Characteristics of organizational structure relating to hybrid competitive strategy: Implications for performance

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ABSTRACT

This study examines the characteristics of organizational structure that relate to hybrid competitive strategies. Such strategies seek to obtain higher performance levels by simultaneously emphasizing high differentiation and low-cost levels. In addition, this paper analyzes the mediating role of competitive strategy in the relationship between organizational structure and firm performance. The study examines a sample of large Spanish firms belonging to different sectors. The findings reveal that hybrid competitive strategy influences firm performance positively. Similarly, organizational complexity and the existence of formalization positively influence hybrid competitive strategy, whereas centralization has a negative influence. Organizational structure does not exert a direct influence on performance, but an indirect one, through hybrid competitive strategy.

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1. Introduction

In the field of competitive strategy, some studies highlight the use of hybrid competitive strategies (which emphasize both low costs and differentiation) and defend their use to achieve a better performance (Acquaah and Yasai-Ardekani, 2008; Pertusa-Ortega et al., 2009; Spanos et al., 2004).

No study appears to be available that analyzes empirically the characteristics of organizational design that associate with the development of those hybrid strategies. Some studies point out that external pressure and competition force organizations to abandon mechanistic organizational forms and to design more flexible structures (GullØv, 2006; Morris et al., 2006; Schilling and Steensma, 2001), but a central and important question is whether these organic, flexible forms are appropriate for the development of hybrid competitive strategies. Thus, a need is apparent for research on the attributes of organizational structures that relate to hybrid competitive strategies.

The study here examines the characteristics of organizational structure that relate to hybrid competitive strategies, which seek to obtain higher performance levels. In addition, the study analyzes the mediating role of competitive strategy in the relationship between organizational structure and firm performance.

This study aims to make several contributions. First, this study develops theoretical ideas with regard to the relationship between

hybrid competitive strategies and organizational design and their impact on performance. Second, from a methodological point of view, the model proposed in this paper uses a molar second-order factor to measure hybrid competitive strategy. In other words, the study conceptualizes hybrid competitive strategy as an emergent construct formed from formative strategic dimensions rather than a reflective construct (Diamantopoulos, 2008; Podsakoff et al., 2006).

The findings show that the existence of formalization, complexity and decentralization have a positive influence on hybrid competitive strategy, and the latter positively influences firm performance, which supports a mediating effect of the competitive strategy on the relationship between structure and firm performance.

The structure of the paper is as follows. The next section contains the theoretical framework and the hypotheses. The following section describes the study methods, after which is the presentation and discussion of the results. The final section offers the main implications and suggestions for further research.

2. Theory and hypotheses

2.1. Hybrid competitive strategy and organizational structure

The present section offers some arguments about how formalization, complexity and decentralization are related to a hybrid competitive strategy.

The relevant literature traditionally associates formalization with inertia, stability, and efficiency (Mintzberg, 1979; Moreno-Luzón and Lloria, 2008). High degree of formalization likely associates with low-cost strategies, whereas low degree of formalization likely associates with differentiation strategies (Miller, 1988). Nevertheless,

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other studies reconceptualize formalization in more dynamic terms (Adler and Borys, 1996; Becker et al., 2005; Feldman and Pentland, 2003).

Formal procedures include the best practices that decision makers learn from experience, reduce ambiguity, and allow employees to deal more effectively with contingencies in their jobs (Adler and Borys, 1996; Jansen et al., 2006). Rules providing specific behavioral directives for members to follow generate cost savings through the reduction of money wasted and time lost, but can equally encourage collaboration and cooperation between individuals to facilitate differentiation (Cordón-Pozo et al., 2006).

The articulation of rules and regulations shapes the structure and content of interactions; these rules and regulations facilitate the circulation of the knowledge produced across different departments, nurturing them with new ideas and different viewpoints (Cohendet et al., 2004). Without a formalized structure, organizational members' attempt to improve differentiation may remain disorganized, infrequent, sporadic, or ineffective (Okhuysen and Eisenhardt, 2002). Thus, the content of rules may provide insights and cognitive material that firms can use to reduce costs and also to increase differentiation (Reynaud, 2005).

The literature about total quality management (TQM) points out that the analysis and evaluation of all the activities developed within the firm may generate a series of formal documents that lead to improved quality and to the avoidance of deviations from the established standards. As Beckmann et al. (2007) and Meirovich et al. (2007) show, formalization correlates positively with the quality of the products or services that the firm offers, which is a way to reduce costs and to improve differentiation at the same time.

Considering the above, formalization can simultaneously favor cost reduction and increased differentiation. Therefore, formalization likely has a positive association with a hybrid competitive strategy. H1: Formalization has a positive influence on hybrid competitive strategy.

Complexity is another dimension of organizational design that can play an important role in the development of a hybrid competitive strategy. The degree of vertical, horizontal, and spatial differentiation indicates the level of complexity of an organization (Burton and Obel, 2005; Fredrickson, 1986; Robbins, 1990). Horizontal differentiation, for example, may have its origin either in a high degree of division between the roles and functions performed within the enterprise (functional specialization) or hiring professionals who hold skills that are not easy to routinize (social specialization) (Robbins, 1990).

In both cases, greater specialization is likely to improve staff skills and abilities in the activities they perform. This process could be a way to encourage the exploitation of experience and learning economies, which may encourage cost reduction. Likewise, horizontal differentiation can promote the invention of new methods, technologies, or products (Mintzberg, 1979) because horizontal differentiation entails grouping together individuals who share a common knowledge base for the development of joint projects. These kinds of innovations (of processes or products) may favor both cost reduction (more efficient processes) and differentiation.

In complex organizations, the depth and diversity of the knowledge base stimulate creativity and increase awareness and cross-fertilization of ideas (Damanpour, 1991, 1996; Damanpour and Schneider, 2006) to offer more differentiated products or services. Aiken et al. (1980) point out that structural complexity can promote more proposals (ideas and new knowledge that can reduce costs or favor differentiation) for several reasons.

First, high levels of complexity indicate diverse bases of expertise, which may result in the identification of a wide range of problems (related to both costs and differentiation) and the availability of diverse kinds of information and perspectives about problem solving. Second, complexity also implies a diversity of interests that stimulate new proposals as the various occupational groups, departments, and strata seek to improve or protect their position in the firm. Third, structural complexity makes possible, and may often require, a formal or informal assignment of special responsibilities for proposing organizational changes to particular roles and subunits to improve differentiation strategies or reduce costs.

Therefore, complexity can simultaneously favor cost reduction and increased differentiation and, hence, have a positive association with a hybrid competitive strategy. H2: Complexity has a positive influence on hybrid competitive strategy.

Decentralization is another dimension of organizational structure that can influence the development of hybrid competitive strategies. Decentralization fosters the incorporation of a greater number of individuals and organizational levels into the process of strategic reflection (Hall and Saias, 1980; Robbins, 1990). Thus, the more individuals become involved in the decision-making process, the more variety and more ideas will arise to improve differentiation strategies (Jansen et al., 2006). Participation in the decision-making process facilitates the understanding of decisions adopted and development.

Centralization reduces the likelihood that organizational members seek innovative and new solutions (Damanpour, 1991). When managers allow individuals to act autonomously the organization can achieve better business opportunities in relation to new products or services (Nonaka, 1988, 1994). Decentralization allows for the interplay between a variety of perspectives and leads to a rich internal network of diverse knowledge resources to reduce costs or increase differentiation.

During the development and implementation of a hybrid competitive strategy a wide variety of problems can arise related to both the low costs and the differentiation of products or services. Often, only individuals close to the source of a problem can generate high-quality ideas about how to solve such problems. Therefore, retrieval of accurate and timely information, as well as a large quantity of high-quality ideas, appears to require decentralization (Sheremata, 2000).

Similarly, decentralization may favor the development of spatially separate low-cost and differentiation activities, because it gives autonomy and flexibility to the different organizational units. In contrast with this outcome, centralization may increase costs because of the existence of time-consuming formal communication channels (Sheremata, 2000) and also reduce creative solutions and hinder interdepartmental communication and frequent sharing of ideas (Souitaris, 2001). Decentralization facilitates spontaneity, experimentation, freedom of speech, and circulation of ideas. Decentralized organizations emphasize the importance of empowerment and facilitate the assimilation of new patterns and behaviors (Fiol and Lyles, 1985).

Therefore, to favor cost reduction and increased differentiation simultaneously could be more difficult for a centralized organization. Consequently, one can expect centralization to have a negative association with a hybrid competitive strategy. H3: Centralization has a negative influence on hybrid competitive strategy.

2.2. Hybrid competitive strategy and firm performance

Although Porter (1985, 1980) argues against the simultaneous pursuit of low-cost and differentiation strategies, other authors show that low costs and differentiation may be compatible approaches (Hill, 1988; Murray, 1988; Wright et al., 1995), postulating the pursuit of hybrid, mixed, integrated, or combination strategies (Acquaah and Yasai-Ardekani, 2008; Kim et al., 2004; Spanos et al., 2004). As this paper explains below, a hybrid strategy is not only a viable strategy but can also be more profitable than pure strategies of low-cost or differentiation. Some studies provide empirical evidence of the positive relationship between hybrid competitive strategy and firm performance (Acquaah and Yasai-Ardekani, 2008; Kim et al., 2004; Leitner and Güldenberg, 2009; Miller and Dess, 1993; Pertusa-Ortega et al., 2009).

The existence of certain problems associating with pure strategies intensifies the need to pursue a hybrid strategy to improve firm performance (Miller, 1992a). First, strategic specialization may leave serious gaps or weaknesses in product offerings and ignore important customer needs. Most products must satisfy a significant market in numerous ways: with quality, reliability, style, novelty, convenience, service, and price. Unless firms meet all the important hurdles, they restrict their market to a smaller number of customers. Thus, a pure strategy that has key gaps can be detrimental to companies.

Secondly, another danger in pure strategies is that competitors may be able to imitate them more easily than hybrid strategies. Consider that firms can develop a pure strategy (low-costs or differentiation) through the combination of a high number of factors difficult to imitate by competitors. However, the hybrid strategy is even more difficult to pinpoint and imitate than these pure ones, because the hybrid strategy combines several factors related to low-costs and differentiation. Thus, companies that follow such pure strategies may be at a disadvantage compared to those that combine them in a creative way (Booth and Philip, 1998; Miller, 1992b), because hybrid strategies may yield multiple sources of advantage over rival firms, and thus allow realization of higher performance (Beal and Yasai-Ardekani, 2000). Third, regarding market changes, customer needs and tastes evolve, and competitors invent new challenges. Firms focusing on one pure strategy may be more vulnerable to such challenges and less responsive to changes than firms that emphasize both dimensions with a hybrid strategy (Booth and Philip, 1998; Miller, 1992a). A hybrid strategy allows firms to maintain greater agility and flexibility in offering products that focus both on costs and on specific product features (Leitner and Güldenberg, 2009).

Strategists can transform these three problems associating with pure strategies into arguments for the adoption of hybrid strategies. Hybrid strategies may address customer needs better, may be more difficult to imitate, and may generate a more flexible and wider view. Proff (2000) argues that changes in the market environment, particularly in supply and demand conditions, make both strategies — low costs and differentiation — necessary at the same time, in order to increase firm performance. According to Proff (2000), forecasting is becoming increasingly difficult because product cycles are becoming shorter, and discontinuities are increasing. This perspective means that a pure low-cost strategy has fewer chances of success because of the difficulties to achieve economies of learning and experience. So firms must be able to combine cost and differentiation strategies in a balanced way. Moreover, there are situations in which one cannot achieve a single low-cost position in a given industry (Hill, 1988). Hence, a need exists for differentiation as well as low costs to achieve a sustainable competitive advantage.

Since cost-based and differentiation-based advantages are difficult to sustain, firms that pursue a hybrid strategy may achieve higher performance than those firms that pursue a pure strategy. Pursuit of a differentiation strategy for low-cost firms may minimize their vulnerability due to reliance on cost-based advantages alone. Furthermore, firms that pursue a differentiation strategy may also be able to achieve a low-cost position by emphasizing efficiency in their value-creating activities, thereby further strengthening efficiency in their competitive position vis-à-vis their rivals (Acquaah and Yasai-Ardekani, 2008).

In short, the pursuit of hybrid competitive strategies may help secure several sources of advantage and thus makes the achievement of higher performance levels possible. All the arguments above provide the basis for the hypothesis 4. H4: A hybrid strategy with high levels of differentiation and low costs has a positive influence on performance.

2.3. The mediating role of competitive strategy

In the field of strategy, discussions of the relationship between organizational structure and strategy usually indicate that structure follows strategy (Chandler, 1962), or that structure is dependent on strategy. Strategy, by its very nature, poses various problems of coordination and control. Structural devices such as centralization, divisionalization, and so forth, help to handle such problems (Miller et al., 1988). Some studies demonstrate that strategic decisions influence the characteristics of organizational structure, in order to have a successful implementation of strategies (Chandler, 1962; Okumus, 2003).

Similarly, some theoretical research (Fredrickson, 1986; Hall and Saias, 1980) points out that organizational structure can influence the strategic decision-making process (strategy formulation), and that this influence can be stronger in large organizations, like those examined in the present study, where complex structures can impose constraints on strategy (Miller et al., 1988). Organizational structure influences the communication channels and the information flows (Hall and Saias, 1980), the human interactions, the collaboration and coordination, assigns the power and responsibilities (Miller, 1987). Therefore, the characteristics of organizational structure can motivate or limit the making of certain strategic decisions.

During the strategy formulation stage the firm decides, after a previous internal and external analysis, the competitive strategy with which the firm tries to reach a competitive advantage (deliberate strategy), and then, if necessary, the firm changes its organizational structure to implement the strategy. In accordance with this approach, it can seem that the organizational structure mediates the effect of strategy on firm performance.

However, the strategy which actually influences performance not always coincides with the one that the firm has planned (Mintzberg, 1990). Managers often have more discretion to choose competitive strategy than to change organizational structure in the short term, because organizational change is slower than strategic change (Child, 1972). The change from one organizational structure to another is not an instantaneous process but one which often takes many years, especially in large firms. If organizational structure has certain characteristics, like the ones that this study analyzes, the achievement of the intended strategy can be easier, and hence, the improvement of performance. In other words, organizational structure can contribute to the development of competitive strategies that aim to satisfy customers' needs better than competitors, and hence improve firm performance (Edelman et al., 2005). However, organizational structure characteristics are not valuable in themselves (Newbert, 2008). They are essentially unproductive in isolation. What ultimately influences the performance of firms is their competitive strategy (realized strategy), because it directly influences costs and revenues (Eriksen, 2006).

In sum, organizational structure can influence the development of a hybrid competitive strategy (as posited in H1, H2 and H3), and the latter will influence firm performance (as posited in H4). Therefore, hybrid competitive strategy plays a mediating role in the relationship between organizational structure and performance. H5: Hybrid competitive strategy mediates the relationship between organizational structure and firm performance. Fig. 1 shows the theoretical model.

3. Method

3.1. Sample and data collection

This study focuses on Spanish firms from different sectors. The firms have 250 or more workers (i.e., large firms according to Recommendation 2003/361 of the European Commission). A total population of 1903 firms resulted from a search through various databases. The study collected the data by sending a mail survey to each company's chief executive officer (CEO). Because the study uses data gathered from a single informant in each firm, a number of measures aimed to reduce, as far as possible, the potential risk of
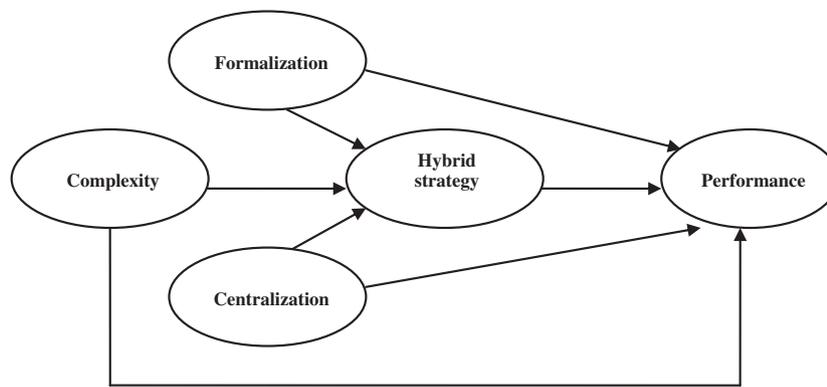
Fig. 1. Theoretical model.

common method bias due to a single respondent (Podsakoff et al., 2003). Firstly, interviewees remained anonymous and the questionnaire assured that there were no good or bad answers, asking them to be as sincere and honest as possible. This approach had as its aim to reduce their fear of being evaluated and to stop them from giving socially desirable or appropriate answers. Secondly, the construction of the items was very careful trying to avoid any potential ambiguities. For this purpose, the questionnaire included simple and concise questions as well as definitions of the terms with which interviewees might be less familiar in order to facilitate their understanding. The data analysis uses multiple-item constructs. Response biases usually are more problematic at the item level than the construct level (Harrison et al., 1996). This issue is an area where structural modeling approaches such as PLS (used for the analysis in this study) and LISREL are useful in avoiding problems associating with item-level analysis (Harrison et al., 1996). The study also examined data using Harman's principal components approach. The unrotated solution produced several factors, none of which accounted for the majority of the variance (the factor with the greatest variance accounted for 13.6%). This result suggests that the common methods variance may not be substantial.

The preparation of the questionnaire for the survey involved several stages. First, the literature on competitive strategy, organizational design, and firm performance was the object of a thorough review in order to elaborate a preliminary draft. Next, discussions and reflections on the preliminary draft with experts in the study matter ensured content validity (Conca et al., 2004; Govindarajan, 1988). Before mailing the questionnaire, the researchers of the study administered a pilot test holding personal interviews with the CEOs of five firms.

One month after the initial mailing, a follow-up mailing was sent in an attempt to increase the response rate (Dillman, 2000). In the end, 164 firms responded and participated in the study. Although the response rate of the questionnaire is low (8.61%), the sample size is sufficient to apply PLS, the structural equation modeling tool used for the analysis (Fornell and Bookstein, 1982). Moreover, the response rate is close to the mean for postal surveys in Spain, as there is not a strong tradition of collaboration with research centers in Spain (Del Brío et al., 2002; Roca-Puig and Bou-Llusar, 2007; Very et al., 1997).

Because of the fact that this study was not able to obtain information about all the organizations included in the study population, the evaluation of the representativeness of the sample and the non-response bias is necessary. Firms that respond later are theoretically more similar to non-respondents (Armstrong and Overton, 1977); hence, the study compares early (first wave) and late (second wave) respondents for all variables (centralization, complexity, existence of formalization, enforcement of formalization, low cost, innovation differentiation, marketing differentiation and

performance). *t* tests show no significant differences between these two groups of firms.

3.2. Analysis technique

This study uses partial least squares (PLS) analysis, using version 3.0 of PLS Graph (Chin, 2001), to test the research model. PLS is a structural equation modeling tool that produces loadings and weights between items and constructs and estimates standardized regression coefficients (i.e., β-coefficients) for paths between constructs (Croteau and Bergeron, 2001). One of the main advantages of PLS is that it uses a least squares estimation procedure, which provides the flexibility required to represent both formative and reflective latent constructs (Podsakoff et al., 2006). The formative specification is appropriate when the indicators help to create the construct directly, whereas the reflective specification assumes that the indicators are a reflection of the theoretical construct (Chin, 1998a).

Reflective indicators are determined by the construct, because of which a high correlation among them must exist (covariation with the level of that construct) since all of them measure the same feature. The use of formative indicators implies that the construct is a function of the manifest variables, each measuring a different facet. Because the latent variable is an effect rather than a cause of indicator responses, formative indicators do not necessarily correlate with one another. Rather, each indicator may occur independently of the others (Podsakoff et al., 2006).

Consequently, traditional reliability and validity assessments are inappropriate in the case of formative indicators (Chin, 1998b; Coltman et al., 2008). However, researchers must assess multicollinearity between formative indicators, since multicollinearity would indicate that a conceptual redundancy between the indicators of the construct exists (Cenfetelli and Bassellier, 2009), that is to say, that some of the indicators would be measuring a same facet of the latent construct.

PLS also allows representation of second-order factors. As a result of adopting this approach, researchers have to make a choice between a molar and a molecular approach to analysis. Molar second-order factors are constructs formed from formative first-order factors, and molecular second-order factors are constructs reflected by reflective first-order factors (Chin and Gopal, 1995). The choice depends on whether first-order factors or dimensions are viewed as causes or as effects of second-order factors following the same logic of formative versus reflective latent constructs. If a change in one of the dimensions necessarily results in similar changes in other dimensions, then a molecular model is appropriate. Otherwise, a molar model is the most suitable choice (Chin and Gopal, 1995). Thus, molar second-order constructs capture the total variance in its dimensions and not

only the variance that is common to all of the dimensions (Podsakoff et al., 2006).

The research model in this study uses first-order factors or dimensions with reflective indicators, except for complexity that uses formative indicators, and a molar second order factor to operationalize hybrid competitive strategy, as the present paper explains in the following section.

4. Measures

4.1. Hybrid competitive strategy

Following the approach of other works (Miller, 1988; Spanos et al., 2004; Spanos and Lioukas, 2001), this study treats Porter's generic competitive strategies as different dimensions which shape the competitive strategy of each firm and not as different, mutually exclusive types of strategy. That is, any firm can follow each of them to a greater or lesser extent. A hybrid competitive strategy is a strategy which emphasizes both low cost and differentiation (Pertusa-Ortega et al., 2009). For that reason, the present study operationalizes hybrid competitive strategy as a molar second-order factor created from three formative dimensions. In this way competitive strategy is a continuum, and not different categories. In line with Miller (1988, 1987), this study considers three strategic dimensions: low cost, innovation differentiation, and marketing differentiation. High values in the construct indicate a very hybrid competitive strategy that emphasizes the three strategic dimensions, whereas lower values indicate a purer strategy that emphasizes only some dimension, and the lowest values indicate no strategy.

In this respect, formative dimensions permit consideration of the variance in the construct specific to each dimension and not the common variance of all of them together, as happens with the reflective indicators (Cenfetelli and Bassellier, 2009). Therefore, if the study used reflective dimensions it would be measuring the variations that take place in hybrid competitive strategy when all the dimensions vary at the same time (low-cost, innovation differentiation and marketing differentiation). However, the formative dimensions allow measurement of the variations in the strategy that take place when modifying any one of them, thus making the distinction between purer and more hybrid strategies possible.

This study measures each of the three strategic dimensions (low-cost, marketing differentiation and innovation differentiation) with reflective multi-item seven-point scales, using a combination of items from previous studies (Beal, 2000; Govindarajan, 1988; Lee and Miller, 1996; Miller, 1988; Miller et al., 1988; Pelham and Wilson, 1996; Souitaris, 2001). See Table 1 for details.

4.2. Organizational structure dimensions

For the organizational structure dimensions (centralization, formalization, and complexity), this study takes as its reference the contributions of Aiken et al. (1980), Cruz and Camps (2003), Miller (1992b, 1987), Miller and Dröge (1986), Palmer and Dunford (2002), Pelham and Wilson (1996), and Powell (1992) (see Table 1). The study estimates centralization and formalization using reflective multi-item seven-point scales.

The study distinguishes two variables in the case of formalization: one relates to the existence of procedural regulations and job descriptions (existence of formalization), whereas the other refers to the extent to which firms enforce norms and rules (enforcement of formalization). This distinction arose from the previous factor analysis carried out to examine the unidimensionality of all the variables used in the study.

The study estimates complexity from five formative items related to the degree of horizontal and vertical differentiation (Burton and Obel, 2005). For complexity the study does not use different dimensions

because each of them would be measured with a very limited number of items. Besides, considering different dimensions would increase the sample size necessary to apply PLS analysis correctly. Note that, because the study analyzes large firms, where aspects of organizational structure might be present in different degrees of intensity across departments, the questionnaire specified that answers should focus on whatever was most prevalent in the organization as a whole.

4.3. Firm performance

Given that the analysis includes firms from a number of sectors, the study measures performance applying a subjective approach (Akan et al., 2006; Spanos and Lioukas, 2001; White et al., 2003). A number of authors defend the use of subjective measures as opposed to objective ones (mainly accounting measures of profitability and return rates) when the study is a multisectorial one (Lukas et al., 2001; Powell and Dent-Micallef, 1997; Venkatraman and Ramanujam, 1986). Objective measures may reveal differences in firm performance that are due solely to the industry and not to real differences between firms. Moreover, some studies criticize accounting measures of profitability for being unreliable and subject to varying accounting conventions or even to managerial manipulation for a variety of reasons (e.g., avoidance of corporate taxes) (Hawawini et al., 2003; Spanos and Lioukas, 2001). With the works of Govindarajan (1988), Lee and Miller (1996), Newbert (2008), and Pelham and Wilson (1996), as a basis, this study evaluates firm performance using six reflective items on a seven-point scale that firms assessed for three years in comparison to its main known competitors (see Table 1).

4.4. Control variables

This study uses firm size as a control variable to eliminate whatever effects it might have on firm performance (Spanos and Lioukas, 2001; White et al., 2003). The natural logarithm of the number of employees measures organizational size. Because the object of the study is a multi-sector sample of firms, the analyses include industry dummy variables to control for any potential effects from the industry.

The sample includes nine high-technology manufacturing firms, 17 medium-high technology manufacturing firms, 36 knowledge-based service firms, eight medium-low technology manufacturing firms, 42 low-technology manufacturing firms, and 52 non-knowledge-based service firms. Instead of including an industry dummy for each industry in the model, this study created a molar second-order factor formed by each of the industries except medium-high technology manufacturing firms, so that the sample size necessary to be able to apply PLS was smaller. This measure of industry does not include the industry of medium-high technology manufacturing firms following the same norms as in the regression analysis with dummy variables (Hair et al., 1998).

5. Results

The analysis and interpretation of a PLS model require two stages: (1) the assessment of the reliability and validity of the measurement model, and (2) the assessment of the structural model (Barclay et al., 1995).

6. Measurement model

The assessment of the measurement model entails examining individual item reliability, internal consistency and discriminant validity of latent constructs with reflective indicators and molecular second-order factors (i.e., second-order factors with reflective dimensions). The criteria are not appropriate for constructs with formative indicators or molar second-order factors.

Table 1
Measurement model evaluation.

	Constructs/items	Weights	Loadings	Composite reliability	Average variance extracted (AVE)	Variance inflation factor (VIF)
Hybrid competitive strategy (molar second-order factor)						
	Low costs (reflective)	0.46		0.84	0.48	1.15
STRA1	Minimization of general costs		0.72			
STRA2	Minimization of production costs		0.70			
STRA3	Lower costs than competitors		0.67			
STRA4	Economies of scale		0.67			
STRA5	Process automation		0.72			
STRA6	Productivity improvement		0.62			
	Marketing differentiation (reflective)	0.22		0.85	0.50	1.42
STRA7	Intensive promotion		0.81			
STRA8	Intensive sales force		0.80			
STRA9	Advertising campaigns		0.71			
STRA10	Brand image		0.69			
STRA11	Complementary services		0.69			
STRA12	Advertising costs (%)		0.43			
	Innovation differentiation (reflective)	0.72		0.82	0.49	1.57
STRA13	Leaders or followers		0.77			
STRA14	Frequency of product innovations		0.76			
STRA15	Higher quality or performance		0.73			
STRA16	Frequency of process innovations		0.67			
STRA17	Delivery speed		0.53			
Organizational structure dimensions						
	Centralization (reflective)			0.87	0.47	
STRUC1	Decisions about work conflicts		0.70			
STRUC2	Decisions about overtime		0.74			
STRUC3	Decisions about employee recruitment		0.58			
STRUC4	Decisions about job assignment		0.72			
STRUC5	Decisions about machinery		0.74			
STRUC6	Decisions about worker layoffs		0.70			
STRUC7	Decisions about order priority		0.64			
STRUC8	Decisions about working methods		0.65			
	Existence of formalization (reflective)			0.93	0.70	
STRUC9	Job description for middle managers		0.91			
STRUC10	Job description for supervisors		0.93			
STRUC11	Job description for office workers		0.84			
STRUC12	Job description for the CEO		0.76			
STRUC13	Description of production jobs		0.80			
STRUC14	Regulations on procedures		0.75			
	Enforcement of formalization (reflective)			0.81	0.56	
STRUC15	Regulations on monitoring work accomplishment		0.82			
STRUC16	Monitoring of employees		0.53			
STRUC17	Rules of behavior		0.68			
STRUC18	Work freedom (inverted)		0.80			
	Complexity (formative)					
STRUC19	No. of managers	0.48				1.11
STRUC20	No. of departments	−0.15				1.01
STRUC21	No. of hierarchical levels	0.13				1.09
STRUC22	Span of control	−0.29				1.02
STRUC23	Specialization	0.78				1.09
	Performance (reflective)			0.89	0.55	
PERF1	Sales growth		0.35			
PERF2	Employment growth		0.52			
PERF3	Market share growth		0.78			
PERF4	Profits before tax		0.90			
PERF5	Cash flow		0.86			
PERF6	Returns on investment		0.86			
	Industry (molar second-order factor)[a]					
IND1	High-technology manufacturing firms	−0.08				1.44
IND2	Medium-low technology manufac. firms	0.12				1.40
IND3	Knowledge-based service firms	0.82				2.43
IND4	Low-technology manufacturing firms	1.25				2.58
IND5	Non-knowledge-based service firms	0.55				2.77

[a] The measure of Industry does not include the medium-high technology manufacturing industry following the same norms as in the regression analysis with dummy variables (Hair et al., 1998).

6.1. Individual item reliability

In PLS, the assessment of the reliability of individual items entails examining the loadings, or simple correlations, of the measures with their respective construct. A rule of thumb is to accept items with loadings of 0.707 or greater (Chin, 1998b). Table 1 shows individual item loadings of variables, generally found to be above 0.7. Some

items fail to reach this level, although this circumstance is not uncommon.

Given that most scales are developed for a particular theoretical and research context, some of the scales (or scale items) do not display the same psychometric properties when used in theoretical and research contexts other than those in which they were first developed. Researchers recommend not applying this rule of thumb

inflexibly (Chin, 1998b), because in PLS, the inclusion of indicators with lower factor loadings facilitates the extraction of useful information, without worsening the model fit. The removal of weak, though still relevant, indicators would reduce the proportion of variance explained, because this action is bound to eliminate valid information (though a relatively small amount with respect to the other items).

Clearly, researchers should address significant deviations from acceptable reliabilities, because of the difficulties to draw conclusions about the structural model with unreliable measured constructs (Barclay et al., 1995). Nevertheless, this study retains items with lower loadings because these loadings are not so low and, as the paper explains below, this circumstance does not affect other reliability and validity conditions.

6.2. Internal consistency

The measures for construct reliability and convergent validity represent measures of internal consistency for reflective indicators. The composite reliability measure assesses construct reliability. Nunnally's (1978) guidelines serve to interpret this measure: 0.7 as a benchmark for a modest reliability applicable in the early stages of research and a more demanding 0.8 level for basic research. In this study, all of the constructs are reliable. They all have measures of composite reliability above 0.8 (see Table 1).

The assessment of convergent validity requires the examination of the average variance extracted (AVE) measure (Fornell and Larcker, 1981), which provides the amount of variance that a construct obtains from its indicators in relation to the amount of variance due to the measurement error. The average extracted variance should exceed 0.5 (Fornell and Larcker, 1981). All of the constructs do not strictly fulfill this condition, but values below 0.5 are actually very close to that threshold (the lowest value is 0.47) (see Table 1). Other studies, for example, those of Croteau and Bergeron (2001), Fornell et al. (1990), and Zott and Amit (2008), also use values below 0.5.

6.3. Discriminant validity

Discriminant validity indicates the extent to which one construct differs from the others. When assessing discriminant validity, AVE should be greater than the variance shared between the construct and other constructs in the model (i.e., greater than the squared correlation between two constructs) (Barclay et al., 1995). The reflective variables of this study fulfill this condition because the diagonal elements of Table 2 are greater than the off-diagonal elements in the corresponding rows and columns.

Table 2
Correlation of constructs matrix.

	LC	MD	ID	Cen	ExF	EnF	Com	P
Low cost (LC)	0.69							
Marketing dif. (MD)	0.04	0.71						
Innovation dif. (ID)	0.11	0.47	0.70					
Centralization (Cen)	−0.17	−0.14	−0.21	0.69				
Exis. formalizat. (ExF)	0.30	0.08	0.08	−0.05	0.84			
Enfor. formalizat. (EnF)	0.10	−0.22	−0.19	0.21	0.30	0.75		
Complexity (Com)	0.17	0.20	0.23	−0.21	0.14	−0.06	(*)	
Performance (P)	0.22	0.23	0.47	−0.14	0.12	0.04	−0.19	0.74

Diagonal elements in the correlation of constructs matrix are the square roots of the average variance extracted.
(*) In the complexity construct, average variance extracted was not calculated because complexity was measured with formative items.

In constructs with formative items (complexity) and molar second-order factors (hybrid competitive strategy), PLS provides weights that give information about the makeup and relative importance of each item (or dimension in molar second-order factors) (Chin, 1998b). The weights serve to assess the meaning of the latent construct, as when interpreting a canonical correlation analysis (Mathieson et al., 2001).

The three dimensions of competitive strategy have a positive weight (0.72 innovation differentiation, 0.22 marketing differentiation, and 0.46 low costs) (see Table 1 and also Fig. 2). The three positive weights corroborate that all three strategic dimensions contribute to the creation of the construct hybrid competitive strategy. In other words, hybrid competitive strategy is a linear combination that aggregates all three dimensions.

Relating to the use of formative measures potential multicollinearity between items (or dimensions) is a concern (Diamantopoulos and Winklhofer, 2001). High collinearity among items may exist, producing unstable estimates and making it difficult to single out the distinct effects of individual indicators on the construct. The study used the SPSS program (version 14.0) to calculate the variance inflation factor (VIF) to examine multicollinearity. The results show minimal collinearity between the items or dimensions of formative measures (see Table 1). All VIFs are far below the common cutoff threshold of 5 to 10 (Mason and Perreault, 1991).

7. Structural model

No proper overall goodness-of-fit measures exist for models estimated using PLS (Hulland, 1999). The assessment of the structural model entails examining the variance explained (R^2) in the dependent constructs and the path coefficients (β) for the model, which indicate the relative strength of relationships between constructs (Fig. 3).

Regarding organizational structure dimensions, this study creates two different variables relating to formalization. Existence of formalization has a positive significant influence on hybrid competitive strategy, but enforcement of formalization does not influence hybrid strategy. Therefore, this result only partially confirms H1. Complexity and centralization have also a significant relationship with hybrid competitive strategy. Complexity in a positive way and centralization negatively, which confirm H2 and H3. These findings show that high levels of existence of formalization and complexity, and low levels of centralization can favor the development of a hybrid competitive strategy.

Fig. 3 shows that hybrid competitive strategy has a positive and significant influence on firm performance. The weights of the three competitive dimensions considered in the study are positive (see Table 1 and Fig. 2). Therefore, the more emphasis on all the three dimensions, the more hybrid the strategy, and the higher can be firm performance. These findings confirm H4.

Regarding the mediating relationship hypothesis (H5), organizational structure dimensions do not have a significant direct influence on firm performance. The influence of centralization, existence of
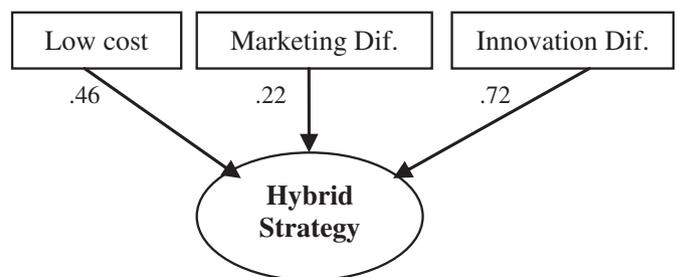
Fig. 2. Hybrid competitive strategy.
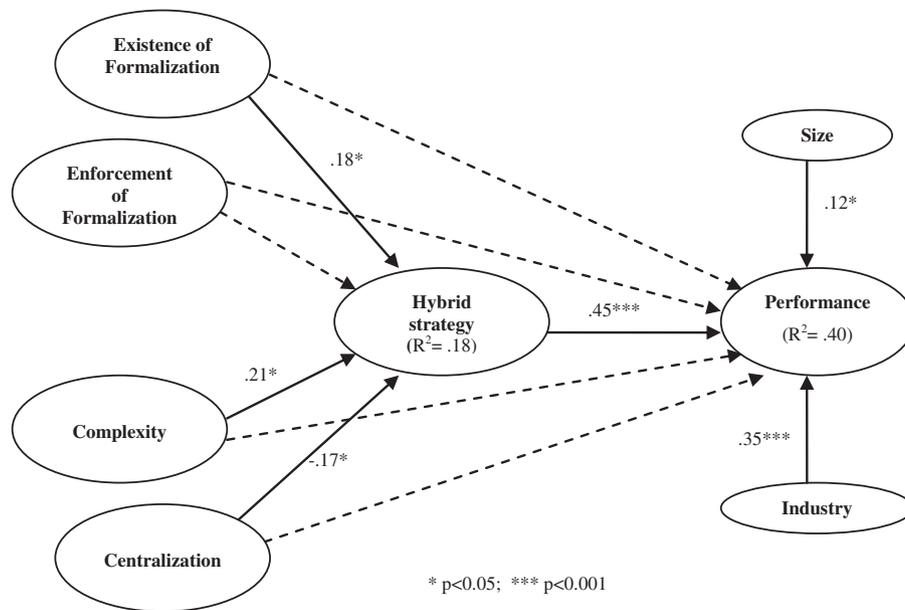
Fig. 3. Structural model results. Dotted lines show non significant paths.

formalization and complexity on firm performance is indirect, through hybrid competitive strategy. The study also examines the model considering the organizational structure dimensions as mediators in the hybrid competitive strategy and performance relationship. In this model, hybrid strategy significantly influences centralization ($\beta = -0.26$, $p<0.05$) and complexity ($\beta = 0.29$, $p<0.01$), but neither of the organizational structure dimensions influences firm performance. Hybrid competitive strategy has a direct significant influence on performance ($\beta = 0.45$, $p<0.001$). Therefore, although hybrid competitive strategy can influence some organizational structure dimensions (centralization and complexity), structure does not mediate the relationship between hybrid strategy and performance. Instead, hybrid strategy completely mediates the relationship between structure and performance, which confirms H5.

8. Discussion

In order to have a better understanding of the way in which the characteristics of organizational structure influence the development of hybrid competitive strategies, as well as improving firm performance through the strategy, the following ideas arise from the results of this study.

Organizational complexity can create a working environment where everyone can make use of their specialization and, at the same time, benefit from that of their colleagues. Decentralization and organizational complexity favor the interaction between multiple agents who have diverse knowledge and information. This interaction can promote the generation of new ideas, knowledge, and skills, which allow the creation of differentiated products or services. Complexity can also reduce costs, because it favors the development of learning and experience economies. The firm can formalize the new knowledge in a series of rules and procedures (existence of formalization) that favor efficiency and a low-cost strategy (Porter, 1980), because rules and procedures are established in accordance with the most efficient processes, and can reduce the potential ambiguity involved in the development of activities (Adler and Borys, 1996). Similarly, formalization permits flexibility (GullØv, 2006) if the firm orients it toward the coordination of the members of the organization with a view to improving differentiation (Cordón-Pozo et al., 2006).

Decentralization increases the possibilities for individuals to experiment (Liao, 2007) and carry out proposals that may produce higher levels of differentiation. Thus, decentralization may favor innovative differentiation, as well as the undertaking of marketing activities suited to customers' needs and preferences, which are more easily detected by the employees who are closer to them. At the same time, decentralization may help reduce costs because decisions are made faster.

In summary, the organizational design associating with the development of a hybrid competitive strategy combines some of the characteristics of mechanistic structures (high degree of formalization and complexity) and some of the characteristics of organic structures (low degree of centralization) (Burns and Stalker, 1961; Jennings and Seaman, 1994). Therefore, the organization design associating with hybrid competitive strategies seems also to be hybrid.

The findings show that hybrid strategies have a positive influence on firm performance. In fact, the more strategic dimensions that a firm emphasizes, the better its performance. Low-cost firms are probably forced to add differentiation to their products or services because other emergent countries are beginning to occupy more advantageous positions as a result of their lower production costs.

Present-day consumers have increasing access to greater and more exhaustive information about the different offerings of firms and therefore generally prefer to seek good value for money rather than a totally standardized product at a low cost or a unique, excessively expensive product. This conclusion means that firms focusing their attention on a single strategic dimension may restrict their market to a smaller number of customers (Miller, 1992a), because of which they would obtain lower levels of performance than other firms that try to offer two attractive attributes (i.e., a moderate price and some differentiation) and thus attract a larger number of customers.

Finally, the findings reported in this paper support the mediating role of hybrid competitive strategy in the relationship between organizational structure and firm performance. Analysis of H5 shows that hybrid competitive strategy can also influence some organizational structure dimensions, although structure does not directly influence performance. Therefore, organizational structure may assume an important role in the achievement of competitive advantage through its influence on the development of competitive strategy.

This finding supports the theses of Fredrickson (1986) and Hall and Saias (1980), among others. Fredrickson (1986) and Hall and Saias (1980) point out that the organizational structure can influence the type and amount of information that the firm obtains and distributes, the knowledge created, or the adoption of strategic decisions, and these characteristics can influence the configuration of the strategy with which the firm competes in the market.

9. Conclusions

The objective of this study is to examine the characteristics of organizational structure that relate to the development of hybrid competitive strategies. This study makes several contributions to the literature on strategy and organizational structure. First, this research focuses on the organizational design associating with the development of hybrid strategies. This organizational design also seems to be hybrid, insofar as it combines organic and mechanistic organizational features.

Second, this paper extends the analysis of generic competitive strategies, providing empirical evidence that hybrid strategies relate to higher performance levels. Thus, consistent with the findings of previous studies that focused on particular industries (Kroll et al., 1999; Wright et al., 1995), this study supports the premise that adopting multiple strategies leads to higher performance. From a methodological point of view, this research considers that competitive strategy dimensions are additive in nature (i.e., they are formative dimensions). For this reason, the proposed model uses a second-order factor to reflect better such a multidimensional construct as hybrid competitive strategy.

This study offers interesting results for managers. The study provides insights into strategic dimensions that may help improve firm performance. For instance, differentiation and costs strategies do not seem to be incompatible with one another; in fact, a firm can develop both of them in a complementary way to increase firm performance. Organizational structure influences the development of hybrid competitive strategy. Therefore, managers must recognize the strategic value of their organizational structure, as it directly impacts hybrid competitive strategy and indirectly impacts firm performance. In this regard, organic and flexible structures should incorporate mechanistic elements in the design of the organization.

Since no previous studies exist that analyze the relationship between hybrid competitive strategies and organizational design, the results of this research must be treated with caution. Some limitations of this paper and suggestions for future research are set out below.

First, the data comes from companies with 250 or more employees. Future research must analyze the relationship between organizational structure, hybrid competitive strategy and firm performance in small- and medium-sized enterprises. Second, the data for this research are cross-sectional, so associations between variables are not sufficient to establish causal relationships. Future longitudinal analyses would be useful to study causality. Third, environmental or industry characteristics might influence the relationship between organizational structure and hybrid strategy. Future research analyzing special features of different industries would enrich our understanding of these relationships.

Low-cost strategies usually associate with mechanistic structures, and differentiation strategies with organic structures (Govindarajan, 1988; Miller, 1988). The findings of this paper show that the organizational design relating to hybrid competitive strategy seems to be hybrid insofar as it combines organic and mechanistic features. Future research should compare these three configurations of organizations: organizations with mechanistic structures and low-cost strategies, organizations with organic structures and differentiation strategies, and organizations with hybrid competitive strategies and hybrid organizational structure. Likewise, future research could analyze different kinds of hybrid strategies to study what mix of low-cost and differentiation is preferable or optimal. Perhaps an analysis of the interactions among these variables could address this issue. In addition, it would also be interesting to analyze the appropriate level of the combination of mechanistic and organic characteristics relating to different kinds of hybrid strategies.

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