Green innovation, indeed a cornerstone in linking market requests and business performance.

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Abstract

Many studies uphold market orientation as a key factor in creating and sustaining a firm's competitive advantage. This research aims to explore this topic further by including within the model the concept of green innovation. In particular, this paper empirically tests the mediating role of green innovation performance in the relationship between market orientation and organizational performance. This study relies on a sample of 145 firms belonging to the Spanish automotive components manufacturing sector. The results obtained by applying Partial Least Squares (PLS) path-modelling, a variance-based structural equations modelling technique, reveal that market orientation exerts a direct impact on organizational performance. Subsequently, we observe how the green innovation performance construct partially mediates the market orientation-organizational performance link. The paper brings some theoretical conclusions and implications for research and practice.

1. Introduction

The environmental impact of human activity is a constantly growing global ethical concern for citizens, policy-makers and organizations. In this sense, corrective policies have been implemented in recent years to reduce or palliate this environmental damage (Chen, 2008). Organizations are not immune to this reality. On the contrary, as every complex system in search of the balance that will ensure long-term survival, companies should respond effectively to a double adjustment dynamic. On the one hand it is competitive adjustment, to achieve a certain level of market efficiency that requires optimizing the use of resources and capabilities, which are always limited. On the other hand it is legitimacy adjustment, to conquer a certain degree of consistency with the society within which the organization operates.

It is widely acknowledged that to survive within the currently turbulent and hypercompetitive scenarios, firms must foster innovativeness. To this end, it is essential to remain up to date with the multiple market changes, fluctuations and trends that are continually arising. This requires firms to be oriented to their customers and proactively embrace a market orientation (MO) strategy. In this line, the ultimate aim of developing a market orientation strategy is to enhance firms' innovativeness and performance (Laforet, 2009).

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In addition, sustainability has gradually become a pivotal concern for managers and policy-makers, to the extent that Esty and Winston (2006, p.18) highlight that "in today's world, no company, big or small, operating locally or globally, in manufacturing or services, can afford to ignore environmental issues". The increasing societal demands compel companies to integrate sustainability topics into their regular activity so that their social, environmental, and economic goals can be attained. There are two major driving forces that promote environmental management (Chen, 2008): (i) the international set of norms and regulations concerning environmental protection and (ii) consumers' environmental awareness (Chen, Lai and Wen, 2006). Whatever the reasons that lead firms to undertake environmental management –e.g., complying with environmental laws and regulations, becoming more competitive, gaining legitimacy– integrating environmental sustainability issues into business strategy and greening the innovation process are becoming strategic opportunities for companies (Porter and Reinhardt, 2007).

Plenty of studies have examined the direct influence of market orientation on organizational performance and most of these works point out that market orientation is positively related to performance (Ellis, 2006; Vieira, 2010). Very few works show negative or non-significant findings (Agarwal et al., 2003; Sandvik and Sandvik, 2003). Nonetheless, regardless of the reasonably reliable positive findings, there is still scarce knowledge about how market orientation should be arranged in order to attain superior performance (Becker and Brettel, 2017). In this vein, some scholars propose that a firm's market orientation should be complemented by a set of organizational capabilities (i.e., organizational learning capability, absorptive capacity or innovation capacity) that contribute to add superior value (Slater and Narver, 1995; Baker and Sinkula, 1999), Such capabilities allow firms to uphold sustained competitive advantages by continuously refining the processing of market information (Becker and Brettel, 2017). Therefore, with the aim of covering this gap, this paper questions whether a firm's green innovation performance (GIP) might mediate the link between market orientation and organizational performance.

Another source of novelty in this study roots in the research setting. Prior related works have frequently devoted their attention to large multinational corporations rather than small and medium-sized enterprises (SMEs), although curiously, SMEs are the most widespread type of company among Western countries (Aragón-Correa, Martín-Tapia and Hurtado-Torres, 2013). On the contrary, this paper is grounded in the automotive components manufacturing sector (ACMS) in Spain, one of the fastest growing sectors in the country. Most ACMS firms are SMEs; we consider SMEs to be companies comprising fewer than 250 employees (European Commision, 2003). This industry is characterized by its knowledge intensity, innovativeness, and the orientation of the firms' products towards their customers, principally major automobile manufacturers (i.e., Ford, Citroën, Renault, Peugeot, etc.). These firms provide components and highly customized products and services to large automakers. On the one hand, they act as external knowledge sources for their client firms, and on the other hand, they are increasingly becoming independent innovation creators. Firms that are able to incorporate the specialist knowledge and cumulative learning needed to develop green innovations will be better positioned to differentiate their outputs from their competitors.

This research hence intends to assess the roles of market orientation (MO) and green innovation performance (GIP) as drivers of organizational performance (OP) at the firm level. The results of this study suggest that market orientation is positively related to business performance and that this relationship is indirectly driven by GIP. We hence propose that the green innovation

performance variable mediates the direct link between market orientation and organizational performance.

The paper proceeds as follows. First, the theoretical background is presented, comprising the research model and hypotheses arising from the literature review. This second section firstly includes a brief conceptual delimitation of the different constructs that shape the research model –market orientation, green innovation performance and organizational performance–. Subsequently, several paragraphs have been included in order to enounce and justify the different linkages between these constructs according to the literature review. The third section contains a description of the research methodology followed to test the hypotheses posited. The fourth section involves a description of the main results derived from the data analysis through partial least squares (PLS) path-modelling. Finally, the fifth section presents the discussion, conclusions, implications and limitations of this study.

2. Theoretical background

This section approaches the theoretical foundations concerning the distinct variables and hypotheses included in the research model. Subsequently, we assess the direct relationship between market orientation and business performance, and then, we examine the mediating role played by green innovation performance in this link.

2.1. Conceptual delimitation of the research variables

2.1.1. Market orientation

Market orientation is a concept that has been widely examined by the marketing and management academic literature. Narver and Slater (1990) delimit it as a second-order multidimensional construct shaped by three dimensions: (i) customer orientation, i.e., an organization's actions oriented to identify customers' perceptions, needs and desires and to try to satisfy them through an adapted supply; (ii) competitor orientation, i.e., a firm's actions intended to understand competitors' strengths, weaknesses, opportunities and strategies, to be able to react to them and to design the proper response; and (iii) inter-functional coordination, i.e., the joint and efficient use of a firm's resources and capacities to provide greater customer value. Essentially, market orientation might be defined as a business approach or philosophy aimed at identifying and meeting the customers' stated or hidden needs and requirements. According to Narver and Slater (1990, p.21), "the desire to create superior value for customers and attain sustainable competitive advantages drives a business to create and maintain the culture that will produce the necessary behaviors".

2.1.2. Green innovation

Corporate environmental strategies range from reactive strategies –merely aimed at complying with legal requirements and implementing controls– to proactive strategies involving deliberate and voluntary eco-efficient practices aimed at reducing energy consumption, waste and pollution. The latter set of strategies requires product, process or operational innovations to diminish firms' ecological footprint (Aragón-Correa, 1998; Sharma, 2000). According to Hart (2005), proactive environmental practices involve intangible managerial innovations and routines that entail firms' commitment to the improvement of the natural environment and are not mandatory or required by legislative norms or regulations.

The term "green" is typically used interchangeably with "pro-environmental", and it is broadly employed to indicate concern about the physical environment. In this vein, when customers engage in this type of consumption, they might be called "green customers". These green customers' purchasing behaviour tends to be influenced by environmental concerns, such as sustainability, pollution reduction, energy saving or recycling. It must be highlighted that within our framework, the customers are the car manufacturers, and it should be noted that this is one of the most highly polluting industries. Therefore, these large automobile manufacturers are expected to develop a special sensitivity with respect to environmental issues in order to reduce the serious impact generated by their daily activity on the natural environment. Thus, companies belonging to the automotive auxiliary industry ought to orient their activities, products and services towards the new demands and needs of its customers through MO and green innovation processes.

But what is understood by green innovation? This concept has drawn much attention in the academic literature on business management and economic policy. However, we are facing a new phenomenon characterized as complex, diffuse and susceptible to different interpretations. Therefore, there is some confusion about the different notions and terminologies to describe innovations that contribute to actively reducing the negative impacts of humans and business on the environment (Schiederig, Tietze and Herstatt, 2012). Fussler and James (1996) were the first authors to introduce the concept of eco-innovation in their book *Driving Eco-innovation: A Breakthrough Discipline for Innovation and Sustainability*. They consider green innovations to be new products and processes that provide customer and business value while significantly decreasing environmental impacts. Since then, the term eco-innovation – also called environmental innovation, green innovation or sustainable innovation – has often been used to identify those innovations that contribute to maintaining a sustainable environment through the development of ecological improvements (Halila and Rundquist, 2011). Based on the OECD/Eurostat Oslo Manual (OECD/Eurostat, 2005), eco-innovation can be defined as "the implementation of new, or significantly improved, products (goods and services), processes, marketing methods, organizational structures and institutional arrangements which, with or without intent, lead to environmental improvements compared to relevant alternatives" (OECD, 2010). Finally, Kemp and Pearson (2008) consider that eco-innovation should not be restricted to products or services implemented for purely environmental reasons. In a broader sense, the term eco-innovation should cover all those innovations that lead to an environmental benefit, whether intentional or accidental.

2.1.3. Business performance

Business performance stands out among the most frequently discussed topics within the business and management literature. However, this concept has habitually caused some controversy regarding its definition and measurement. Furthermore, being able to reach higher levels of efficiency and consequently to attain superior performance may be among most managers' aspirations. Following Venkatraman and Ramanujam (1986), organizational performance can be classified into distinct levels or domains. Such domains range from the tightest concept of "financial performance" – outcome-based financial indicators or ratios (e.g., sales growth, return on assets, return on investment, and return on equity) – to a wider or more refined conceptualization of business performance, including not only financial indicators but also so-called "operational performance" measures (e.g., nonfinancial indicators such as market share, product or service quality, corporate growth, and new or innovative product introduction), which are also assumed to be drivers of organizational efficiency and profitability.

2.2. The link between market orientation and organizational performance

Stakeholder theory argues that the more firms endeavour to efficiently manage their relationships with multiple stakeholders, the better their financial performance will be. Likewise, Day (1994) argues that to attain competitive advantages companies should detect and satisfy customers' needs more efficiently than their competitors. Particularly within the natural environment setting, stakeholders might exert strong pressures over companies' proactive adoption of environmental practices, which may in turn contribute to enhancing their level of performance (Darnall, Henriques and Sadorsky, 2010). In this line, we believe it is interesting to refer to the concept of market orientation.

A considerable amount of empirical works have assessed the role of MO as an antecedent of OP. However, the assessment of the MO-OP link has led to inconclusive results; some research studies have failed to find support for this direct relationship (Noble, Sinha and Kum, 2002), and other studies have obtained mixed results (Jaworski and Kohli, 1993; Agarwal et al., 2003; Sandvik and Sandvik, 2003). Nonetheless, the literature on this topic widely posits the existence of positive links among firms' MO, the success of new products and OP, and the majority of empirical studies reveal that market orientation is positively linked to organizational performance (Narver and Slater, 1990; Desphande, Farley and Webster, 1993; Appiah-Adu and Singh, 1998; Cano et al., 2004; Ellis, 2006; Vieira, 2010). The reason for this positive relationship is that MO enables firms to generate and increase long-term customer value (Morgan and Strong, 1998). MO strategy helps organizations to obtain vital information about the market needs and trends and hence allows them to heighten their decision-making capability and adjust their offering (Jiménez-Jiménez, Sanz-Valle and Hernandez-Espallardo, 2008). Subsequently, firms that foster MO strategies will be more connected to their customers' requirements, and these customers will in turn display more loyalty and satisfaction (Kohli and Jaworski, 1990).

Moreover, not only has evidence been found to support the positive tie between MO and overall performance; there are also empirical studies that have found a positive relationship between MO and financial performance – e.g., a growth in sales and gross profit enhancement (Pelham, 2000; Vega-Rodriguez and Rojas-Berio, 2011; Kurapatskie and Darnall, 2012). These studies sustain that firms will see their profits substantially increase if they rely on certain actions and behaviours related to satisfying customers' needs. Besides, many empirical works point out the existence of positive links among entrepreneurship, innovativeness and organizational performance (i.e., Nasution, Mavondo, Matanda and Ndubisi 2011; Sahut and Peris-Ortiz, 2014; Leal-Rodríguez and Albort-Morant, 2015). In this vein, market-oriented companies may be more likely to take advantage of entrepreneurial opportunities (Shane and Venkatraman, 2000). Therefore, we assume that firms' market orientation might be viewed as a pre-requisite for firms aiming to identify and pursue entrepreneurial opportunities and become more competitive organizations. Therefore, we posit the following hypothesis:

H1: Market orientation is positively related to organizational performance (Figure 1).

2.3. The mediating role of green innovation performance in the MO-OP link

Consumer behaviour is a tremendously oscillating variable. Environmental issues arising from the acquisition of products and services are increasingly being considered by individuals while purchasing (Peattie and Belz, 2009) and shape what has come to be called "green consumption".

(Pickett-Baker and Ozaki, 2008). In this vein, concepts such as market orientation, entrepreneurial culture and entrepreneurship orientation have been traditionally linked with a firm's adoption and fostering of innovations. Entrepreneurial companies are defined as firms that take part in product-market innovation, embark on fairly risky ventures, and are early adopters or developers of proactive innovations, ahead of their competitors. In contrast, non-entrepreneurial companies are those that barely innovate, present strong risk aversion, and follow the moves of competitors instead of disrupting (Turró, Urbano and Peris-Ortiz, 2014). The link between market orientation and corporate innovation has been widely addressed by the literature. Concretely, Han, Kim, and Srivastava (1998) posit and empirically test the mediating role of innovation on the MO-OP tie. Another study by Vázquez, Santos, and Álvarez, (2001) finds that market orientation exerts a positive influence on firms' innovation strategy. Hence, it might be presumed that MO might be also positively associated to GIP.

Besides, the link between green innovation performance and overall performance has only reached increased attention in the last decades and still requires further analysis. Following several studies, environmental management and green practices are narrowly linked to firm innovativeness (Aragón-Correa, 1998; Pérez-Valls, Céspedes-Lorente and Moreno-Garcia, 2015). In this sense, companies that are pioneers in green innovation strategies might be able to reach and sustain competitive advantages. Thus, successful green innovation performance helps firms to achieve greater efficiency, establish and strengthen their core competences and enhance their green image, all of which may eventually enable firms to attain superior performance and enhanced profitability (Chen, 2008; Albort-Morant et al., 2016).

In addition, the relationship between environmental corporate strategy and the obtainment of superior performance or sustainable competitive advantages has been widely debated within the sustainability and environmental management literature. Although prior research displays mixed results with regard to the influence of environmental strategies on the financial performance of firms, most studies find a positive link (Russo and Fouts, 1997; Christmann, 2000). Previous studies in the field of organizations and sustainability show that proactive corporate environmental strategies that go beyond complying with norms and regulations exert a positive impact on business performance when mediated by valuable organizational capabilities (Barney, 1991; Russo and Fouts, 1997; Aragón-Correa, Martín-Tapia, Sharma and García-Morales, 2008). Moreover, proactive corporate environmental strategies or a pattern of environmental practices that went beyond compliance with environmental regulations were found to be associated with improved financial performance (Aragón and Sharma, 2003).

There has traditionally been some discussion concerning whether, indeed, the inclusion of environmental aspects within a firm's corporate strategy effectively leads to better results (Aragon-Correa and Sharma, 2003). Some initial arguments against this issue noted that increased environmental policies and regulation might result in hindering firms' results and productivity, as greening their operations might place firms in a disadvantageous situation in comparison with competitors in developing countries that do not face the same pressures (Walley and Whitehead, 1994; Nidumolu, Prahalad and Rangaswami, 2009). On the other hand, other studies argue that an environmental strategy might present firms with a broad set of opportunities and paths to achieve and sustain green-based competitive advantages (Porter and Van der Linde, 1995; Aragon-Correa, 1998; Aragon-Correa and Sharma, 2003).

Moreover, the link between a firm's greater respect for or attempts to preserve the natural environment and its level of performance has been intensively regarded. However, according to Miles and Russell (1997), prior studies show inconclusive results; the relationship is

confusing and requires further analyses. Aragón-Correa et al. (2008) find a positive and direct relationship between the implementation of eco-efficient practices and business performance among industrial SMEs. In this line, most works have demonstrated that pro-environmental strategies enable the generation of key organizational capabilities that might lead to improved organizational performance (e.g., Russo and Fouts, 1997; Sharma and Vredenburg, 1998; Christmann, 2000; Gupta and Goldar, 2005).

In consequence, we argue that organizations that are adequately market-oriented might be able to develop innovative green products, processes and services that may in turn lead to the attainment of superior. Thus, we hypothesize the following:

H2: Green innovation performance mediates the link between market orientation and organizational performance (Figure 1).

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3. Method

3.1. Data collection and sample overview

To conduct the present study, we decided that the source for our sample would be the Spanish automotive components manufacturing sector (ACMS). The main reason we selected this sector is that it is acknowledged as an innovative and knowledge-intensive industry. Another reason is the growing importance that environmental issues are gaining within this sector. This industry operates by channelling its operations through the use of project teams, seeking and making intense use of external knowledge, and maintaining strong interdependent relationships in supply chains. Within the automotive sector, it has become especially important to be able to develop new technologies or novelties concerning production processes. The sample comes from a list provided by Sernauto, the Spanish association of manufacturers of components and equipment for the automotive industry. Of this sector's 906 companies, 418 fulfil the selection criteria (i.e., being knowledge-intensive and innovation-oriented firms). After two mailing efforts, the outcome was 145 usable surveys (a response rate of 34.7%). Questionnaires were answered by top managers from September-November 2014.

The Spanish automotive industry is a world reference. Spanish car-manufacturing companies together with the fabricants of components for the automotive industry form a widely recognized prestigious tandem in terms of results and competitiveness. This sector is a model of success due to its great dynamism and ability to generate growth within an economic environment as complex as the current one.

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The Spanish automotive sector's ability to generate employment and overcome the ups and downs of the economic crisis has made this industry an example to follow. To illustrate this with data, it should be highlighted that Spain is the second leading manufacturer of vehicles in Europe and the eleventh at the world level. In the Spanish economy, the automotive industry represents 10% of the GDP and employs 9% of the working population. In 2012, 1.98 million vehicles were made in Spain, and up to 87% of this production was exported. Concerning the ACMS, the turnover of the 2012 exceeded the figure of €27,000 million (PwC, 2013). The

powerful Spanish automotive components industry is one of the key factors that explain the automotive sector's competitiveness. Close to 1,000 companies make up the ACMS, and up to 720 business groups are installed in Spain, ensuring the service and supply of the car-manufacturing plants (Sernauto, 2014).

3.2. Measures

The literature review in Section 2 provides the basis for the survey design. This study adapts previously used and validated scales. The items and responses of these scales appear on a seven-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree). MO is assessed through the scale developed by Narver and Slater (1990). This scale comprises 14 items (five to measure customer orientation, four to measure competitor orientation, and five to measure inter-functional coordination). We build on the previous work of Lee and Choi (2003) and adapt their five-item scale to measure OP. For the GIP variable, this work adapts the eight-item scale that Chen et al., (2006) develop in their study.

3.3. Data analysis

To test the research model and hypotheses proposed, this paper applies partial least squares (PLS) path modeling, a variance-based structural equation modeling (SEM) technique (Roldán & Sánchez-Franco, 2012). PLS permits the evaluation of the reliability and validity of the measurement of theoretical constructs jointly with the estimation of the links posited between constructs (Barroso et al., 2010). We chose PLS mainly because the constructs that shape our research model correspond to a composite measurement model. Both theoretical contributions (Rigdon, 2012; Henseler, Dijkstra, Sarstedt, Ringle, Diamantopoulos, Straub, Ketchen, Hair, Hult, & Calantone, 2014) and empirical simulation studies (Becker, Rai, & Rigdon, 2013; Sarstedt, Hair, Ringle, Thiele, & Gudergan, 2016) recommend the use of PLS for composite models.

3.4. Common method bias

Survey-based empirical works require assessing the potential existence of common method bias (CMB) when data used to measure the different exogenous and endogenous constructs comes from the same respondent (Podsakoff, MacKenzie, Lee and Podsakoff, 2003). Following Schwarz, Rizzuto, Carraher-Wolverton, Roldán and Barrera-Barrera (2017), we originally struggled to inhibit CMB during the research design phase by using an a priori approach. Consequently, we applied technical remedies as suggested by MacKenzie and Podsakoff (2012). Additionally, we accomplished a statistical procedure to detect and control for different sources of CMB, concretely, the measured latent marker variable (MLMV) approach (Chin, Thatcher, Wright and Steel, 2013), which is the only operative solution so far recommended for handling CMB in PLS models. The marker variable selected must not belong to the same domain of the constructs shaping the research model, and should be attained from a different unit of analysis. Thus, we adapted Hawthorne's (2006) social isolation scale in adults as marker variable, and incorporated it in the survey. The results reveal that (i) there are non-significant relationships between the MLMV and the rest of constructs of the model, and (ii) the model that encompasses the marker variable shows a worst fit than the original one. Thus, this suggests that CMB is not a severe concern in this study.

4. Results

4.1. Evaluation of global model fit

Henseler, Hubona and Ray (2016) advise the assessment of global model fit as the initial step of PLS models evaluation. If the model fails to fit the data, it implicates that the data contains more information than the model conveys. For this purpose, we use ADANCO 2.0.1 (Henseler and Dijkstra, 2015) to perform several bootstrap-based tests of model fit: (i) the standardized root mean squared residual (SRMR), (ii) the unweighted least squares discrepancy (dULS), and (iii) the geodesic discrepancy (dG). If any of these tests exceeds bootstrap-based 95% (HI95) and 99% (HI99) percentiles, it is doubtful that the research model is accurate (Henseler, 2017). Our results reveal that the three tests of model fit are below HI95 and HI99 (Table 1). This implies that this model cannot be rejected (Henseler et al., 2016). Additionally, we employ the SRMR (Hu & Bentler, 1998) as an approximate model fit criteria that depicts how significant the discrepancy between the model and the empirical correlation matrix is. Henseler et al. (2016) recommend a threshold of 0.08 for acceptable fit in PLS-SEM. Our research model reaches a satisfactory value of 0.048 (Table 1).

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4.2.   Measurement model

The assessment of reflective measurement models evaluates a model's reliability and validity. The results show that the measurement model meets all the common requirements. First, the indicators and dimensions meet the requisite of reliability, since their loadings are, in general, greater than 0.707 (Table 2). Second, all the constructs meet the requirement of construct reliability, because their composite reliabilities, Cronbach's Alpha and Dijkstra-Henseler's indicator (Rho_A) are greater than 0.7 (Table 2). Third, these latent variables attain convergent validity because their average variance extracted (AVE) exceed the 0.5 critical level (Table 2). Lastly, Table 3 reveals that all variables achieve discriminant validity following both the Fornell and Larcker (1981) and the HTMT criterion (Henseler, Ringle, and Sarstedt, 2015).

-insert Table 2-
-Insert Table 3-

4.3.   Structural model

Table 4 shows the explained variance (R^2) in the endogenous variables and the path coefficients for the research model under study. Following Hair, Hultt, Ringle and Sarstedt (2014), a bootstrapping technique (5000 re-samples) is employed to generate standard errors and t-statistics that permit the evaluation of the statistical significance for the relationships hypothesized within the research model (Roldán and Sánchez-Franco, 2012). This study's 5,000 resamples also generate 95% bias corrected confidence intervals (percentile) for the considered links, as shown in Table 4

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Our empirical results endorse that the structural model has acceptable predictive relevance for the endogenous constructs –OP and GIP–. Furthermore, all the direct effects hypothesized are positive and significant. We also demonstrate the existence of an indirect effect of MO on OP via GIP.

5. Discussion and conclusions

Plenty of research studies have argued for the existence of a direct link between firms' innovation outcomes and their business performance (Jansen, Van den Bosch and Volberda, 2006; Jiménez-Jiménez and Sanz-Valle, 2011; Leal-Rodríguez, Eldridge, Roldán, Leal-Millán and Ortega-Gutiérrez 2015). Compared to conventional innovation and new product development, the study of green innovation is a relative newcomer to academia. In recent years, the interest of academic research concerning green product innovation has grown (e.g., Chen, 2001; Chung and Tsai, 2007; Pujari, Wright and Peattie, 2003, 2004; Pujari, 2006; Rehfeld, Rennings and Ziegler, 2007). Building upon the previous literature, this paper develops a research model that links market orientation, green innovation performance and overall performance. The purpose of this study is to shed light upon the existing relationships between MO and OP and to assess whether this association is mediated by GIP. This way, our study is in line with other works that have paid attention to the outcomes of green innovations as contributing to the debate of fostering firms that are green and competitive (e.g., Shrivastava 1995; Klassen and Whybark 1999; Lefebvre, Lefebvre and Talbot, 2003; Chen et al. 2006).

Certainly, MO has been widely acknowledged as a key element for firms to attain competitive advantages. Different studies have posited that organizations that assess and care about their customers' needs, assess their competitors' strengths and weaknesses, and strive for the existence of an adequate cross-functional coordination reach higher levels of OP – understanding performance in terms of success, market share, growth, profitability and innovation. Within a world that has become increasingly concerned about environmental issues, a novel and interesting source of competitive advantages is driven by recognizing that customers actively assess and are concerned about the extent to which firms are treating the environment responsibly. This is even more critical in sectors –such as the ACMS– that are resource intensive and leave an important footprint on the natural environment. In a scenario where social image and reputation constitute key elements, firms are called to integrate non-financial metrics into their decision-making processes, to revisit the concepts of value and profitability that drive their business models, and to reconsider the balance between the dual objectives of short-term profitability and long-term sustainability (Bryson and Lombardi, 2009).

The research model posited in this study suggests that there is a link between MO and firms' overall performance, and that such link is furtherly mediated by green innovation performance. This empirical study was carried out within a sample from the ACMS. The results obtained by applying PLS path modelling, a SEM technique, reveal that as expected, MO exerts a direct impact on OP (0.554***; t = 6.511). This result is in line with prior research studies that suggest that a narrow link with the customers generates a long-time confidence tie that will drive superior performance for firms. Subsequently, it can be observed how MO also affects OP indirectly via GIP (0.146**; t = 2.709). Therefore, we can uphold that GIP partially mediates the MO-OP link.

The interpretation of the empirical results and the theoretical implications of this study are discussed below. First, we posit that both OP and GIP are enhanced when a firm relies on MO strategies. This means that, when firms belonging to the ACMS industry count on and adopt managerial practices coherent with the demands of society and their customers, they will reach superior levels of GIP and OP. Moreover, arguing that GIP partially mediates the MO-OP link has the following interpretation: companies that want to improve their OP must take into consideration the needs, concerns and requirements of their customers (i.e., proactively adopting an MO strategy). However, within particular industries such as the ACMS, firms must develop and enhance green innovation practices to convert their market insights into superior performance. Fostering GIP enables companies to question long standing market assumptions or beliefs and to manage disruptive change (Christensen, 1997). Furthermore, a strong market orientation strategy might be readily replicated, but the innovation capacity that helps to mobilize market information into new knowledge to apply in the development of innovative products or services constitutes a dynamic capability which is difficult to imitate. Particularly, within dynamic market settings, characterized by extraordinary rates of change in the configuration of customers' desired and preferences, the ability to be innovative might be among the most critical sources of competitive advantages, since the firm's outputs are expected to have to be constantly adapted to meet customers' fluctuating preferences.

The managerial and practical implications are clear. Regarding market orientation, we aim to stress the importance of effectively grasping the critical information that the market offers to the company. In this vein, it is advisable that firms regularly analyze, take track and attempt to understand the needs of their customers. It is also advisable that firms make an effort to regularly measure their customers' level of satisfaction. Moreover, the information gathered about the customers should flow freely and in a coordinated way throughout the whole company. This may involve an entire philosophical shift that may orientate corporate strategy to the generation of superior value for the customer. Besides, it is also critical to frequently analyze the strengths and weaknesses of those companies that are offering products or services similar to the firm's ones. Concerning green innovation, we aim to highlight the importance of developing some practices aimed at embracing GIP as a proactive strategy, allowing firms to gain reputational advantages and differentiation. Therefore, the introduction of new or modified processes, techniques, practices, systems and products to avoid or reduce environmental harm should be widely promoted among these firms. Thus, firms must encourage practices such as choosing the materials that produce the least amount of pollution while conducting the product development or design, implementing a production process that consumes the least amount of energy, raw materials and other resources, evaluating whether their products are easy to recycle, reuse, and decompose, examining whether their manufacturing process effectively reduces the emission of hazardous substances or wastes as well as minimizes the consumption of water, electricity, coal, and oil. These product and process innovations, aimed at greening the firm's activity, may report substantial benefits to organizational reputation and overall performance.

Certainly, the analysis presents some limitations. For instance, it considers only companies belonging to a particular sector (i.e., the ACMS) and within a particular geographical context (Spain). Therefore, researchers must be cautious when generalizing these results to different scenarios. Second, although we provide evidence of causality, causality itself has not been proven. According to Fornell (1982), causal relationships between variables cannot be proven, as the researcher must assume them. Third, this research relies on individual (the surveyed) perceptions, and we use only a single method to elicit these perceptions. On the other hand, concerning further research areas to be developed, it might be interesting to investigate in depth what are the main drivers and enablers of a green innovation-oriented organizational culture.

With this in mind, a case study could perhaps be useful, as it would provide us with qualitative data and insights that could be helpful to uphold and validate our research hypotheses.

In conclusion, the main contribution of this empirical study deals with the detection of the relevant role that environmental issues and market orientation are playing in certain industries such as the ACMS. Indeed, the increasing attention towards sustainability is transforming the competitive landscape by progressively forcing firms to change the way they think about products, technologies, processes, and business models (Nidumolu et al., 2009). This situation is even more critical in natural-resources-intensive sectors, such as the automotive industry, which has traditionally had a significant environmental impact. For this reason, any measure aimed at improving these industries' environmental efficiency and sustainability is certainly a competitive advantage to keep in mind. Consequently, green innovation could be the first step to enable greater success. This way, firms that foster competitiveness and remain constantly alert to the market challenges are more likely to identify and attract interesting opportunities, which might lead to beneficial outcomes. Green innovation enables the increasing of the value of both producers and consumers, while it reduces environmental impacts (Van Berkel, 2007). Therefore, as posited by Linder, Jarvenpaa and Davenport (2003), this paper reveals that green innovation creates value by addressing the green concerns of the market, the industry, the firm and/or individual customers that a product or process is targeted to serve.

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Appendix: Questionnaire items.

A. Market Orientation (Narver & Slater, 1990)

MO1. Customer orientation: In my company…
- We regularly analyze and take track of the needs of our customers.
- Objectives are determined by our customers' satisfaction.
- The strategy to obtain a competitive advantage is based on the understanding of our customers' needs.
- We regularly measure our customers' satisfaction.
- Corporate strategy aims to create value for the customer.

MO2. Competitor orientation: In my company…
- We react very quickly to our competitors' actions.
- The commercial department usually shares information about the competition.
- We approach a market segment that allows us to better leverage our competitive advantages over other companies.
- We regularly analyze the strengths and weaknesses of the firms that offer products similar to ours.

MO3. Inter-functional coordination: In my company…
- Information about our clients flows freely throughout the whole company.
- There is coordination between the different functions and departments in order to achieve our goals.
- The managers know how the staff of all the departments can help to generate value for the customer.
- Resources are shared through employees and departments.
- Customers are regularly visited by Executives from various functions in the company.

B. Green innovation performance (Chen, Lai & Wen, 2006)

- The company chooses the materials of the product that produce the least amount of pollution for conducting the product development or design.
- The company chooses the materials of their products that consume the least amount of energy and resources for conducting the product development or design.
- The company uses the least amount of materials to comprise their products for conducting the product development or design.
- The company would circumspectly evaluate whether their products were easy to recycle, reuse, and decompose for conducting the product development or design.
- The manufacturing process of the company effectively reduces the emission of hazardous substances or wastes.
- The manufacturing process of the company effectively recycles wastes and emission that can be treated and re-used.
- The manufacturing process of the company effectively reduces the consumption of water, electricity, coal, and oil.
- The manufacturing process of the company effectively reduces the use of raw materials.

C. Organizational performance (Lee & Choi, 2003)

OP1. In comparison to its main competitors, my company…
- Is more successful.
- Has a higher market share.
- Grows faster.
- Is more profitable.
- Is more innovative.