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Strategic Orientation, Management Characteristics, and Performance: A Study of Spanish SMEs

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This paper analyzes from a resource-based view the management characteristics of Spanish small and medium enterprises (SMEs) according to their strategic orientation and the consequences in terms of firm performance and business efficiency. The typology of strategies formulated by Miles and Snow has important implications for management, because depending on the strategic orientation adopted—defender, prospector, or analyzer—the firm can emphasize to a great extent some aspects of management, such as technological position, innovation, organizational design, and human resource management. Moreover, these aspects of management can largely determine firm performance and business efficiency. A sample of 1,351 Spanish SMEs provided the data for an empirical test of these issues. The results confirm the expected relationships, revealing, on the one hand, significant differences between prospector and defender SMEs regarding the key factors on which they base their management characteristics and, on the other hand, the different influences that each strategic orientation has on firm performance.

Introduction

The study and explanation of business competitiveness is a recurring theme examined by academics, consultants, and practitioners. The internationalization of economy, the frequent and uncertain changes, the greater competition among firms, the need for continuous innovations, and the growing use of information technologies force companies to face the challenge of improving their competitiveness. These difficulties are greater for small and medium enterprises (SMEs) because their economies of scale

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and their resources are less than those of large firms. However, what compensates for these weaknesses is the fact that SMEs may enjoy greater flexibility because of the simplicity of their internal organization, being faster at adapting and responding to changes.

This new situation reveals the need to suggest or find more efficient management processes so that SMEs can apply strategies that allow them to achieve a better performance. In the last years, strategic literature drawing on the context provided by the resource-based theory (Barney 1991; Prahalad and Hamel 1990; Wernerfelt 1984) has persistently insisted on the relevance of internal resources—especially those of intangible nature—as determining factors of business competitiveness (Hall 1993, 1992). To a certain extent, this simply reflects that, with increasing intensity, competence among firms is settled on grounds other than the industry structure (Rumelt 1991).

Several works show the clear preponderance of the firm effect over the industry effect when accounting for the firm's competitiveness (Mauri and Michaels 1998; Powell 1996; Roquebert, Phillips, and Westfall 1996; Rumelt 1991; Schmalensee 1985). This finding provides a solid empirical backing to the resource-based theory as a reference framework for the study of the differences of success among firms and leads us to find out more about the most adopted management techniques depending on the strategy followed by SMEs.

There is an increasing number of studies focusing on the main competitive factors of SMEs. The literature on this field shows that intangible factors (Grant 1991), such as structure and organizational change (Feigenbaum and Karnani 1991), human resource management (Bacon et al. 1996), innovation, and technological resources (Hitt, Hoskisson, and Ireland 1990), among others, are elements that clearly contribute to the SMEs' competitiveness and success.

However, there are still doubts regarding the competitiveness of SMEs. Does the improvement of firm management influence its competitiveness? What strategy should be followed? What factors really explain competitive success? The strategic orientation of the firm may be considered a key element with important implications for the management and efficiency of SMEs (Hambrick 1983; Snow and Hrebiniak 1980). Depending on the strategic orientation adopted, the firm may emphasize more or less aspects such as technological position, innovation, organizational design, and personnel management (Conant, Mokwa, and Varadarajan 1990). These aspects of management can largely determine firm performance and business efficiency (Slater and Narver 1993).

This paper intends to contribute to the existing body of knowledge about SMEs' management in different contexts. Given the scarcity of studies in this field, this paper, using data from more than 1,000 firms, aims to investigate the following: (1) the extent to which resource-based theory proves true when applied to SMEs, analyzing whether internal factors have significant negative effects on the SMEs' competitiveness and identifying the main competitive factors; (2) SMEs' factors of success and how they vary in relation to the strategic orientation; (3) whether the factors in question are different from those of large firms, consequently contributing to the knowledge of the SMEs' peculiar strategic behavior; and (4) in the light of the development of future research, this paper opens an important and innovative field: identifying the factors relevant for the competitiveness of SMEs, which may provide them with advantages against large firms; becoming aware of these factors is the only way for both firms and governments to take them into consideration and promote them in the future.

Thus, trying to provide evidence on this issue, we consider it interesting to analyze from a resource-based point of view the relationships between the strategic orientation of SMEs and their key management factors in order to observe whether such links exist and whether they occur in large firms. This objective is broached in four sections. First, the resource-based view provides us with the necessary framework to identify the main internal factors than can be sources of sustainable competitive advantage for SMEs. Using Miles and Snow's typology (1978), we analyze the behaviors of the different strategic types—defender, prospector, and analyzer—in relation to the way in which to manage these specific internal factors, examining the implications for performance as well. Second, we describe the empirical research methodology applied. Third, we present and evaluate the empirical findings. Finally, in the last section, we present conclusions and a discussion about the results obtained.

Research Theory and Hypotheses

Intangible Resources, Capabilities, and Competitive Advantage of SMEs

The resource-based theory (Barney 1991; Prahalad and Hamel 1990; Wernerfelt 1984), complementing the traditional model of Porter's (1985) competitive advantage, stressed the importance of the internal resources and capabilities of the firm in the context of the competitive environment (Collis and Montgomery 1995). In this way, the firms that devote their internal forces to exploit the opportunities of the environment and to neutralize threats, while avoiding weak points, are more liable to obtain competitive advantages than those that do not do the same (Barney 1995). The firm's internal resources and capabilities constitute a much more stable point of reference and develop as primary sources of benefit (Grant 1991) and crucial determinants in the formulation of the organizational strategy.

The resource-based approach bases the securing of competitive advantages on two concepts: resources and capabilities. Resources are those intangible and tangible assets linked to the firm in a semipermanent way, whereas capabilities are related to the way of accomplishing different activities, depending on the available resources (Grant 1991; Wernerfelt 1984). Several studies have confirmed that what is really necessary for the firm to reach and keep a competitive advantage stems from its intangible resources and its capabilities, because these—being based on noncodified data and tacit knowledge, which make it difficult to imitate them—require a slow process of development (Peteraf 1993; Barney 1991). Taking this into account, the strategic literature has stressed various factors (intangible resources and capabilities) as determinants of business competitiveness: technological capital and innovation, human resources, and internal organization design.

At the level of SMEs, investments on intangible resources and the creation of capabilities are quite problematic because of the necessity to increase the efficiency scale or size, in addition to the difficulties related to the internal and external growth through fusions or acquisitions (Pil and Holweg 2003). However, alliances and cooperation may allow SMEs to reach a sufficient dimension to obtain the advantages of being large and, at the same time, keep the advantages of SMEs in terms of specialization, reduction in costs, and flexibility (Pil and Holweg 2003; Fernández, Montes, and Vázquez 1996).

That is why we consider it interesting to look at whether, from the SMEs' perspective, it is possible to obtain com-

petitive advantage by the promotion of intangible factors and capabilities as large firms do. In this sense, by relying on the resource-based approach, together with the literature focused on the study of SMEs' competitiveness, it seems reasonable to study management characteristics—representing intangible resources and capabilities—that may be fundamental for their competitiveness: technological resources and innovation (Hitt, Hoskisson, and Ireland 1990), flexibility and organizational design (Feigenbaum and Karnani 1991), cooperation (Hoffmann and Schlosser 2001; Eisenhardt and Schoonhoven 1996), and human resources (Wagar 1998; Bacon et al. 1996).

On the other side, it is also interesting to study how these resources and capabilities determine the strategic process of the firm (Barney 1995), or whether the way in which resources and capabilities are managed is influenced by the strategic orientation of the firm (Slater and Narver 1993; Conant, Mokwa, and Varadarajan 1990), and whether such bond is similar to that existing among large firms. This leads us to the determination of the relationship between strategic orientation and firm performance (Snow and Hrebiniak 1980), allowing us to analyze the competitive effects of the use of intangible resources and capabilities in relation to the environment's effects (Mauri and Michaels 1998; Powell 1996; Roquebert, Phillips, and Westfall 1996; Rumelt 1991; Schmalensee 1985). These relationships are set out in the following discussion.

Strategic Orientation and Management Characteristics

Miles and Snow's (1978) typology has had one of the most widespread effects. Because of this and the view of organizations as a complete and integrated system in dynamic interaction with their environments (McDaniel and Kolari 1987), this typology may be considered unique. Various studies have empirically validated this typology (Doty, Glick, and Huber 1993; Shortell and Zajac 1990), which is considered academically acceptable and internally consistent (Dvir, Segev, and Shenar 1993). This typology is based on three premises. First, successful firms develop a systematic method of alignment with their environment, responding to the adaptive cycle. Second, four strategic orientations can be identified in every industry: defenders (firms focusing on a narrow and limited product-market domain, trying to protect their market share), prospectors (organizations that continuously search for new market opportunities through processes of innovation and development in products), analyzers (organizations that act defensively or prospectively depending on their environmental settings and the efficiency–innovation balance they require), and reactors (characterized by perpetual instability and inconsistency because of their incapacity to respond effectively to environmental changes). Third, defender, prospector, or analyzer may lead to satisfactory performance; reactor cannot because of its lack of internal consistency.

The relationship between strategic types and key management characteristics has been examined in previous studies (Slater and Narver 1993; McDaniel and Kolari 1987; Smith, Guthrie, and Chen 1986; Hambrick 1983; Snow and Hrebiniak 1980), which have generally found that strategic orientation differs with regard to managerial factors and basic competences (Conant, Mokwa, and Varadarajan 1990). However, they have all been limited to the context of large firms, and with few exceptions, this type of analysis has rarely been conducted in the context of SMEs. Therefore, in an attempt to provide evidence on the studied issue, it might be interesting to analyze the relationships between the strategic orientation of SMEs and their key management factors to see whether

such links exist and whether they occur as it is the case in large firms.

Technological Resources and Innovation. Technological development and innovation level constitute the basic elements to achieve competitiveness (Hitt, Hoskisson, and Ireland 1990). According to Miles and Snow (1978), the different strategic types vary depending on the innovations developed, as well as on the technological position they occupy with regard to their competitors. Prospector firms are expected to place a major emphasis on innovation (of product and market) as a means of gaining their competitive advantage and therefore to hold a strong technological position in relation to their competitors. By contrast, firms with a defender strategy focus more on efficiency than on innovation and have a weaker technological position than prospectors (Conant, Mokwa, and Varadarajan 1990; Snow and Hrebiniak 1980). The empirical literature has generally corroborated these points. For example, McDaniel and Kolari (1987) found that prospectors' degree of innovation is significantly greater than defenders', although such degree of innovation is similar between prospectors and analyzers. Slater and Narver (1993) found that prospectors' degree of innovation is greater than the analyzers' and defenders' in that order. Shortell and Zajac (1990) drew similar conclusions for a sample of health service firms. Dvir, Seveg, and Shenar (1993) found that prospectors are more dependent on technological progress and that their technological position is significantly greater than analyzers and defenders. In Spain, Camison (1997, p. 417) distinguishes three successful strategy types in SMEs, stressing that firms with a proactive or innovative strategy (similar to prospectors) are those that innovate most and have a better technological position, followed by those with a customer-oriented strategy (comparable to analyzers), and those that a adopt a modernization strategy (analogous to defenders). Considering the above, it can be stated that

H1: SMEs with a prospector orientation are more innovative and have a more consolidated technological position than SMEs with an analyzer orientation and SMEs with a defender orientation, in that order.

Flexibility and Organizational Design. Flexibility may be one of the most remarkable features that distinguish SMEs from large firms and the source of many of their principal advantages, such as speed of response, ability to innovate, and capacity to adapt (Feigenbaum and Karnani 1991). Compared with large firms, SMEs implement a greater number of management practices that promote flexibility, for example, subcontracting, hiring temporary or part-time employees, and making employ regulation (Ruigrok et al. 1999). However, these levels of flexibility may vary according to the aims pursued and strategic orientation. Prospector firms implement a large number of practices, leading to greater flexibility because of the need for constant innovation and adaptation to their product-market domain (Slater and Narver 1993; Conant, Mokwa, and Varadarajan 1990). Firms with a defender strategy use fewer flexible practices because they might obstruct maximum efficiency and cost minimization (Conant, Mokwa, Varadarajan 1990). In the context of SMEs, Camison (1997) also found a positive relationship between the level of proactivity of the firm strategy and its emphasis on flexibility. The most innovative and proactive SMEs (prospector orientation) adopt more flexible practices than the most conservative ones (analyzers and defender orientations). Innovation management also has an effect on organizational design in that it forces SMEs to modify their organizational structure. According to

Camison (1997, p. 335), innovation lies on interdisciplinary teams that can exploit co-specialization to closely coordinate innovation, product development, design, engineering, production, and marketing. It is clear from this point that the most innovative firms will have more developed organizational structures—in terms of number of departments—in order to achieve the necessary interfunctional coordination to be able to innovate in their product-market domains. These points yield the following hypothesis:

H2a: SMEs with a prospector orientation implement a greater number of flexible practices than SMEs with an analyzer orientation and SMEs with a defender orientation, in that order.

H2b: SMEs with a prospector orientation have a more developed organizational structure than SMEs with an analyzer orientation and SMEs with a defender orientation, in that order.

Cooperation. There are very few firms with sufficient resources to configure their value chain with absolute independence, which means that cooperation becomes a very interesting option, particularly for SMEs (Hoffmann and Schlosser 2001). Cooperation agreements in the context of SMEs appear as a strategic alternative to improve their competitiveness, because they can access major resources without having to merge, therefore maintaining their flexibility, which enables them to adapt to changes in their environment (Glaister and Buckley 1996). The study of cooperation between SMEs has focused on the strategic advantages provided by this management practice. In particular, one of the main factors examined by this literature concerns the relationships between business strategy and cooperation (Eisenhardt and Schoonhoven 1996). Some studies, such as those by Sing (1997) and Shan (1990), state that SMEs in highly competitive markets are associated with a greater number of alliances because of the greater need for technological resources. Eisenhardt and Schoonhoven (1996) argued that degree of innovation is the fundamental strategic element that determines the need for cooperation. They found that SMEs with more proactive and innovative strategies (prospectors) conclude a larger number of cooperation agreements than firms with more conservative strategies (analyzers or defenders) because of the greater need for resources to maintain their level of technology and innovation. Taking into account the arguments stated above, we can formulate the following hypothesis:

H3: SMEs with a prospector orientation sign a larger number of cooperation agreements than SMEs with an analyzer orientation and SMEs with a defender orientation, in that order.

Human Resources. Emphasis on adequate human resource management is currently one of the main concerns of firms, because various studies have found a positive relationship between human resource management and business performance (Huselid, Jackson, and Schuler 1997; Huselid 1995). However, according to Zahra and Pearce (1990, p. 752), top managers will emphasize different philosophies of human resource management depending on the organization strategy. In line with that, Miles and Snow (1984) defined the most adequate human resource practices for each of the strategic types. These relationships have generally been supported in the empirical literature (Peck 1994; Raghuram and Arvey 1994). Defender firms usually have less developed systems of human resource management, because they use recruitment and internal selection. They design traditional compensation systems based on a fixed salary and

rarely appraise employee performance. However, they attach major importance to long-term training (Miles and Snow 1984). In contrast, prospector firms make use of more developed human resource management systems: they resort to recruitment and external selection, they design evaluation systems based on performance, and reward is based on variable compensation. Nevertheless, they offer limited and informal training (Miles and Snow 1984). In the context of Spanish SMEs, the study of Camison (1997) is again the only reference in this line of research. The author found that the most innovative firms (prospectors) opt for more developed systems of human resource management but attach less importance to training. Conversely, the least proactive firms (analyzers and defenders) select less developed human resources practices, although training plays a major role. These arguments yield the following hypothesis:

H4a: SMEs with a prospector orientation put greater emphasis on developing systems of human resource management than SMEs with an analyzer orientation and SMEs with a defender orientation, in that order.

H4b: SMEs with a defender orientation confer greater importance to training than SMEs with an analyzer orientation and SMEs with a prospector orientation, in that order.

Strategic Orientation and Firm Performance

One of the main conclusions reached by Doty, Glick, and Huber (1993) was that Miles and Snow's typology of strategies is a powerful predictor of business efficiency (explaining approximately 24 percent of the firm's variation in efficiency), even more than previous papers had found—for example, Hambrick (1983). Considering this point, it might be interesting to analyze to what extent the strategic orientation of SMEs can determine their performance.

Efficiency analysis of the different strategic types in Miles and Snow's model has been the subject of numerous studies (Slater and Narver 1993; Veliyath and Shortell 1993; Wright et al. 1991; Conant, Mokwa, and Varadarajan 1990; Zahra and Pearce 1990; Snow and Hrebiniak 1980) with generally inconclusive results. Miles and Snow (1978) propose that defenders, prospectors, and analyzers have the chance to be equally successful in developing their activities and that, in any case, these three strategic types will perform better than reactors. Wright et al. (1991) and Conant, Mokwa, and Varadarajan (1990) empirically supported this theory and argued that the three strategic archetypes achieve a similar performance, which is always better than reactors. However, in their review of the research on typology, Zahra and Pearce (1990) concluded that the support concerning the existence of similar performance between defenders, prospectors, and analyzers has been mixed. There are even works that contradict the theory, such as that of Snow and Hrebiniak (1980), which found that reactors outperform prospectors and defenders in the air industry. In short, literature on this subject can be summarized in the statement made by Segev (1987, p. 574): on average, the performance level of defenders, prospectors, and analyzers is similar; however, a higher performance or efficiency level requires a greater degree of alignment by organizations with their environment.

In the context of SMEs, there are a few references on this line of research. On the one hand, Smith, Guthrie, and Chen (1986) maintained that the efficiency of the strategic categories is contingent on size: defenders outperform analyzers and prospectors in the case of small firms. These findings may be surprising, because they contradict the postulates relating to economies of scale; the

authors attributed these results to the characteristics of the electronic manufacturing sector. On the other hand, Camison (1997) examined the relationships between the strategic orientation of SMEs and their performance level. Using three measures of performance—profitability, productivity, and market share—the author found that "the most profitable and productive organizations, whatever the index chosen, [are] those with more proactive strategic behaviours integrated into groups oriented towards innovation and quality, and towards costumer satisfaction, in that order (Camison 1997, p. 413). It can be deduced from the findings of this paper that prospector, defender, and analyzer firms have a positive performance and always outperform reactor firms, which is in line with Miles and Snow's (1978) arguments. However, some differences have been observed between the three success strategies: prospectors outperform analyzers and defenders, in that order (Camison 1997, p. 417), which agrees with the conclusions reached by, among others, Segev (1987). This may be accounted for the fact that prospectors, given their characteristics, have a greater capacity to adapt to environmental trends than analyzers and defenders (Veliyath and Shortell 1993). In view of the foregoing arguments, H5 is formulated as follows:

H5: SMEs with a prospector orientation outperform SMEs with an analyzer orientation and SMEs with a defender orientation, in that order.

Methodology

Sample and Data Collection

Data collection was carried out by using a sample design that follows the principles of stratified sampling in finite populations. The population, comprising firms from 10 to 250 workers, was segmented according to two criteria: industry and size. The industries considered were manufacturing, construction, and services. Two groups were established according to size (from 50 to 250 employees). The population was obtained from DIRCE directory (Central Directory of Firms edited by the National Institute of Statistics of Spain).

Firm selection was performed by using the SABE database, which contains economic and financial information on more than 190,000 firms. The distribution of the sample size over the specified strata was carried out by using proportional affixation criterion (firms' sample in each stratum is proportional to the relative weight of the stratum in relation to the population). Within each stratum, selection was conducted through simple random sampling. The target sample size was 1,299 firms, considering an overall maximum error of 5 percent with a 95 percent level of confidence.

Data were gathered by postal survey using self-administered questionnaires addressed to the firms' general managers. As a result of past experiences, we decided that we should calculate a total response rate of around 4.9 percent, which meant a selection of 26,510 firms, as shown in Table 1. The process of sending and subsequently receiving the questionnaires was carried out from May to September 2000. The total number of valid responses was 1,351, which represents 5.1 percent of the total number of questionnaires sent (Table 1). Comparing the response level within each stratum, we can state that representativeness of the final sample is satisfactory.

Measures of Variables

Strategic Orientation. The paragraph method was selected for measuring strategic orientations, which entails showing respondents paragraphs with alternative descriptions of the Miles and Snow strategic archetypes and asking them which identifies best their firms. Despite the limitations it presents (Conant, Mokwa, and Varadarajan 1990), the paragraph method has been widely

Table 1
Sample Distribution and Valid Responses

Industry	Size				Total	
	Small		Medium		Sample	Responses
	Sample	Responses	Sample	Responses		
Manufacturing	5,796	529	3,592	247	9,388	776
Construction	6,612	143	1,490	59	8,102	202
Service	6,449	285	2,571	88	9,020	373
Total	18,857	957	7,653	401	26,510	1,351

accepted in research on strategy (McDaniel and Kolari 1987; Snow and Hrebiniak 1980), because the managers' perception is very close to the strategic reality of the firm (James and Hatten 1995; Shortell and Zajac 1990). The descriptions used for strategic types were adapted from Snow and Hrebiniak (1980). A qualitative variable was created with three values corresponding to each strategic archetype: defender, prospector, and analyzer.

Technological Position and Innovation.[1] Technological position was measured through a scale of values between 1 and 4, where 1 = weak; 2 = sustainable; 3 = good; and 4 = strong. Innovation was measured by two variables. The first referred to the number of areas (management, purchases, sales, products, processes, and administration) in which the firm had made innovations in the previous two years, varying from 0 to 6. The second focused on the firm's use of new information and communication technologies (e-mail, web page and contact with clients/suppliers via the internet), measured by a variable recording the quantity of information technologies used, with values between 0 and 3.

Flexibility and Organizational Design.[2] Flexibility was defined as the sum of the number of flexible practices that firms used or had used over the previous two years (establishing agreements or alliances with others, subcontracting jobs, hiring part-time workers, hiring workers through a temping agency, making employ regulation), measured by a variable with values from 0 to 5. Organizational design was evaluated by measuring the degree of organizational structure development, with a variable recording the number of departments which the firm differentiated in its organizational structure (sales, production, purchases, accounting/finance, human resources, computing, and R&D), with values from 0 to 7.

[1]The reliability of these two variables was confirmed by Cronbach's alpha coefficient, which indicated a value of 0.74 for technological position and 0.69 for innovation.

[2]The reliability of these two variables was confirmed by Cronbach's alpha coefficient: 0.84 for flexibility and 0.77 for organizational design.

Cooperation.[3] Cooperation was defined by a variable reflecting the number of agreements made by the firm over the previous two years for product marketing, joint production, purchases and supplies, sharing of warehouses or machinery, and development of new technologies. This variable had values ranging from 1 to 5.

Human Resources. The activities related to human resource management have been taken through five variables (recruitment and selection, performance appraisal, training, promotion and career plans, and compensation systems) that were measured on a scale from 1 to 5, where 1 = minimum development and 5 = maximum development. These five variables were used to construct a single indicator of the degree of development of the human resource management system, defined as the means value of the score obtained for each of the above variables.[4] On the other hand, the importance of training was measured as the total amount of training activities spent by the firm, indicating the volume of resources devoted by the firm to this purpose.

Firm Performance. Firm performance is a multiaspect phenomenon that is difficult to measure (Snow and Hrebiniak 1980). The literature has shown that both quantitative and qualitative indicators have certain limitations, and it has been recommended that they be used in combination. (Hambrick 1983). Therefore, the present study used two different measures of performance. The first—quantitative—measure was return on investment (ROI). The second—qualitative—measure, mostly called performance indicator, was the result of averaging the mean value of the scores obtained for each of the following six variables on the scale from 1 (much worse than competitors) to 5 (much better): knowledge and experience in the business; ability to provide quality products or services; capacity to develop new products and processes; ability to manage and work in a group; workforce productivity; and firm's responsibility concerning the environment.[5]

Control Variables. Because the literature shows that there is a strong positive relationship between size and performance, firm size was introduced through sales. The manager's education level also may affect the level of firm performance. This variable was measured on a scale from 1 to 4, where 1 = primary education, 2 = secondary education, 3 = university education, and 4 = postgraduate education. Finally, firms in the hands of family groups are generally outperformed by those that are not. Therefore, the family firm variable was introduced a dichotomy, taking a value of 1 when a

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[3]The reliability of cooperation was confirmed by Cronbach's alpha coefficient with a value of 0.73.

[4]The reliability of this indicator was confirmed by Cronbach's alpha coefficient, which indicated a value of 0.78. The validity of this indicator was also confirmed with regard to its discriminating aspect by resorting to a factor analysis following the principal component method. A single factor was obtained with an eigenvalue above 1 (2.667), which explains 53.34 percent of the total variance. The factor loadings had high values in all the items; the KMO index (0.80) and Bartlett's test ($p = 0.001$) also showed satisfactory values.

[5]Reliability and validity were confirmed. Cronbach's alpha coefficient indicated a value of 0.72. Factor analysis of the principal components gave a single factor with an eigenvalue of 2.532, which explains a total variance of 42.2 percent. The factor loadings had high values in all the items; the KMO index (0.75) and Bartlett's test ($p = 0.001$) also showed satisfactory values.

family group owns more than 50 percent of the capital and 0 in all other cases.

Results

Strategic Orientation and Management Characteristics

Table 2 shows the results of the analysis of variance and Schéffe's means comparison test for firms in the manufacturing industry. As we expected, the SMEs' management characteristics vary significantly according to their strategic orientation, except for aspects of cooperation. Prospector SMEs are characterized by a better technological position, greater innovation, and greater use of information technologies than analyzer and defender SMEs. Prospectors also implement a larger number of flexible practices and have a greater organizational development than analyzers and defenders. Finally, prospectors are more concerned about human resource management, which results in a more developed function. Contrary to what was expected, these firms also spend larger amounts on training than analyzers and defenders. These results clearly support hypotheses 1, 2a, 2b and 4a. Hypotheses 3 and 4b are rejected.

Table 3 shows the results obtained for SMEs in the construction industry. These results are not as significant as those related to the manufacturing industry, although they do reveal different management behaviors with regard to strategic orientation in all areas except for cooperation. The differences in means show that prospector SMEs are characterized by having a better technological position than analyzers and defenders, as well as by being clearly more innovative than defenders. As for flexibility, the differences are practically negligible between firms; only analyzers are more flexible than defenders. The most developed organizational structure is again shown by prospectors. With regard to human resource management, prospectors and analyzers have more developed systems than defenders. However, no differences are found for amounts spent on training. These results support H1, H2b, H4a, and only partially, H4b.

Table 4 shows the results obtained for the service industry. Except for amounts spent on training, all the other variables are significant in the analysis of variance. Prospector SMEs specifically enjoy a better technological position than analyzer and defender firms. As for areas of innovation, prospector and analyzers clearly outperform defenders. In the use of innovation technologies, the tendency is similar, although not so marked. In the application of flexible practices, prospectors and analyzers significantly outperform defenders. Organizational development is also greater in prospectors than in defenders. In cooperation agreements, prospectors are slightly better than analyzers and defenders. As for development of human resource management, prospectors lead the field ahead of all the others. Nevertheless, the differences in amounts spent on training are insignificant. These results support H1, H2a, H2b, H4a, and partially, H3. H4 is rejected.

In short, it can be said that the expected relationships were generally satisfied, although with slight differences. First, it is seen that the industry clearly conditions the studied relationships: it is in the manufacturing industry that the greatest number of relationships were satisfied, being followed by the services. By contrast, the construction sector shows the most erratic behavior. The most noticeable differences occurred, as expected, between prospectors SMEs (better technological position, more innovative, more use of information technologies, greater implementation of flexible practices, more developed organizationally, and more concerned about human resource management) and defender SMEs. Analyzers were always midway between the two, although with a behavior closer to prospector firms.

Table 2
Variance Analysis and Means Comparison—Manufacturing Industry

	Strategic Orientation[a]			*F*	Comparison of Means[b]		
	Prospectors (1)	Analyzers (2)	Defenders (3)		1–2	1–3	2–3
Technological Position	3.17 (0.73)	2.69 (0.73)	2.53 (0.75)	41.84***	***	***	*
Innovation Areas	3.35 (1.64)	3.16 (1.46)	2.40 (1.43)	25.07***	n.s.[c]	***	***
Information Technologies	2.36 (0.81)	2.13 (0.88)	1.70 (1.03)	28.05***	**	***	***
Flexible Practices	2.29 (1.17)	2.06 (1.21)	1.69 (1.07)	14.81***	**	***	***
Departments	4.86 (1.78)	4.44 (1.85)	3.76 (1.95)	19.39***	*	***	***
Agreements with Others Firms	1.78 (1.00)	1.73 (0.91)	1.52 (0.85)	n.s.	n.s.	n.s.	n.s.
Human Resource System	2.94 (0.76)	2.73 (0.76)	2.47 (0.84)	16.80***	**	***	***
Training Investment	59,132.34 (181,555.22)	24,212.07 (49,904.62)	23,108.71 (55,911.33)	4.82***	**	**	n.s.
Number of Cases	209	305	221				

[a]Means and standard deviations.
[b]Scheffé's multiple comparison test.
[c]n.s. = not significant.
*$p < 0.1$.
**$p < 0.05$.
***$p < 0.01$.

Table 3
Variance Analysis and Means Comparison—Construction Industry

	Strategic Orientation[a]			*F*	Comparison of Means[b]		
	Prospectors (1)	Analyzers (2)	Defenders (3)		1–2	1–3	2–3
Technological Position	3.29	2.59	2.40	15.14***	***	***	n.s.[c]
	(0.56)	(0.60)	(0.71)				
Innovation Areas	3.19	2.59	2.26	3.96**	n.s.	**	n.s.
	(1.60)	(1.20)	(1.50)				
Information Technologies	1.86	1.62	1.26	4.35**	n.s.	**	*
	(1.06)	(0.98)	(0.97)				
Flexible Practices	2.38	2.33	1.94	2.87*	n.s.	n.s.	*
	(1.07)	(1.16)	(1.10)				
Departments	4.76	3.28	3.03	7.18***	***	***	n.s.
	(1.26)	(1.98)	(1.92)				
Agreements with Others Firms	1.82	1.38	1.30	n.s.	n.s.	n.s.	n.s.
	(1.33)	(0.55)	(0.47)				
Human Resource System	3.24	2.92	2.74	3.78**	n.s.	**	n.s.
	(0.70)	(0.67)	(0.77)				
Training Investment	13,965.21	49,281.59	7,874.18	n.s.	n.s.	n.s.	n.s.
	(23,908.72)	(183,246.16)	(15,857.62)				
Number of Cases	21	68	77				

[a]Means and standard deviations.
[b]Scheffé's multiple comparison test.
[c]n.s. = not significant.
*$p < 0.1$.
**$p < 0.05$.
***$p < 0.01$.

Table 4
Variance Analysis and Means Comparison—Service Industry

	Strategic Orientation[a]			*F*	Comparison of Means[b]		
	Prospectors (1)	Analyzers (2)	Defenders (3)		1–2	1–3	2–3
Technological Position	3.10 (0.58)	2.64 (0.63)	2.47 (0.63)	22.58***	***	***	*
Innovation Areas	3.03 (1.36)	2.74 (1.35)	2.16 (1.09)	13.09***	n.s.[c]	***	***
Information Technologies	2.08 (0.87)	1.91 (1.05)	1.71 (0.97)	3.56**	n.s.	**	n.s.
Flexible Practices	2.24 (1.01)	2.17 (1.29)	1.68 (1.12)	7.63***	n.s.	***	***
Departments	3.79 (1.81)	3.59 (1.70)	3.20 (1.54)	3.52**	n.s.	**	n.s.
Agreements with Others Firms	1.73 (0.81)	1.44 (0.69)	1.50 (0.61)	2.45*	*	n.s.	n.s.
Human Resource System	3.14 (0.72)	2.80 (0.82)	2.66 (0.77)	8.10***	**	***	n.s.
Training Investment	41,285.47 (175,291.99)	34,094.65 (107,053.93)	9,084.72 (16,287.05)	n.s.	n.s.	n.s.	n.s.
Number of Cases	72	133	133				

[a]Means and standard deviations.
[b]Scheffé's multiple comparison test.
[c]n.s. = not significant.
*$p < 0.1$.
**$p < 0.05$.
***$p < 0.01$.

Strategic Orientation and Firm Performance

Table 5 shows the means, standard deviations, and correlations of the variables used in subsequent regression for SMEs in each of the industries. Although there are quite significant correlations between variables, they are not excessively high, which indicates that there are no problems of multicollinearity (as corroborated by the indices of tolerance).

H5 predicts that SMEs with a prospector strategic orientation outperform those that have an analyzer or defender orientation. Strategic orientation has been introduced as a dummy variable: two categories—prospector and defender—have been analyzed directly, leaving analyzer as a reference category. Table 6 shows the results of the regression analysis.[6]

In the manufacturing industry, differences for type of firm performance introduced as a dependent variable can be noticed. With ROI, the coefficient of prospector orientation is significant, although the overall model is not, which rejects H5. Conversely, when an overall indicator of performance is introduced, the coefficient for prospector orientation is positive and significant, whereas defender orientation is negative and significant. This indicates that, with respect to analyzers, SMEs with a prospector orientation outperform defenders, which confirms H5. The results obtained in the construction industry were similar to the abovementioned. When ROI was used, the coefficients were not significant in any case, which means that H5 cannot be accepted. In contrast, with overall indicator of performance, the coefficients of the variables prospector orientation and defender orientation were significant: the former, positive and the latter, negative. Again, H5 is confirmed. For the services industry, with ROI, the coefficient of the defender orientation is positive and significant. However, the overall regression model is not significant, which means that the hypothesis is rejected. With overall indicator, the regression model is indeed significant, the same as the coefficient of prospector strategy, which, being positive, indicates that only this strategic orientation guarantees a substantial improvement in firm performance. These results partially support H5.

In short, the regression results indicate that, when ROI is used as a performance variable, the expected relationships are not satisfied. On the contrary, when overall indicator is used, the relationships proposed are generally satisfied. The prospector orientation provides SMEs with better performance than the analyzer orientation, in that order.

Conclusions

This study examines from a resource-based perspective the influence of strategic orientation in SMEs on the most important characteristics of their management, analyzing the effect that the different strategic profiles have on the performance of these organizations as well. As most of the literature studied these relationships in the context of large firms, the present paper deals with a sample of Spanish SMEs.

As for the first four hypotheses, which address the relationships between the strategic orientation of SMEs and their management characteristics, it can be said that a high percentage of the expected links was fulfilled. These results show the validity of the

[6]The same analysis of regression was carried out including the enterprise's age as control variable. However, it did not turn out to be significant in any case, and the results of the analysis were similar to those showed in Table 6. Thus, it was decided to not include it in the models of regression.

Table 5
Means, Standard Deviations, and Correlations for All Variables

	Mean	S.D.	1	2	3	4	5	6
Manufacturing Industry								
1. Size[a]	16,876.41	64,981.24						
2. Managing Director Training	2.72	1.15	0.12***					
3. Family Firm	0.69	0.46	−0.13***	−0.19***				
4. Prospector Orientation	0.27	0.44	0.07**	0.05	−0.03			
5. Defender Orientation	0.28	0.45	−0.09**	−0.13***	0.01	−0.38***		
6. Return on Investment	0.10	0.09	−0.02	−0.04	0.03	0.08**	−0.03	
7. Overall Indicator	3.64	0.51	0.10***	0.09**	−0.02	0.28***	−0.19***	0.08**
Construction Industry								
1. Size[a]	8,435.44	28,547.73						
2. Managing Director Training	2.46	1.15	0.21***					
3. Family Firm	0.79	0.41	−0.20***	−0.22***				
4. Prospector Orientation	0.11	0.31	−0.04	0.01	0.09			
5. Defender Orientation	0.46	0.50	−0.08	−0.11	−0.05	−0.32***		
6. Return on Investment	0.10	0.08	−0.13*	−0.19**	0.17**	−0.02	0.15*	
7. Overall Indicator	3.68	0.51	−0.01	0.04	0.11	0.25***	−0.24***	0.07
Service Industry								
1. Size[a]	21,416.10	162,989.55						
2. Managing Director Training	2.65	1.13	0.06					
3. Family Firm	0.74	0.44	−0.10*	−0.27***				
4. Prospector Orientation	0.19	0.39	0.11**	0.05	−0.01			
5. Defender Orientation	0.35	0.48	−0.05	−0.08	0.02	−0.36***		
6. Return on Investment	0.09	0.10	−0.01	0.01	0.00	0.01	0.13**	
7. Overall Indicator	3.61	0.50	0.09	0.11*	−0.11**	0.28***	−0.12**	0.01

[a]Thousands of euros.
*$p < 0.1$.
**$p < 0.05$.
***$p < 0.01$.

Table 6
Multiple Regression Analysis[a]

	Manufacturing Industry		Construction Industry		Service Industry	
	ROI[b]	Overall Indicator	ROI	Overall Indicator	ROI	Overall Indicator
Firm Size	−0.016	0.076**	−0.063	−0.009	−0.009	0.019
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Manager Education Level	−0.054	0.048	−0.131	0.066	−0.003	0.067
	(0.003)	(0.017)	(0.005)	(0.032)	(0.005)	(0.025)
Family Firm	0.019	0.001	0.120	0.087	0.002	−0.122**
	(0.008)	(0.041)	(0.015)	(0.093)	(0.013)	(0.065)
Prospector Orientation	0.078*	0.237***	0.020	0.201***	0.051	0.279***
	(0.009)	(0.045)	(0.021)	(0.118)	(0.016)	(0.072)
Defender Orientation	−0.001	−0.086**	0.114	−0.147*	0.139**	−0.028
	(0.009)	(0.044)	(0.012)	(0.076)	(0.013)	(0.062)
F	1.317	14.685***	2.190*	3.717***	1.070	7.574***
R^2	0.010	0.094	0.067	0.099	0.017	0.112

[a]Standardized coefficients and standard error in brackets.
[b]ROI = return on investment.
*$p < 0.1$.
**$p < 0.05$.
***$p < 0.01$.

resource-based theory when applied to SMEs. We have found that these firms focus their attention on the studied factors of management: technology and innovation, organizational design, and human resources, based on intangible resources and capabilities (Hall 1993; Grant 1991), as key elements that allow it to achieve a sustainable competitive advantage (Peteraf 1993; Barney 1991). In this way, it may be stated that, in accordance with previous studies (Mauri and Michaels 1998; Powell 1996; Roquebert, Phillips, and Westfall 1996; Rumelt 1991; Schmalensee 1985), the competitiveness of SMEs is based on internal elements supported by resources and capabilities difficult to imitate, such as technological innovation, flexibility and organizational design, and human resources management (Wagar 1998; Bacon et al. 1996; Feigenbaum and Karnani 1991; Hitt, Hoskisson, and Ireland 1990). The only exception has been found in relation to cooperation. Contrary to what was expected (Hoffmann and Schlosser 2001; Eisenhardt and Schoonhoven 1996), cooperation in activities does not manifest itself as an element important for the competitive advantage of SMEs (Pil and Holweg 2003), especially in the Spanish environment, where there are not formalized networks to emphasize the agreements and alliances between small firms (Fernández, Montes, and Vásquez 1996).

On the other hand, as it was expected, the use of internal factors is different, depending on the strategic behavior of SMEs (Barney 1995), and it is here where greater differences between these firms and larger ones are found. In general, we may conclude that there are differences in the behavior observed in the management variables between firms with prospector and defender strategies that are much smaller than the differences between prospectors and analyzers. Therefore, the validity of Miles and Snow's (1978) model can be accepted overall for the analysis of SMEs. In addition, we would like to point out some specific results.

First, technological position and innovation attain higher values when SMEs follow a prospector orientation than when they are defenders or analyzers. These results support the postulates of Miles and Snow (1978) that firms with a prospector strategy place greater emphasis on innovation and have a better position in technological resources than those following a defender strategy. This conclusion is also reached in the empirical studies for larger firms (Slater and Narver 1993; Conant, Mokwa, and Varadarajan 1990; McDaniel and Kolari 1987) and for SMEs (Camison 1997).

Second, SMEs implementing a larger number of flexible practices are seen to be among those that follow a prospector rather than a defender strategy, similar to the results reported by Slater and Narver (1993) and Conant, Mokwa, and Varadarajan (1990), and in the context of Spain, Camison (1997). Likewise, prospector firms are shown to have more differentiated organizational structures, with a larger number of organizational units with different structures.

Third, SMEs following a prospector strategy put greater emphasis on developing their systems of human resource management, a result that confirms the model proposed by Miles and Snow (1984) and which is in line with the findings of Camison (1997). However, this confirmation is not complete: the results relating to investment in training are not consistent with those reported in the literature, because defender firms are more concerned about training their employees. Conversely, in the analyzed sample of SMEs, the greatest emphasis on training appears among prospectors.

On the other hand, it is important to notice the different results depending on the activity analyzed. The results obtained in relation to the manufacturing industry are more in line with the theoretical design, whereas there are fewer significant results in services and construction. This may be explained by the fact that the services and construction sectors are singular and heterogeneous, especially in the context of SMEs. In consequence, we may say that the results were poorer than expected for these two industries.

H5, which addressed the relationships between SMEs' strategy and performance, obtained disparate results. Two different measures of performance were used: an accounting measure—ROI—and a perception measure of the firm's situation with respect to its competitors, synthesized in an overall performance indicator. ROI as a performance variable does not give any relevant result. This result, as indicated by Miles and Snow (1978) and corroborated by Wright et al. (1991), may be due to the fact that firms—SMEs in that case—do have the opportunity to perform well independent of the strategy followed. Likewise, we should not overlook the limitations of the accounting measures of firm performance, because they are based on accounting data, which, apart from possible errors, give a limited idea of firm performance and do not take tangible assets into consideration (Kren and Kerr 1997, p. 300), which might explain the lack of significant results in contrasting this hypothesis.

Conversely, when the overall indicator is used as a measure of performance, the hypothesis gains support. It is found that SMEs with a prospector strategy outperform analyzers and defenders, in this order. This result is contrary to Miles and Snow's (1978) claims but consistent with the conclusions reached for large firms by Slater and Narver (1993) and Zahra and Pearce (1990), and by Camison (1997) for SMEs. They show that strategic orientations differ with regard to firm performance and that firms with a more prospector orientation usually outperform the rest because of their greater proactivity and capacity to adapt. These results add some nuances to the findings of the previous hypotheses, taking into consideration the resource-based view: the SMEs that have a strategic prospector orientation are the ones that best take advantage of their internal resources and capabilities, leading to a greater effect on the results and, consequently, to a better capability in the long term. Likewise, it is necessary to highlight that these firms have strategic and management behavior more similar to that of large firms.

Again, the results obtained differ among industries, better results being found for manufacturing and construction industries than for services, probably because of the heterogeneity of this sector compared with the two first.

After the global analysis of results, it may be stated that there are not too many differences between the strategic behavior of SMEs and that of large firms. Nevertheless, there are still certain contrasts between SMEs and large firms in relation to the links between strategy and results. Thus, the main question that we should ponder on in this respect is: why might the relationship between strategy and performance of SMEs differ from those of large firms, considering the same strategy typology. The literature does not offer clear conclusions in this sense but merely contrasts the differences in management according to the strategic orientation for large firms (Slater and Narver 1993; McDaniel and Kolari 1987; Smith, Guthrie, and Chen 1986; Hambrick 1983; Snow and Hrebiniak 1980). Because of this, we are dealing with a relatively unexplored field in the literature. Notwithstanding, we have drawn some conclusions that may account for the differences existing between large firms and SMEs: (1) the scarce professionalism in the management of SMEs may have an influence on the lack of a strategic behavior that is more structured and formal than that of large firms; (2) SMEs usually have less information about their environment than large firms, which may result in less capability for strategic responses to such changes; and (3) because of the characteristics of the country, in this case Spain, we find that a large number of SMEs apply a reactive management and that therefore they are apart from conventional strategic approaches.

All in all, the lack of a professionalized view in the strategic formulation and establishment in SMEs may have a bearing on the lack of adaptation to the environment, and consequently, it may account for the worst economic and financial results of SMEs in relation to larger firms. Nonetheless, it is also necessary to point out that this situation does not take place in every SME. There is a group of them—the most innovative ones—that could be placed at the level of large firms as far as the link between strategy and result is concerned, obtaining sustainable competitive advantages based on their flexibility and innovation. However, the group of more conservative or defensive firms, by adopting more reactive and traditional strategies, has problems to compete in the market, obtaining poorer final results.

Furthermore, it is important to point out that we did not find differences by age in SMEs in relation to the link between strategy and performance. Therefore, it seems that contrary to larger

firms, the tenure of smaller companies has no influence on their strategic behavior and, consequently, on their performance.

In short, the aim of this paper is, from a resource-based perspective, to provide new evidence on the competitiveness of SMEs by analyzing the extent to which strategic orientation conditions their form of management and, therefore, competitiveness. The results confirm not only what previous studies had demonstrated for large firms but also what was almost unexplored in relation to SMEs. On the one hand, it is fundamental to mention the importance of strategic orientation as an element that influences SMEs' management and determines their performance and, on the other hand, it has been confirmed that SMEs with a more prospector strategy generally outperform the rest because of their greater capacity for management and adaptation to the current environment.

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