Is It Possible To Generate Added Value Through A Higher Environmental Proactivity Orientation? A Practical Analysis of the Spanish Ceramic Industry

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Abstract Environmental proactivity is actually one of the key aspects considered in the strategic dimension related to corporate social responsibility of companies. The aim of this work is to analyze if it is possible to generate added value through a higher environmental proactivity orientation. The empirical application focuses on the Spanish ceramic industry allocated in Castellón. The objective of the research is to know which aspects determine company's environmental strategy, which are the barriers and facilitators that enable proactive environmental orientation of the industry studied and to verify what benefits companies can obtain from its application using a qualitative methodology.

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P. Golinska (ed.), *EcoProduction and Logistics*, EcoProduction,
DOI: 10.1007/978-3-642-23553-5_4,

1 Introduction

Actually, it is crucial to evaluate the point to which the environmental factor is part of the business strategy of companies (Singh et al. 2008), how companies incorporate their environmental orientation is an emerging competitive priority in manufacturing strategy (Da Silva et al. 2009). Environmental proactivity offers a vision of progress that integrates immediate and longer term objectives as well as local and global action, and regards social, economic and environmental issues as inseparable and interdependent components of human progress (Porter and Van der Linde 1995).

A growing number of companies consider aspects tied to sustainable development, environmental attitude, eco-innovation or environmental management to be a first-class asset on a strategic level (Da Silva et al. 2009; Dubé and Paré 2003; Porter and Van der Linde 1995). In this context, management of sustainable development becomes a crucial process.

The industrial sector has repeatedly been responsible for assaults on the environment, which have been reduced over the years due to the growing environmental awareness of the sector and the implementation of laws and guidelines to control the level of pollution caused by industries (Fairchild 2008). These changes give rise to the implementation in companies of different environmental strategies (González Benito and González Benito 2006) from environmental responsiveness to environmental proactivity.

Several research papers have studied how environmental management tools affect firm competitiveness; Russo and Harrison (2005) found that incentives could be a valuable tool for improving environmental performance and, then, environmental promotion could be an opportunity to shape an organization's redesign to be more proactive. McKeiver and Gadenne (2005) analyzed both, the external and internal factors affecting the implementation of an environmental management system. Other authors studied how competitive advantages could be gained through environmental orientated activities (Segarra-Oña and De Miguel Molina 2009) or how firms' performance could be improved (González Benito and González Benito 2006; Noci and Verganti 1999).

Companies need to differentiate through sustainability is becoming more and more important, but there is still no scientific basis to carry out its measure. Consequently, it is necessary to analyze the environmental factor as a proactive aspect of company's management, as well as the determining factors encouraging a company to move towards environmental protection in what come to be called "corporate environmentalism" (Banerjee 2002; Banerjee et al. 2003). Several authors have analyzed the integration of the environmental factor in business strategy (Hitchens et al. 2005). On a general level, the influence of factors such as social pressure (Kalantari and Asadi 2010), environmental legislation (Segarra-Oña et al. 2011a), competitive advantages and management's commitment to the company's environmental focus (Russo and Harrison 2005) and also aspects as its strategies have been studied (Buil-Carrasco et al. 2005; Miret-Pastor et al. 2011; Walker et al. 2008).

1.1 Objectives and Structure

Several studies on business proactivity applied on industries can be found. On a Spanish level, Aragón-Correa et al. (2008) found that in the automotive repair sector, the economic performance of companies with more proactive practices was improved. In the work performed by Martín-Tapia et al. (2009), the food industry was studied and a correlation between advanced environmental strategies and the export level of the SMEs was found. Currently, there is a need to analyze the actual inclusion of environmental proactivity in the global strategy of organizations as a differentiating element and hence, creator of competitive advantages, by analyzing the extent to which the environmental factor forms part of the business strategy.

Taking these into account, the main objective of this research is to analyze the environmental factor as a proactive aspect of company management and identify the factors that help companies to move towards sustainable management; the specific objectives being the identification of the factors characterizing environmental performance and the identification of the facilitators and difficulties encountered by companies with respect to their environmental management (Walker et al. 2008).

The study has been performed on the Spanish ceramic industry by analyzing the companies' performance in order to identify improvement actions.

This research examines the existing literature on environmental proactivity, environmental strategy and environmental determinants in the industry in order to identify the most representative issues affecting the decisions made in companies in the ceramic industry. In this work, actions taken by a set of 14 ceramic companies, a heterogeneous group of national and multinational companies were considered; all of them have in common the location in the ceramic cluster located in the surroundings of Castellón.

A questionnaire to measure environmental integration (Peiró-Signes et al. 2011) was applied, used as a tool for guiding semi-structured interviews as case-study method can certainly contribute to the cumulative development of knowledge (Fundación Entorno 2003; Smith 2010). The results of the interviews conducted with the environmental heads of the companies studies were then analyzed, differentiating between the type of company (national, multinational and size). Findings were determinant since differences between companies belonging to the same industry were explained. Then, the analysis and discussion of the results are presented. The work finishes with a summary of the conclusions.

1.2 Literature Review on Environmental Strategy

Different classifications have been made according to their environmental strategy, however, in general, four groups have been defined in terms of endogenous and

exogenous environmental risks: reactive, proactive, strategic and preventive (González Benito and González Benito 2005; Vastag et al. 1996; Winsemius 1992).

In order to identify those factors to be taken into account for classification purposes, *Fundación Entorno* (Fundación Entorno 2003) named companies as:

- leaders, those who see the environment as an opportunity to innovate and improve;
- enthusiasts, those that implement environmental management and prevention systems;
- proactive, those that integrate environmental aspects into their operations and are very attuned to and take advantage of opportunities offered by the environment; reactive, those that react to the environmental obligations and make decisions to comply with the law in force;
- indifferent, those that find it hard to take the necessary measures and do not feel committed but rather negative, seeing environmental concern as a threat hampering operations.

Several classifications have been made attending different criteria, Hunt and Auster (Hunt and Auster 1990; Peteraf 1993), as beginner, fighter, concerned citizen, pragmatist or proactivist, Winsemius and Guntram (1992) as reactive, receptive, constructive proactive, Roome (1994), as non-compliance, compliance, compliance plus, excellence and leading edge, Azzone and Bertelé (1994) as stable, reactive, anticipatory, proactive, creative, Vastag et al. (1996), as reactive, crisis preventive, strategic or proactive, Schaefer and Harvey (1998) as beginner, fighter, concerned citizen, pragmatic and proactive and González-Benito and González-Benito (2005) as reactive, pro-certification, pro-design, pro-logistics and pro-commercial.

The combination of the resource based theory, RBV as in previous studies (Peiró-Signes et al. 2011; Segarra-Oña et al. 2011b), with the adoption of environmental strategies has also been considered, through the development of an integrated framework for analyzing the relationship between environmental strategies and the development of the company's specific environmental capabilities (Dowell et al. 2000; Sharma and Vredenburg 1998; Singh et al. 2008; Verbeke et al. 2006).

Though they may appear to be different, they all have points in common in that they analyze the strategic positioning in different intermediate states between the most reactive and most proactive point of view. On the other hand, factors determining the proactive environmental orientation have been classified as internal aspects of the company (size, level of internationalization, position on the value change, attitude of the management as well as the motivation and strategic attitude of the company), external (sector and Geographic location) and as a determining factor, the pressure of the shareholders/owners (González Benito and González Benito 2006). Also, Murillo et al. (2004), classifies the factors as external (legislation, clients, vendors, companies in the sector, financial entities, insurers, media, ecologists and/or citizens or nearby communities; and internal (management, partners and shareholders and/or employees).

Trying to identify factors affecting the environmental orientation adopted by companies, some studies have been developed (Segarra-Oña et al. 2011c). In the consumer goods sector, factors such as the influence of external pressure forces, environmental orientation, corporate and marketing strategies, size, macro-sector and whether or not the company has a marketing department were found to have an influence on which environmental strategy is adopted (Christmann 2000; Peteraf 1993). Gonzalez-Benito and González-Benito (2005) identified several environmental proactivity strategies in three industrial sectors, electricity, chemicals and furniture, noting the multidisciplinary nature of environmental proactivity.

Although the studies performed to date are high quality and specialized works, there is not yet enough data which aids in identifying the aspects of environmental proactivity with an influence on business competitiveness nor is there sufficient scientific basis for carrying out its measurement.

The intention is to study particularly which is the influence of the facilitators of environmental proactivity in the ceramic sector and more particularly in companies of Castellón's cluster. The cluster is known as a model where the nearness of the companies and the support institutions promote important increases of competitiveness (Peteraf 1993), although the companies present an individual performance, which meets affected by its pull of resources and capacities (Kalantari and Asadi 2010). In this line and focusing on the evaluating of which concrete characteristics of the companies affect the environmental proactive orientation, we raise our hypotheses:

H1: Small size is a barrier to a company's environmental proactivity.
H2: The multinational nature of a company facilitates its proactive orientation.
H3: The direct implication of management is vital to facilitate proactive orientation.

2 General Perspective Ceramic Sector

Spain is the second European producer of ceramic tiles and the third world exporter, behind China and Italy. The Spanish ceramic sector produced in 2009 324, 4 million of m2 of ceramic tiles (37 % of EU-27). It employs 17,700 persons directly and more than 6,000 indirectly. It exports to 182 countries for a total value of 1,673 million Euros. Being the total sales of the sector of 2,591 million Euros.

In 2008, the Spanish ceramic sector invoiced 3,692 million Euros, which represents a decrease of 11, 37 % turnover of the previous year. This fall has been especially sudden on the Spanish market, where the decrease of sales has been near to 22 %, whereas on the international markets the fall has been much softer, with a decrease of the sales near to 4 %. The provisional information of 2009 shows an even more accused decrease in the domestic market (37 % respect 2008), and on the international markets (24 % respect 2008). The decrease of international sales is explained in Europe and the USA due to the economic crisis, which could not

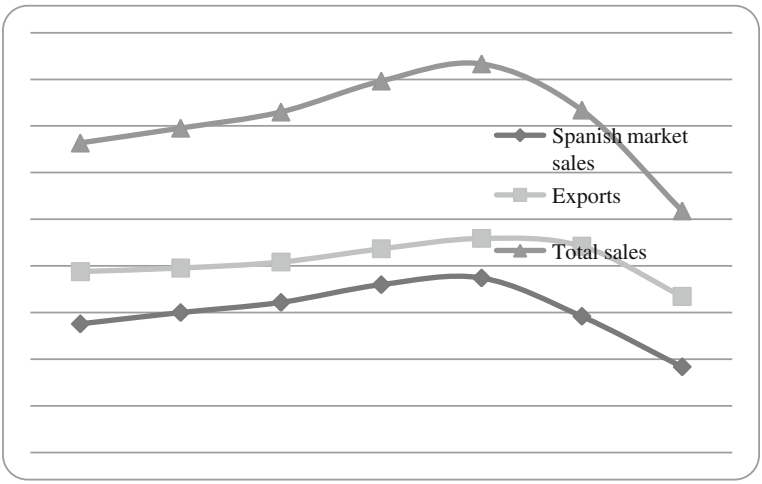

Fig. 1 Spanish ceramic sector sales (Million Euro). 2009*(Provisional date), *Source* Compiled by author with data from ASCER

have been compensated by significant increases in Africa, Eastern Europe and Middle East. In Spain the fall is major due to the strong contraction of the construction sector, and the most accused fall of the internal demand (Fig. 1).

A characteristic of the Spanish ceramic sector is the high geographical concentration in Castellón's province (Segarra-Oña 2009; Telle and Larsson 2007), since 94.5 % of the Spanish national output is concentrated in the area delimited in the northern part by Borriol and Alcora, in the western part for Onda, in the southern part for Nules and in the eastern part for Castellon de la Plana. His importance in the Valencian Community is very big, since it has been for many years the first investing sector and the second exporter (only behind car manufactures).

3 Methodology

We have developed an explanatory case study methodology Kaplan (Kaplan 1986) to try to figure out how the barriers and facilitators of environmental proactivity influence competitiveness. Fourteen cases were studied according to Rouse and Daellenbach (1999).

The method to be used in this study, i.e. in-depth interviews, is classified as direct data collection (Stake 1995). The type of interview used is called a structured open-ended interview (King 1994). This technique combines the advantages of closed questionnaires with those of qualitative research interviews. Following (Dubé and Paré 2003) to have high rigor level when using case studies as the

methodological research, some considerations have to be taken into account. We have followed their three areas structure when designing our study:

- firstly, aspects related with the design, as identifying clear research questions, taking advantage of pilot cases in order to help refine the design and the data, the collection plans, to conduct more longitudinal case studies and, exploiting the richness of the various data collection methods;
- secondly, questions regarding with data collection as to provide detailed information with respect to the data collection methods, procedures aspects as number of interviews, and interviewees, use of an interview, guide, instrument validation etc., the effectively use of tables to summarize information about the data collection process or how to triangulate data in order to increase internal validity of the findings and provide clear explanations on how the triangulation process is achieved.
- finally, data analysis procedures in order to provide clear descriptions of the analytic methods and procedures, make greater use of preliminary data analysis techniques and tools and compare findings with extant literature (both similar and conflicting) in exploratory case research so as to increase the confidence in the findings.

Following Flyvbjerg (2006), when the objective is to achieve the greatest possible amount of information on a given problem or phenomenon, atypical or extreme cases reveal more information, for that reason we studied the company leader of the cluster, Porcelanosa among the chosen firms. Another tile manufacturer competitors and auxiliary companies all of them belonging to the ceramic cluster in Castellón.

A Likert scale questionnaire was prepared with five possible answers and an additional alternative answer indicating there is not enough criteria to answer. The questionnaire was filled in personally by the authors of the study in order to characterize the company in terms of its level of environmental proactivity and to establish a system for measuring the integration of environmental proactivity in the company's business strategy.

On the other hand, since the interview is conducted personally by one of the researchers, an attempt is made to gather qualitative information not directly related to the specific questions included in the questionnaire by means of informal talks with employees of the company, identification of information/internal training, and examination of the company's products and manufacturing processes (Stake 1995).

The questionnaire consists of a total of 42 questions focused on identifying the aspects enabling the company to be characterized in terms of its environmental proactivity, and also those aspects of organization enabling a system to be established for the measurement of the integration of environmental proactivity in the companies' business strategy.

Before its final circulation, the questionnaire was submitted to a pre-test to verify and discuss the appropriateness of the questions. The interviews are conducted by means of personal interviews with the directors or managers of

companies rather than by post in order to make the results obtained more reliable. Proximity to reality, which the case study entails, and the learning process that it generates for the researcher will often constitute a prerequisite for advanced understanding (Flyvbjerg 2006).

4 Results Analysis

The group of studied companies is composed of 14 companies all of them belonging to Castellón's ceramic cluster. The sample is mixed, 50 % of the companies are multinational, and other one 50 % are national. They have been gathered in groups as for the size in small (less than 50 employees), medium (between 50 and 250), and large (more than 250 employees). 71 % of the companies of the sample have own environmental management department, and 29 % realize the tasks distributed between other departments. 71 % of the companies have environmental accreditation already gained or are in process of obtaining it. It is important to emphasize that even two companies have patents related to environmental actions.

4.1 Facilitators Identification

The internal company facilitators observed with the analysis of the realized surveys are three: The size of the company (small, medium and large company), the characteristic of the company as for his internationalization (international or national), and the degree of implication of executives and shareholders (high, major of 70 %, or low, minor of 70 %).

In the following table, the environmental behaviour of the companies is characterized, grouping them taking into account the facilitators before mentioned (Table 1).

The aggregation of the surveys and the grouping of the companies according to the different facilitators allow us to see the influence of each one in each of the behaviours that characterize the environmental proactivity, that are detailed in the left column.

4.2 Identification of Obstacles to Environmental Proactivity

The main obstacles faced by companies when attempting to adopt a more proactive environmental strategy are, lack of institutional support (65.71 %), short financial support (54.29 %), lack of tools information (51.43 %), lack of technical solutions (37.14 %), and lack of qualified human resources (33 %).

Table 1 Facilitator's identification (%)

	Company size facilitator			Internationalization facilitator		Management involvement facilitator		Environ. behaviour
	Small	Med.	Large	Internat.	Nat.	High	Low	Total
Energy saving	55	48	92	82.86	48.57	79.2	40	65.71
Usage of ecological products in production	55	40	56	65.71	34.29	53.6	45	50
Water saving	60	76	84	91.43	57.14	84.4	55	74.29
Waste managed	85	92	100	100	85.71	100	85	92.86
Recyclable products	30	64	80	71.43	48.57	78	20	60
Training in environmental matters	55	32	72	62.86	42.86	61.2	40	52.86
Ecological arguments used in marketing	15	68	84	80	37.14	76.4	30	58.57
Environmental costs and savings quantified	30	52	80	57.14	54.29	72	25	55.71
Information of measures taken externally reported	25	32	44	51.43	17.14	46.4	10	34.29
Information of measures taken internally reported	25	24	56	45.71	25.71	49.6	10	35.71

Table 2 Obstacles to environmental proactivity (%)

	Company size facilitator			Internationalization facilitator		Management involvement facilitator		Obstacles to proactivity
	Small	Med.	Large	Internat.	Nat.	High	Low	Total
Short financial support	65	64	36	45.71	62.86	41.6	75	54.29
Lack of institutional support	75	68	56	88.57	42.86	61.6	70	65.71
Lack of tools information	50	72	32	60	42.86	49.2	55	51.43
Lack of qualified human resources	25	44	28	45.71	20	30.8	35	32.86
Lack of technical solutions	15	52	40	57.14	17.14	46	10	37.14

In the following table, the obstacles to environmental proactivity of companies are characterized, grouping them taking into account the facilitators before mentioned (Table 2).

Again the aggregation of the surveys and the grouping of the companies according to the different facilitators allow us to see the influence of each one and the relation with each of the obstacles observed in the left column. This detailed info gives a deep and close overview of each group's needs.

Table 3 Benefits of environmental proactivity (%)

	Company size facilitator			Internationalization facilitator		Management involvement facilitator		Environ. proactivity benefits
	Small	Med.	Large	Internat.	Nat.	High	Low	Total
Long-term economic benefits	35	64	60	71.43	37.14	62	30	54.29
Long-term cost savings	35	72	68	68.57	51.43	70.8	30	60
Improvement of corporate image	40	68	92	88.57	48.57	83.2	30	68.57
New business opportunities	60	48	72	68.57	51.43	67.2	40	60
Increase of customers	25	52	52	51.43	37.14	55.2	10	44.29
Competitiveness increase	25	52	52	51.43	37.14	51.2	20	44.29
Short-term economic benefits	40	44	36	54.29	25.71	41.6	35	40
Short-term cost savings	35	44	64	71.43	25.71	58.4	30	48.57
Avoid sanctions	55	84	72	74.29	68.57	77.2	55	71.43

4.3 Identification of Benefits of Environmental Proactivity

The companies identify significant benefits arising from the implementation of proactive environmental management actions, the most important one is to avoid sanctions (71.43 %), followed by improvement of the corporate image (68.57 %).

Table 3 shows environmental proactivity benefits detected by the ceramic companies.

The aggregation of the surveys and the grouping of the companies according to the different facilitators allow us to see the influence of each one and the relation with each of the benefits observed in the left column.

5 Conclusions and Discussion

5.1 Modelling Results and Hypotheses Testing

The environmental proactivity of the ceramic industry cluster located in Castellón region was studied and the barriers and facilitators the companies consider as a key to the inclusion of proactive environmental actions in their business strategies were

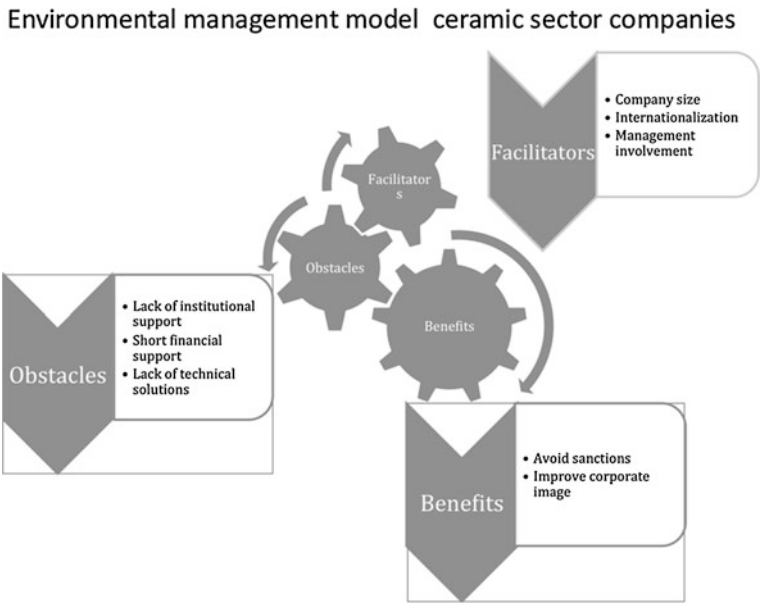

Fig. 2 Proactive performance model of the ceramic sector. *Source* Compiled by authors

identified. Figure 2 shows the model developed by authors based on the fieldwork performed.

With respect to the hypotheses made in the study, H1: Small size is a barrier to a company's environmental proactivity, this hypothesis is not verified. In table 1, several factors to identify and to characterize the environmental behaviour are observed, they show that there are small companies with a better environmental behaviour than medium companies, and even comparable to the behaviour of big companies. Evidently, the study is based on the companies of Castellón's ceramic cluster; due to this fact we can conclude that for these companies the size is not a barrier. What happens with our study is that the big size of a company is verified as a facilitator of environmental proactivity.

H2: The multinational nature of a company facilitates its proactive orientation. This hypothesis is fulfilled because all multinational companies (small, medium or large) have a better environmental behaviour than national ones.

H3: The direct implication of management is vital to facilitate proactive orientation. This hypothesis is fulfilled because all companies with high involvement of management have a better environmental behaviour than the other ones.

6 Conclusion

As for the obstacles observed for environmental proactivity, the major one is the lack of institutional support (66 %), followed by lack of financial support (54 %), and of lack of information of the tools (51 %). According to the observed company group, there are differences as for the perception of obstacles: The lack of institutional support is the major problem for small companies (75 %), international companies (89 %) and companies with poorly implicated management (70 %). The shortage of financial support is the major problem for the domestic enterprises (63 %) and for companies with poorly implicated management. The lack of information of the tools is the major problem for the medium companies.

As for the benefits observed of environmental proactivity, the major one is to avoid sanctions (71 %), followed by improving the corporate image (68 %), the saving of long-term costs (60 %) and obtaining new opportunities of business (60 %). According to the group of companies, there are differences in the perception of benefits of the environmental proactivity. To avoid sanctions is the major benefit waited for medium, national companies and with poorly implicated management. To improve the corporate image is the best benefit for big, international companies and with high implication of management. Whereas for small companies the major benefit is the possibility of obtaining new business opportunities.

To sum up, and according to the results obtained with the analyzed information, we can conclude that in Castellón's ceramic sector, many companies can be found that would be considered to be proactive, and even some as leaders. There are several indicators that show that environmental proactivity is a value taken into account in the strategic planning of companies. In this work we have highlighted the main actions that companies can work on to improve their environmental proactive orientation and improve their competitive resources set.

Nevertheless still possibilities of improvement are seen in the fields of institutional support and financial support basically. In the current circumstances of economic crisis, and seen the possible benefits that environmental proactivity can bring, its impulse might contribute with distinguishing factors to help companies exit of the crisis. These will lead our further research.

Acknowledgments The authors would like to thank the Spanish Ministry of Economy and Competitiveness for its financial support through the research project (EC02011-27369). Also the Technical University of Valencia for its research funding to the project "Innovative impact on the companies' environmental performance: identifying moderating factors" (PAID-06-2011-1879) and for supporting the sabbatical research 2011-2012 course of M. Segarra.

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