the factor analysis indicated that these items loaded into two factors that explain 68.33% of the variance. The first factor captures practices that involve eco-design, the use of cleaner or recycled materials in packaging and products and green logistics. Activities pertaining to this dimension require big investments and time to develop environmentally efficient products that contribute to reducing contaminating emissions. Thus, this factor has been called *strategic environmental marketing*. The second dimension refers to practices like green advertising, the launch of green product lines, the use of eco-labels, or the sponsorship of environmental groups and events. This construct does not contribute to reducing the firm's environmental impact but it may help to build an external environmental reputation. Thus, this construct receives the name of *tactical environmental marketing*.

TABLE II

Mean, standard deviation, and factor loadings of the environmental orientation and environmental marketing scales

Items	Mean (SD)	Factor 1: Internal environmental orientation	Factor 2: External environmental orientation
<i>Environmental orientation (EO)</i>			
EO1. Environmental issues are very relevant to the major function of our firm	3.48 (1.03)	<b>0.755</b>	0.316
EO2. At our firm, we make a concerted effort to make every employee understand the importance of environmental preservation	3.76 (0.99)	<b>0.830</b>	0.231
EO3. We try to promote environmental preservation as a major goal across all departments	3.57 (1.023)	<b>0.857</b>	0.248
EO4. Our firm has a clear policy statement urging environmental awareness in every area of operations	3.76 (1.07)	<b>0.853</b>	0.210
EO5. Environmental preservation is a high priority activity in our firm	3.45 (1.07)	<b>0.830</b>	0.353
EO6. Preserving the environment is a central corporate value in our firm	3.57 (1.06)	<b>0.785</b>	0.297
EO7. The natural environment currently affects our firm's business activity	3.41 (1.30)	0.291	<b>0.843</b>
EO8. The financial well being of our firm depends on the state of the natural environment	2.73 (1.34)	0.196	<b>0.896</b>
EO9. In our firm, environmental preservation is largely an issue of maintaining a good public image	3.53 (1.02)	0.308	<b>0.502</b>
EO10. Environmental preservation is vital to our firm's survival	3.00 (1.43)	0.287	<b>0.861</b>
EO11. Our firm strives for an image of environmental responsibility	3.73 (1.29)	0.543	<b>0.648</b>
Total explained variance: 76,72%.			
Items	Mean (SD)	Factor 1: Strategic environmental marketing	Factor 2: Tactical environmental marketing
<i>Environmental marketing (EM)</i>			
EM1. Use environmental considerations in product design	3.20 (1.32)	<b>0.784</b>	0.235
EM2. Use ecological and clean materials in packaging	3.33 (1.23)	<b>0.836</b>	0.181
EM3. Develop market research to detect green needs in the markets	2.55 (1.14)	0.314	<b>0.696</b>
EM4. Launch of green positioned brands onto the market	2.51 (1.21)	0.334	<b>0.702</b>
EM5. Use of recycled or re-usable containers in logistics	3.59 (1.25)	<b>0.819</b>	0.107
EM6. Use of recycled or re-usable materials in our products	3.34 (1.30)	<b>0.818</b>	0.189

TABLE II  
continued

Items	Mean (SD)	Factor 1: Strategic environmental marketing	Factor 2: Tactical environmental marketing
EM7. Use environmental considerations in distribution and reverse logistics systems	2.92 (1.16)	<b>0.759</b>	0.294
EM8. Selection of cleaner transportation systems	2.74 (1.20)	0.356	<b>0.675</b>
EM9. Provision of information about environmental management to consumers and institutions	2.97 (1.24)	0.215	<b>0.734</b>
EM10. Green alliances or collaboration agreements with governmental agencies	2.47 (1.21)	0.164	<b>0.780</b>
EM11. Employ green arguments in advertising and promotions	2.88 (1.21)	0.104	<b>0.779</b>
EM12. Use eco-labels or environmental certification	2.50 (1.37)	0.101	<b>0.770</b>
EM13. Sponsorship or patronage of environmental groups or events	2.40 (1.25)	0.119	<b>0.830</b>
EM14. Consider environmental aspects within price policy	2.55 (1.13)	0.203	<b>0.781</b>
Total explained variance: 68.33%			

To measure operational, commercial, and economic performance, we developed scales on the basis of the information obtained in the qualitative research and by adapting some scales used in previous research (González and González, 2005b; Morgan et al., 2004; Sharma and Vredenburg, 1998). In this case, each manager was asked to score the relative position of his company according to different measures of organizational performance (5 point Likert scale: 1 = with respect to our competitors, our position is much worse; 5 = with respect to our competitors, our position is much better). Operational performance was measured using items that involve the competitive objectives employed by Slack et al. (1998) and González and González (2005b). Managers scored their firms' situation regarding: final production costs, production quality, innovation capacity, pace of new product launching, and cost efficiency. As Table III shows, factor analysis indicated that operational performance loaded into two different dimensions. The first refers to the cost position of the firm so that has been labeled *cost performance*. The second refers to alternative indicators like product quality, inno-

vation capacity, and pace of new product launching and has been named *process performance*. The two factors explain 80.33% of the variance.

Regarding commercial performance, we selected a sample of items that involved marketing objectives like corporate reputation, the alignment of the company's offer to market expectations, the successful launching of new products, the corporate and brand image, and the satisfaction and loyalty of the customers. As can be observed in Table IV, these indicators loaded into a single factor that explained 56.45% of the variance. To measure economic performance, a similar procedure was followed. In this case, the items indicate the relative position of the firm according to its profitability, sales growth, economic results, profit before tax and market share. Table IV shows that these items loaded into a single factor that explained 69.81% of the variance.

To test the proposed hypotheses, a structural equation modeling was performed. This technique presents certain advantages and is widely employed by researchers in the area of business management. In the next section, the validation of the scales is explained with the purpose of obtaining the final

TABLE III  
Mean, standard deviation, and factor loadings of the operational performance scale

Items	Mean (SD)	Factor 1: Costs performance	Factor 2: Process performance
<i>Operational performance (OP)</i>			
OP1. Final production costs	3.21 (0.949)	<b>0.917</b>	0.130
OP2. Product quality	3.86 (0.929)	0.159	<b>0.819</b>
OP3. Innovation capacity in new product development	3.60 (0.990)	0.134	<b>0.904</b>
OP4. Pace of new product launching and range of products in catalogue	3.41 (1.00)	0.147	<b>0.869</b>
OP5. Costs efficiency	3.28 (0.902)	<b>0.904</b>	0.181
Total explained variance: 80.33%			

TABLE IV  
Mean, standard deviation, and factor loadings of the commercial performance and economic performance scales

Items	Mean (SD)	Factor
<i>Commercial performance (CMP)</i>		
CP1. Corporate reputation	3.99 (0.767)	0.749
CP2. Alignment between company's offer and market expectations	3.84 (0.749)	0.715
CP3. Successful launching of new products onto the markets	3.52 (0.792)	0.714
CP4. Corporate and brand image	3.90 (0.807)	0.820
CP5. Customer loyalty	3.79 (0.805)	0.740
CP6. Customer satisfaction	3.88 (0.665)	0.754
Total explained variance: 56.45%		
<i>Economic performance (EP)</i>		
EP1. Firm's profitability	3.62 (0.801)	0.853
EP2. Sales growth	3.55 (0.829)	0.813
EP3. Firm's economic results	3.59 (0.802)	0.927
EP4. Profit before tax	3.47 (0.789)	0.874
EP5. Market share	3.58 (0.806)	0.691
Total explained variance: 69.81%		

structural model that will be analyzed in the fifth section.

**Validation of the scales**

In order to validate the different measurement scales employed in the model, we carried out several

exploratory and confirmatory analyses using the softwares SPSS 14.0 and EQS 6.1. In this section, we carried out the analyses required to guarantee the reliability and the validity of the scales.

The validation analysis process started with the evaluation of the items of the model through exploratory techniques in order to assess the reliability and dimensionality of the scales. The information in Table IV shows that Cronbach's alpha for all the scales exceeded the critical limit of 70% (Nunnally, 1978; Peter, 1979), which guarantees their consistency. Furthermore, the item-to-total correlation analysis indicated that, in all cases, the value of 0.5 and, thus, the minimum of 0.3 (Nurosis, 1993), was exceeded. During this stage, only item EO9 was deleted in order to increase the internal consistency of the external environmental orientation scale.

The next stage in the analysis was a confirmatory factor analysis following the recommendations of Jöreskog and Sörbom (1993). These authors considered that, in order to improve the characteristics of the measurement model, the items that did not meet the following requirements had to be eliminated. (1) Items that were not significant ( $t < 2.58$ ,  $p = 0.01$ ). (2) Items that presented non-significant factor loadings ( $\lambda < 0.5$ ). (3) Indicators that had no strong lineal relationship ( $R^2 < 0.5$ ). These instructions recommended the elimination of item EP5 since its  $R^2$  was below 50%. Taking this model as a reference, the analysis of the definitive reliability of the scales was confirmed by the statistics reported in Table V and is satisfactory because all the coefficients

exceed the established critical parameters. The scales also present a global validity because all the items present factor loadings above 50% (convergent validity) and the value 1 was not found in the confidence intervals of the correlations estimated for each pair of dimensions (discriminant validity) (Appendix). Moreover, the goodness of fit is at an acceptable level (Hair et al., 1998): the comparative fit index (CFI), the incremental fit index (IFI), and the non-normed fit index (NNFI) exceed the critical value of 0.90, while the RMSEA is less than 0.08.

To examine the dimensionality of environmental orientation in more detail, we established and tested two measurement models (one- and two-dimensional) using confirmatory factor analysis. After comparing them using the Satorra-Bentler  $\chi^2$  difference tests and other values of fit (e.g., NFI, NNFI, CFI, IFI, and RMSEA) and analyzing the psychometric properties in each case, results suggested that a two-dimensional model was the best one.

After accepting the measurement model through confirmatory factor analyses, and using the final reliability and validity of the scales, a structural modeling analysis will be carried out to test the hypotheses proposed in the model.

## Results analysis

The next step consisted in testing the structural model applying structural equation modeling analysis with the software EQS 6.1. This technique presents certain strengths compared to other methodologies because it employs an integral function, whereas other techniques, like regression analysis or path analysis, are specific cases within this general approach. So, structural equation modeling is an efficient statistical technique that allows researchers to analyze different simultaneous relations between variables.

For this procedure, the dimensions obtained in the factor analyses, validated during the exploratory and confirmatory stages, were used as input variables in the structural model. This model proposed: first, that environmental orientation (internal and external environmental orientation) positively affected environmental marketing (strategic environmental marketing and tactical environmental marketing);

second, that environmental marketing and environmental orientation positively affected commercial results; third, that environmental marketing positively affected operational performance (costs and process performance); and fourth, that commercial and operational performance led to higher economic performance. Table VI reports the results of the structural model outlined in Figure 2. It contains the standardized regression coefficients, their t-value and the goodness of fit of the causal model.

Hypothesis 1, which proposed a positive relation between environmental orientation and environmental marketing, is partially supported. The relationship between internal environmental orientation and the two dimensions of environmental marketing is positive and significant (H1a and H1b). Nevertheless, this relationship is not significant for the link between external environmental orientation and the implementation of environmental marketing activities (H1c and H1d). These results suggest that the acceptance of environmental values within a firm's culture may facilitate the implementation of environmental marketing strategies at the operational and communicational levels. However, the satisfaction of environmental stakeholders' needs do not imply that firms will develop more environmental marketing strategies.

Hypothesis 2, which postulated a positive effect of environmental marketing on operational performance, is accepted because tactical and strategic environmental marketing positively influenced costs performance and process performance (H2a, H2b, H2c, and H2d). Thus, these results contradict the arguments that defend that employing recycled materials or employing greener raw materials and energies are costly activities that, in consequence, negatively affect a firm's economic results. While these inputs may be more expensive, they contribute to optimizing the efficiency of the resources, reducing costs, and to improving the performance of the productive processes, increasing production quality or innovation capacity. Hypothesis 3 is only partially supported because only costs performance significantly affected economic performance (H3a), while there is no significant relation between process performance and economic results (H3b). This result suggests that operational benefits may not fully recover the investments required to incorporate

TABLE V  
Reliability, validity and goodness of fit of the measurement model

Strategic environmental marketing (SEM) Cronbach's $\alpha$ : 0.887					Costs performance (CP) Cronbach's $\alpha$ : 0.828				
	Lambda (t)	R <sup>2</sup>	CR	AVE		Lambda (t)	R <sup>2</sup>	CR	AVE
EM1	0.782 (17.06)	0.612	0.88	0.613	OP1	0.819 (16.01)	0.672	0.66	0.503
EM2	0.821 (18.33)	0.675			OP5	0.863 (16.91)	0.744		
EM5	0.760 (16.36)	0.578							
EM6	0.788 (17.23)	0.621							
EM7	0.762 (16.46)	0.581							
Tactical environmental marketing (TEM) Cronbach's $\alpha$ : 0.919					Process performance (PP) Cronbach's $\alpha$ : 0.850				
EM3	0.729 (15.68)	0.532	0.92	0.56	OP2	0.741 (16.58)	0.549	0.85	0.66
EM4	0.739 (15.98)	0.546			OP3	0.883 (19.84)	0.781		
EM8	0.723 (15.50)	0.523			OP4	0.816 (17.75)	0.666		
EM9	0.730 (15.70)	0.533							
EM10	0.767 (16.84)	0.588							
EM11	0.740 (16.01)	0.548							
EM12	0.716 (15.29)	0.512							
EM13	0.801 (17.97)	0.642							
EM14	0.784 (17.38)	0.614							
Internal environmental orientation (IEO) Cronbach's $\alpha$ : 0.933					Commercial performance (CMP) Cronbach's $\alpha$ : 0.907				
EO1	0.791 (17.74)	0.625	0.93	0.70	CP1	0.786 (17.38)	0.618	0.90	0.62
EO2	0.815 (18.57)	0.664			CP2	0.752 (16.31)	0.565		
EO3	0.868 (20.51)	0.753			CP3	0.771 (16.90)	0.594		
EO4	0.838 (19.38)	0.702			CP4	0.848 (19.52)	0.719		
EO5	0.899 (21.74)	0.808			CP5	0.760 (16.56)	0.578		
EO6	0.804 (19.81)	0.646			CP6	0.812 (18.24)	0.659		
External environmental orientation (EEO) Cronbach's $\alpha$ : 0.901					Economic performance (EP) Cronbach's $\alpha$ : 0.901				
EO7	0.844 (19.30)	0.712	0.90	0.71	EP1	0.813 (18.42)	0.661	0.90	0.71
EO8	0.853 (19.64)	0.728			EP2	0.734 (15.90)	0.539		
EO9	0.870 (20.26)	0.757			EP3	0.950 (23.66)	0.902		
EO10	0.780 (17.16)	0.609			EP4	0.858 (20.03)	0.736		

Fit indices  
S B  $\chi^2 = 1291.60$  (674),  $p < 0.001$ ; RMSEA = 0.057; CFI = 0.930; IFI = 0.930; NNFI = 0.923

Note 1: See Tables I–III to see items description.

Note 2: CR: Composite Reliability; AVE: Average Variance Extracted; S B  $\chi^2$ : Satorra-Bentler Scaled Chi-square; RMSEA: Root Mean Square Error of Approximation; CFI: Comparative Fit Index; IFI: Incremental Fit Index; NNFI: Non-normed Fit Index.

TABLE VI  
Data from the causal model: hypotheses verification

Hypotheses		Standardized $\beta$ (t)		Hypothesis verification
H1	H1a: IEO $\rightarrow$ SEM	0.540* (6.58)	Yes	Partially Supported
	H1b: IEO $\rightarrow$ TEM	0.473* (6.23)	Yes	
	H1c: EEO $\rightarrow$ SEM	-0.100 (-1.29)	No	
	H1d: EEO $\rightarrow$ TEM	0.139 (1.95)	No	
H2	H2a: SEM $\rightarrow$ CP	0.223* (3.53)	Yes	Supported
	H2b: SEM $\rightarrow$ PP	0.245* (4.03)	Yes	
	H2c: TEM $\rightarrow$ CP	0.190* (3.07)	Yes	
	H2d: TEM $\rightarrow$ PP	0.220* (3.68)	Yes	
H3	H3a: CP $\rightarrow$ EP	0.412* (7.16)	Yes	Partially Supported
	H3b: PP $\rightarrow$ EP	0.056 (1.13)	No	
H4	H4a: SEM $\rightarrow$ CMP	0.151** (2.40)	Yes	Supported
	H4b: TEM $\rightarrow$ CMP	0.247* (3.62)	Yes	
H5	H5a: IEO $\rightarrow$ CMP	0.177 (1.93)	No	Rejected
	H5b: EEO $\rightarrow$ CMP	-0.017 (-0.221)	No	
H6	H6: CMP $\rightarrow$ EP	0.459* (6.66)	Yes	Supported

Fit indices

S B  $\chi^2 = 1498.41$  (687),  $p < 0.001$ ; RMSEA = 0.054; CFI = 0.913; IFI = 0.913; NNFI = 0.906

Note 1: See Tables II–V to see factors description.

Note 2: \*Significant coefficient at 1%; \*\*Significant coefficient at 5%.

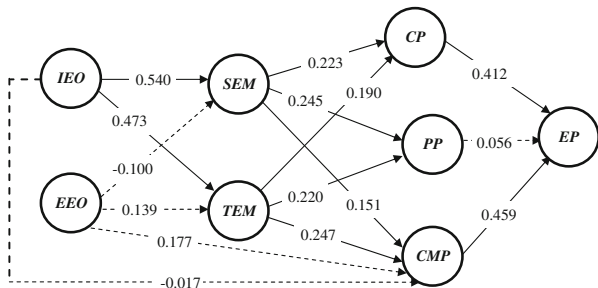


Figure 2. Structural model. Note 1: Those relationships that were not significant are drawn by broken-lines. Note 2: IEO = internal environmental orientation; EEO = external environmental orientation; SEM = strategic environmental marketing; TEM = tactical environmental marketing; CP = costs performance; PP = process performance; CMP = commercial performance; EP = economic performance.

these environmental practices and that reducing the environmental impact of processes may be the motivation that underlies this decision.

Hypothesis 4 was accepted because environmental marketing positively influenced commercial performance (H4a and H4b). Therefore, manufacturing and

commercializing environmentally friendly products would lead firms to satisfy customer segments that value this offer. In addition, these strategies not only affect the firm’s relations with its customers, they also help to improve its relations with non-profit organizations and governmental agents.

Hypothesis 5, which proposed a positive effect of environmental orientation on commercial performance, was rejected because the coefficients were not significant (H5a and H5b). Environmental commitment is not valued by the market if it is not materialized into specific strategies that customers and community stakeholders perceive as ethical behavior. Producing environmental reports, obtaining ISO and EMAS certification, and implementing training programs are decisions that are the consequence of adopting environmental values within the firm’s culture but they do not impress customers because they are generalized strategies within the industrial sector.

Moreover, hypothesis 6 was corroborated since commercial performance influenced economic performance (H6) which suggests that strategic and tactical environmental marketing are profitable strategies that contribute to maximizing a firm’s results.



In summary, the results reported in Table V confirm hypotheses 2 and 4, revealing the potential influence of environmental marketing for obtaining competitive advantages in costs and in product differentiation. Moreover, the improvement of the commercial and costs performance led to higher economic benefits, supporting hypothesis 6 and partially supporting hypothesis 3. It is important to note that, in this case, better process performance did not mean higher profits, suggesting that the potential benefits of some environmental initiatives do not always exceed the investments required to develop them. Hypothesis 5, that proposed a positive link between environmental orientation and commercial results was not accepted. Therefore, the internal acceptance of a compromise toward environmental protection in order to achieve a better market performance is not enough: it must be accompanied by effective and visible strategies at the operational and communicational levels. Figure 2 illustrates the structural model, showing the different causal relationships and the standardized coefficients.

### Conclusions and implications

The main purpose of this study has been to analyze whether environmental marketing and environmental orientation affect a firm's organizational performance. The paper has adopted a multidimensional view of the firm's environmental activities considering that different portfolios of environmental activities will drive firms to obtain different organizational results. In addition, we have considered that environmental marketing philosophy is a topic employed by researchers to explain a firm's ethical behavior in their relationships with the environment. A review of the literature reveals that this concept can be explained through two differentiated dimensions. The first, named environmental orientation, expresses to what degree firms have internalized the need for respecting and caring for natural resources. The second, called environmental marketing, expresses to what extent environmental values have affected the decisions of the firm's marketing mix. This research contributes to the brief literature on the environmental marketing philosophy by analyzing the effect of the firm's environmental orientation on its environmental marketing decisions. It develops

and validates a new scale to capture the different activities that make up the environmental marketing concept.

Environmental orientation implies the recognition of the firm's responsibility for protecting the natural environment. Firms that are aware of their social and environmental impact recognize that industries play an important role in the quest for a sustainable economic system. In consequence, nowadays, a great number of firms have adopted ecologist ideals into their philosophy, incorporating environmental protection as an additional corporate value that forms part of their social responsibility. The results obtained in this study agree with the findings of Banerjee et al. (2003) who found that two sub-themes arose from this concept. The first involves the integration of the environment as a corporate value that guides firms' ethical behavior. Common manifestations of internal environmental orientation include the definition of explicit policies or internal procedures about environmental protection, the elaboration of sustainability reports or environmental training for employees. Environmental orientation also reflects the need to satisfy external environmental stakeholders' needs in order to preserve the firm's economic health. This dimension implies dealing with all these environmental requirements in order to guarantee the quality of future environmental resources and to create a positive identity.

Another relevant result that emerges from this investigation is that the different activities covered by the concept of environmental marketing load into two different factors. The first involves a group of strategic variables that firms have the capability of modifying in the long or the medium term. These activities can improve the environmental performance of the company by reducing the emissions of pollutants or by employing alternative raw materials and that are ecologically friendlier. This dimension, called strategic environmental marketing, involves activities such as green product design, reverse logistics or the use of recycled materials and packages. The second dimension reflects tactical decisions which firms can handle in the shorter term. These activities cannot, by themselves, reduce the firm's environmental impact, but they are key variables in order to commercialize green products and to project a greener image to customers, the community, and other environmental stakeholders.

Tactical environmental marketing focuses on marketing actions like developing market research to detect green needs in markets, launching green positioned brands onto the market, establishing green alliances or collaboration agreements with governmental agencies, employing green arguments in advertising and promotions, or sponsoring and supporting environmental groups or events.

Results obtained are coherent with other authors' findings (Menon and Menon, 1997; Menon et al., 1999) that suggest that companies differentiate strategic, quasi-strategic, and tactical actions in their environmental marketing mix. While strategic actions required costly and complex modifications of the operational and productive processes, tactical decisions aimed to improve the firm's relations in the marketplace. This finding is also coherent with the papers by González and González (2005a, b) that found different dimensions of environmental proactivity. Products systems focused on reducing the environmental impact of products through eco-design, the use of alternative materials or by reducing the generation of waste. Communicational systems involved topics like the sponsoring of environmental events or the elaboration of periodic environmental reports. Although differentiated, both dimensions belong to the environmental marketing concept and firms must be aware that the development of tactical initiatives should be backed by a real transformation of the product and process systems. Otherwise, if there is no coherence between what the firm communicates and what it is really doing, it would fall into what Crane (2000) calls the "green backlash." This term describes the lack of consumer trust or credibility in firms that try to maximize their economic results by projecting a greener image but that have not really evolved in their environmental responsibility. The use of green arguments in communicational systems is not always attractive. As Davis (1993) affirms, the success of green positioning depends on certain market characteristics and on market intensity.

As was expected, results showed that firms incorporating environmental values and ideals into their orientation would be more likely to develop environmental marketing strategies. Environmental training programs or the definition of an explicit environmental policy may facilitate the generation and dissemination of environmental knowledge that can be employed for the development of environ-

mental marketing strategies. On the contrary, external environmental orientation did not determine environmental marketing decisions. External orientation focuses on topics like balancing economic and environmental objectives and it could be expressing a reactive attitude toward the environment. For example, if firms feel that their financial health is highly dependent on the environmental regulation, because fines and sanctions threaten their economy, they will react in order to preserve their reputation adopting initiatives to keep safe their legal legitimation (Bansal and Roth, 2000). Thus, these reactive actions may discourage the implementation of other proactive voluntary practices. These results do not agree with Banerjee et al. (2003) since these authors found that external environmental orientation involves balancing environmental management with stakeholders' environmental interests, and the influence of these groups is higher at the marketing level. Thus, it is necessary to develop additional research in order to analyze this result.

The link between corporate environmentalism and financial performance has been widely studied by previous research usually employing the firm's environmental performance (environmental awards, crises, or ratings provided by external agencies) as a proxy for measuring environmental strategies. Our paper has analyzed how different manifestations of a firm's environmental behavior affected different dimensions of organizational performance. We considered that environmental marketing positively affected commercial and operational results while environmental orientation only affected commercial performance. The improvement in this commercial performance resulted in better economic results. This study has adopted an approach based on self-reports in which managers had to indicate the relative position of their companies with respect to some organizational performance indicators.

Results of the tested model indicated that environmental marketing, at the strategic and tactical levels, positively influenced commercial and operational performance, suggesting that these actions allow firms to maximize their economic results. Strategies like eco-design, reverse logistics, the recuperation of waste, or the use of cleaner raw materials or recycled products may lead firms not only to reduce their costs, but also to improve their product quality, their innovation capacity, or the

pace of launching new products. Nevertheless, the results indicated that process performance was not translated into higher benefits. Environmental marketing may contribute to attain certain operational objectives, but this is not translated into higher profitability, which could mean that some environmental investments are difficult to offset, at least in the shorter term. This may be due to the fact that firms still perceive that financial performance directly depends on other past strategic decisions or on their financial structure (González and González, 2005b). In consequence, having more efficient processes is not a synonym of immediate better economic results because the effects of environmental management can be generated in the long term, when such investment are amortized. Moreover, it has been demonstrated that managers perceive markets positively value environmental marketing strategies and tactics. The design, development, and commercialization of green products may contribute to increasing a firm's results by satisfying the market segments more sensitive to these ideals.

Environmental orientation did not affect commercial results. While other authors have found a positive influence of environmental orientation on organizational performance (Menguc and Ozanne, 2005; Stone and Wakefield, 2000), our findings suggest the possible existence of a mediating effect of environmental marketing. The effect of environmental orientation over commercial performance may not be direct, but indirect through the materialization of such orientation in specific marketing strategies and tactics. Thus, simply adopting environmental values in the culture is not enough to develop a good reputation in the marketplace, because this commitment must be translated into specific strategies so that the customers, the community, and other relevant stakeholders can identify and value. This means that firms may need to give some external visibility to their environmental actions if they have to be valued by the marketplace. So, environmental orientation must be accompanied by environmental transformation in the operational and commercial systems for firms to be able to improve their competitive positions. However, it must be considered for future research that environmental orientation could positively influence some other dimensions of a firm's organizational performance. For example, some authors like

Menguc and Ozanne (2000), Alvarez et al. (2001) and Roberts and Robinson (1998) argue that firms that behave ethically or in an environmentally friendly manner will be able to better satisfy their employees' convictions.

Overall, results obtained in this study support the literature that considers that investing in environmental initiatives positively affects organizational results. Although previous literature has been not conclusive on the link between environmental strategy and a firm's performance, this paper reinforces the opinions that sustain that firms must invest in reducing their environmental impacts, not only to achieve a sustainable economic system, but also because it is profitable to do so. Environmental marketing strategy is revealed as an excellent business philosophy to obtain competitive advantages in costs and in product differentiation.

This study, of course, has its limitations. Our measures of organizational performance and of environmental orientation and marketing are based on subjective environmental managers' perceptions. Thus, self-reported measures in business ethics research could suffer from social desirability bias, even though we have tried to reduce them using different techniques. In addition, in this study, it is likely that companies that chose not to respond perceive that they are not responsible for environmental problems. As mentioned in the methodology, this inconvenience is minimized by the selection of a population. This population includes industrial companies that have at least 150 employees because these firms would be sizable enough to have considerable impact on the natural environment. Besides, Armstrong and Overton's (1977) procedure revealed no differences between early and late respondents, and the population and sample structure remained homogeneous. However, it is possible that companies that do not respond, feel having little bear with voluntary environmental actions. That could be the case of reactive companies, which only "react" when their social and legal legitimation is threatened because they perceive that their responsibility in the environmental situation is minimum. Consequently, it would be interesting, as a future research line, to empirically analyze if adopting a reactive attitude may also be profitable strategy for these companies. As Aragón-Correa and Rubio (2007, p. 372) point out, "some firms may get better

performance by keeping their environmental activities to the legal minimum.”

Target population was made up of medium-sized and large firms but we did not include smaller firms that have less economic resources. Because of the special characteristics of small companies and their potential contribution to sustainable development, it is essential to pay more attention to the economic advantages that environmental marketing may have for small firms. As regards to largest firms, usually multinationals which scale requires the massive consumption of natural resources, social and environmental communications are critical activities within their ethical behavior. For example, a topic like social responsibility reporting is commonly considered as the most direct expression of a firm’s attitude toward the environmental and social problems (Perrini, 2005). Because these kinds of firms have been traditionally considered as leading offenders for environmental degradation, further research would be necessary in order to analyze how larger companies carry out social and environmental reporting, like tactical environmental marketing, and to what extent customers perceive those actions as real manifestations of an ethical behavior, something that will create a real added value for the company. On the contrary, it is possible that some customer segments perceive social and environmental reporting as activities whose main objective is washing the company’s image and reputation because the nature of those firms prevent them of being truly sustainable.

Finally, this study provided cross-sectional data while it seems relevant to carry out longitudinal studies in order to capture the real effect of environmental behavior on a firm’s performance.

Despite these limitations, this study contributes to clarify the complex and contradictory link between environmental proactivity and business results, showing that different manifestations of environmental behavior allow companies to optimize diverse dimensions of organizational performance.

## Note

<sup>1</sup> SABI-AMADEUS is a database that presents information about more than 1 million companies operating in the Spanish territory. It covers 92% of Spanish companies excluding only self-employed and freelance workers.

## Appendix

Discriminant validity: covariance among dimensions and confidence intervals

Confidence intervals	IEO	EEO	SEM	TEM	CP	PP	CMP
EEO	0.680 (0.614;0.746)						
SEM	0.455 (0.363;0.547)	0.259 (0.147;0.371)					
TEM	0.553 (0.469;0.637)	0.462 (0.370;0.554)	0.537 (0.451;0.623)				
CP	0.336 (0.224;0.448)	0.231 (0.113;0.349)	0.293 (0.175;0.411)	0.274 (0.156;0.372)			
PP	0.277 (0.165;0.389)	0.207 (0.083;0.331)	0.339 (0.225;0.453)	0.322 (0.214;0.430)	0.384 (0.268;0.500)		
CMP	0.369 (0.271;0.467)	0.255 (0.159;0.351)	0.331 (0.233;0.429)	0.398 (0.310;0.486)	0.430 (0.318;0.542)	0.610 (0.530;0.690)	
EP	0.277 (0.165;0.389)	0.185 (0.073;0.297)	0.248 (0.144;0.352)	0.287 (0.183;0.391)	0.557 (0.467;0.647)	0.394 (0.282;0.506)	0.516 (0.430;0.602)

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