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**WHAT MAKES THE DIFFERENCE AMONG FAMILY
FIRMS? A TEST OF THE MILES AND SNOW'S
CONFIGURATIONAL APPROACH**

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Abstract

The goal of this paper is to apply the configurational Miles and Snow's model to organizational features of family businesses, with a test of the fit between the entrepreneurial, managerial and governance characteristics and strategic posture of the firm. Research has been carried out on a representative sample of small and medium family firms of the Italian region Friuli Venezia Giulia. Results indicate that significant differences in the mentioned contextual variables exist among different strategic typologies of family firms, however some questions remain unanswered and more effort is needed to develop the configurational approach in the field of family business.

Introduction.

This work applies the configurational theory to the case of family businesses. Works adopting a configurational approach usually focus on strategy and structure and only marginally consider (or do not consider at all) the other contextual dimensions such as governance issues, resource allocation choices, entrepreneurial and managerial profile and culture (Hinning and Greenwood, 1989; Snow et al. 2005). In this paper we extend the analysis of the four ideal types of Miles and Snow to the contextual aspects that have received little or no attention so far, with a particular reference to family businesses.

The configurational approach suggests that a perfect fit among the various elements of an organisation (particularly context, strategy and structure) produces higher levels of effectiveness. As opposed to the contingency approach, the configurational one adopts an holistic perspective and considers the organisation as composed of a set of elements highly interrelated through complex forms and nonlinear relationships. Authors operating within this framework see organisations as tightly coupled sets of parts moulded together to produce a well functioning combination i.e. a configuration.

Configurations are frequently represented through typologies (ideal types), conceptually developed by the authors (see for example Mintzberg's 5 organisational forms) or, inferred through

empirically derived taxonomies (Haas, Hall and Johnson, 1966; Pugh, Hickson and Hinings, 1969; Ulrich and McKelvey, 1990). Different, well blended amalgams are said to generate equal performances: the more an organisation stands apart from the ideal type or the average organisation in a group, the lower is its expected effectiveness.

The goal of this paper is not to test the equifinality assumption, as empirical analyses within the configurational perspective usually do. Our goal is to complete the Miles and Snow's configurational model of strategic typologies (i.e. prospectors, defenders, analyzers and reactors) with a description of the entrepreneurial, managerial and governance characteristics related to each typology, with particular reference to family businesses.

As it will be more thoroughly explained in Section 2, we will first complete the three ideal types of Miles and Snow with the contextual variables that appear to present a better fit with the ideal strategy-structure combinations defined by the authors. We then test our hypotheses on a sample of 78 small and medium enterprises operating in the Friuli Venezia Giulia region (North-East of Italy), by analysing the entrepreneurial, ownership and managerial characteristics of those companies that most closely resemble the ideal types of Miles and Snow.

The paper is structured as follows: in the first section we describe the Miles' and Snow's model of strategic configuration; in the second section we apply the configurational approach to family firms, formulating a set of hypotheses on the fit between contextual and strategic variables; in the third section we explain the methodology of the empirical analysis; in the fourth section we present and the results; in the fifth section we discuss the findings and conclude, with implications, limitations and future developments of the study.

1. Miles and Snow's ideal types

One of the typologies most frequently empirically investigated within the configurational approach is the one produced in 1978 by Miles and Snow. Based on their field studies conducted in four industries (textbook publishing, electronics, food processing, and health care), the two authors

(1978) proposed a strategic typology classifying business units into four distinct groups: *Prospectors, Analyzers, Defenders, and Reactors*.

Each type is thoroughly described by the authors in its constituent parts and the fit is theoretically explained as answers to three main problems, namely the entrepreneurial, the engineering and the administrative. The four types have also been tested for equifinality in several empirical investigations and the results are generally consistent with the theory (Snow and Hambrick, 1980; Hambrick, 1983, 1984; McDaniel and Kolari, 1987; McKee *et al.*, 1989; Shortell and Zajac, 1990; Webster, 1992; for an updated review of the literature see DeSarbo *et al.*, 2005).

Even though in Miles and Snow typology a reference is made to the dominant coalition characterising each of the types, the entrepreneurial, financial and governance models are not thoroughly explained. In SMEs, however, particularly the family business ones, these aspects play a determinant role in shaping both the strategy and the structure of an organisation and including these elements in the analysis is necessary to complete the picture.

The *Defender* operates in a stable and narrow environment. It establishes its dominant position by developing long-term relationships with its business clients or customers, to whom it offers a full range of products or services. A Defender tends to spend very little resources to the monitoring of the competitive environment and its effort is put either towards cost efficiency or quality assurance. The dominant coalition is usually made up of the chief executive officer, the head of finance, of production and of sales and tends to have a long tenure. As for the organizational structure, Defenders employ a functional form with highly specialised tasks and an extensive division of labour. Employees are individuals with limited skills and no need to receive formal training and “the most crucial new employees or replacements are those hired in manufacturing or cost-control areas, and the importance attached in these functional areas is reflected in both the reward system and in opportunities for mobility” (p. 46).

The *Prospector* is the most dynamic of the four ideal types. It is an organisation that operates in an unstable, uncertain and turbulent environment by using high levels of environmental monitoring to

identify business and market opportunities. “Thus, these organisations often are the creators of change and uncertainty to which their competitors must respond” (Miles and Snow, 1978, p.29). “A true Prospector is almost immune from the pressures of a changing environment since this type of organisations is continually keeping pace with change and, as indicated frequently, creating change itself” (p.57). This strategy requires a flexible, flat and organic organisational structure and a high degree of power delegation towards the lower levels of the organisation. Indeed, “to the Prospector, any given technological process is disposable; however, the people who operate it are indispensable. Thus, to the fullest possible extent, the Prospector’s technologies are embedded in people, not in routine or mechanical operations” (p.59). It follows that jobs are characterised by a low degree of formalisation (“since it would not be economically feasible to codify job descriptions and operating procedures in an organisation whose tasks change frequently”) and that control is oriented towards effectiveness rather than efficiency. As for the dominant coalition, Prospectors are characterised by a predominance of representatives of those functions that central to their strategies, namely the marketing and research and developments functions.

The *Analyser* is, as stated by the authors, a unique combination of the Prospector and the Defender and it resides along a continuum with the other two types at each end. It is therefore an organisation that at the same time follows a strategy of risk minimisation and search of new opportunities. Its domain is “a mixture of products and markets some of which are stable, other changing”. The *Analyser* tends to copy a Prospector and to follow it down the road to a new market and to pursue a cost minimisation strategy. To do this, its organisation usually takes a matrix form with two cores: one resembles the Defender’s (functionally organised, routinised ecc.) the other the Prospector’s (flexible, flat, informal and with high delegation of power). Also the dominant coalition is a mixture of the other two ideal types and it includes both the marketing and research functions and the production functions. Applied to smaller family firms, the typology of the *Analyser* could represent those enterprises that pursue a strategy of flexible innovation and customisation of products to meet the needs of specific customers.

Finally, the *Reactor*, is a type of organisation that is characterised by the absence of both coherence in its constituent parts and consistency of behaviour (i.e. response to changes in the environment). “This inconsistency potentially may stem from at least three sources: (1) management fails to articulate a viable organisational strategy; (2) a strategy is articulated but technology, structure, and process are not linked to it in an appropriate manner; or (3) management adheres to a particular strategy-structure relationship even though it is no longer relevant to environmental conditions” (p.82).

2. Family firms and strategic configuration

Family firms represent a particular setting for the analysis of a business strategic configuration, because firms of this kind can be viewed as a “contextual hybrid” (Naldi et al., 2007) since they are a combination of two institutional systems: the family and the business (Tagiuri and Davis, 1982; Lansberg, 1983; Gersick et al., 1997). We define family firms as firms where one or few family groups hold the majority of ownership rights, members of the family groups work in the management team, the business leader defines the firm as a family firm and plans to perpetuate the family involvement in the business. (Westhead and Cowling, 1999, Litz, 1997)

Given this definition, we could argue that the role of the family in performing the ownership, governance and management functions strongly influences the strategic orientation of the firm.

Studies which have adopted the configurational perspective in examining a firm’s strategic orientation have almost exclusively focused on the entrepreneurial and engineering domains of Miles and Snow’s typology or, more in general, on the congruence between realised strategies and organizational structures; much less attention was devoted to the administrative dimension and to the contextual variables which define the setting where the relationship between strategy and structure takes place. For example, only few studies address the characteristics of the dominant coalition and the managerial specialization (Smith and White, 1987; Chaganti and Sambharya, 1987, Thomas and Ramaswamy, 1996). Other dimensions that appear underdeveloped both

theoretically and empirically are: the corporate governance configuration and roles; the resource allocation choices; the culture and ideology of managerial elites and the organizational boundary spanning activities (Snow et al., 2005; Miller and Le Breton-Miller, 2006).

In the present study we analyse the strategic orientation of small family firms by testing a configurational approach which encompasses some of the contextual variables that so far have received little or no attention.

To define our variables of interest we refer to the literature on the strategic processes and outcomes in family firms. Studies in this field have tried to highlight the distinctive features that influence strategies in family businesses. In their attempt to classify those distinctive characteristics, Harris, Martinez, and Ward (1994), identified the following dimensions: “inward” orientation (Cohen and Lindberg, 1974); long-term commitment (Danco, 1975); importance of family harmony (Trostel and Nichols, 1982); employee care and loyalty (Ward, 1988); generations of leadership (Ward, 1988). Empirical research has recognized other dimensions, such as resistance to change (Hall et al., 2001) and conservativeness (Aronoff and Ward, 1997; Sharma et al. 1997), and tried to assess their impact on the strategic outcomes and performances, particularly through the comparison of family and non-family firms.

Donckels and Frohlich (1991), study 1132 firms in eight European countries, identifying differences between family and non-family businesses which lead to different strategies. The results suggest that family businesses are more risk-averse, less growth-oriented, need fewer socioeconomic networks, and are more conservative in their strategic behaviour than non-family firms. In a recent study, Naldi et al. (2007) examine analogous questions and find that family firms take lower risks than non-family firms.

Daily and Dollinger (1992, 1993) carry out two studies that examine the relationship between business strategies and ownership structure. They measure the strategy on the basis of Miles and

Snow's typology and their results indicate that family businesses are more highly concentrated in the defender group, while non-family businesses are more highly concentrated in the reactor group.

A similar study is conducted by Daily and Thompson (1994) on a sample of firms in the heating and air conditioning industry in North America. The results, however, do not show significant differences in strategic postures between family and non-family firms.

Gudmundson et al. (1997) also employ Miles and Snow's typology to test the distinctive features of family firms, in particular in terms of adoption of defender versus prospector strategies. No significant differences emerge between family and non-family businesses.

The lack of consistency in empirical results suggests that family firms are not an homogeneous group and research needs to identify "fine grained" differences that exist among family businesses, for example in terms of family involvement, generation of entrepreneurial leadership, ownership configuration, succession dynamics (Astrachan et al., 2002; Naldi et al., 2007).

Following this perspective, in the present research we suggest that family firms may assume different strategic configurations according to the characteristics of some relevant contextual variables. On the basis of the reviewed literature and of the emerging trends in the application of strategic management theory to family firms, we identified three relevant variables: (1) the profile and the role of the leadership in fostering risk taking and entrepreneurial behaviour; (2) the profile, the competences and the motivation of the owners; (iii) the specialization of the members of the dominant coalition.

Profile of the leadership

Research on family firms suggests that characteristics and dynamics of the entrepreneurial leadership have a significant impact on organizational outcomes, such as strategic orientation and performance (see for example Daily et al., 2002, Zahra, 2005, Ensley and Pearson, 2005). Some recent studies have assessed this impact through the construct of the "entrepreneurial orientation" (Zahra, 2005, Naldi, 2007). According to Lumpkin and Dess (1996) Entrepreneurial Orientation

reflects “the organizational processes, methods and styles that firms use to act entrepreneurially” (p. 139). The authors classify the dimensions of entrepreneurial orientation in “a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities” (p. 137). Researches which have adopted the Miles and Snow’s framework argue that prospector firms are likely to exhibit stronger entrepreneurial orientation compared to the other strategic typologies (for example, Hambrick, 1983; Segev, 1987). We expect that certain characteristics of the leadership in family firms influence the entrepreneurial orientation and, therefore, the probability to adopt a prospector strategy.

The simplest features to consider in characterizing the entrepreneurial leadership are the demographic ones. In particular, top executives’ *age, tenure and educational level* have been investigated in their relationship with firm’s strategic posture in studies adopting the upper echelons perspective (Hambrick and Mason, 1984). According to the upper echelons perspective, the characteristics of top managers influence their perceptions, their ways of selecting and representing the competitive environment, their information processing activities, and this, in turn, would have significant impact on firms’ strategic orientation. Thomas and Ramaswamy (1996) show that top executives of the prospector firms are younger, have shorter tenure and higher levels of education than the strategic leaders of the defender firms. Those findings are consistent with previous researches within the upper echelons framework, which assume that younger and more educated people have a higher propensity to risk and pursue innovation and are more inclined to use diverse sources of information and to perform environmental scanning activities (See for example Wiersema and Bantel, 1993).

On the other hand, older executives are more focused on the maintenance of the relationship with external stakeholders and on the support of their business network, and this is more consistent with a defender or analyzer strategy.

Hypothesis 1a. Entrepreneurs of prospector firms are younger and have a higher level of education than the entrepreneurs of the other strategic typologies.

The *generation of leadership* could also influence the entrepreneurial orientation affecting firm's proactiveness and risk taking. Research tried to test whether founder-led family firms are more likely to pursue proactive strategies, because "the need for achievement is high among family business founders, which often compels them to explore innovative ideas and take calculated risks [and] founders usually have the formal and informal powers that allow them to devote necessary resources to explore promising ideas and implement them in a timely fashion" (Zahra, 2005, p. 27). Tests of this relationship have however been equivocal or not significant so far (for a review see Daily et al., 2002). Zahra (2005), for example, checks whether being a founder and CEO of a family business has a positive impact on entrepreneurial risk taking and finds that the association between the two dimensions is positive but not significant.

Other studies argued that if the firm is beyond the second generation, the risk of losing family wealth created over a long period of time and the greater perception of firm's value may prevent family firms' leaders from engaging in entrepreneurial activities (Sharma et al., 1997, Shepherd, Zacharakis, 2000).

On the basis of these arguments we propose the following:

Hypothesis 1b. Prospector firms are more likely to be founder-led than the other typologies of firms

The dynamics of leadership succession may be another important factor which has effect on the innovativeness of strategies. We define leadership succession in family firms as the process during which the entrepreneurial control of business is transferred from one generation to the next.

Research (as well as common wisdom) proves that the succession process is often a critical issue for a family business and it is a period of threat to the survival of the firm (Kets de Vries, 1993; Gersick et al., 1997). The process is highly complex and uncertain because it involves several stakeholders belonging to the family, to the business and to the wider social community, and has a number of implications, ranging from psychological and behavioral dimensions to financial and wealth transfer issues (Compagno et al., 2003). Since the effective management of the succession process requires a huge amount of time and effort and absorbs cognitive and emotional resources from the two generations involved, we could argue that the entrepreneurial leadership copes with the uncertainty of the process by reducing the external environment complexity. Classic organizational theory suggests that one strategy to reduce uncertainty and environmental complexity is the simplification of strategic goals (Galbraith, 1977). This could be associated with the adoption of a defender or a reactor strategy, where the firm pursues continuity or passive adaptation in their strategic behaviors rather than proactiveness and scanning.

Moreover, the succession process often implies the simultaneous presence of members of the two generations in the leadership positions. Ensley and Pearson (2005) find that top management teams of family firms with parents and sons (“parental teams”) exhibit higher levels of cohesiveness and cognitive homogeneity, due to older generation influence and stronger perception of “traditional values”. Literature on diversity in top management team (for example, Priem 1990) suggests that high levels of homogeneity and cohesiveness are more appropriate in stable environments and lead to the adoption of conservative strategies.

We could therefore argue that:

Hypothesis 1c. Family firms which are involved in the succession process are more likely to pursue defender or reactor strategies

Profile of the ownership

As noted by Gersick et al (1997), within family firms “the structure and distribution of ownership – who owns how much of what kind of stock – can have profound effects on other business and family decisions [...] and on many aspects of operations and strategy” (p. 29).

Literature on publicly listed firms proves that concentration as well as identity of ownership is important when studying the impact of the owners on different organizational outcomes (see for example La Porta et al., 1999; Thomson and Pedersen, 2000; Monks and Minow, 2004). A recent study by Nordqvist (2005) extends this perspective to family firms and analyzes the relationship between owners’ identity and strategy formation processes.

On the basis of the literature, two dimensions appear to be particularly important when studying the relationship between ownership profile and strategy: (1) the dispersion of ownership among family members and (2) the distinction between insider and outsider owners.

When ownership becomes dispersed among the members of the family (due for example to intergenerational transition), it is likely that a differentiation occurs between family members which are involved in the management of the firm and “outsider” family members. This creates the premises for a “classic” agency problem: values, goals and visions of the two categories of owners may be misaligned or conflicting. Although this misalignment could be corrected through specific governance arrangements, for example the activation of family councils, we could argue that the family firm with dispersed ownership suffers higher risk of “strategic impasse” than family firms with concentrated ownership. Schulze et al. (2003) show empirically how dispersed ownership impacts on important strategic issues. In our view we assume that the misalignment of goals and values between different categories of owners may lead to unclear strategic patterns.

Hypothesis 2a The reactor firms have a higher proportion of ownership dispersed among family members not involved in the management than the other typologies of firms.

Recent literature on corporate governance and performance (Tylecote and Visintin, 2007; Pittino, 2006) suggests that there exists a relationship between ownership and innovation strategies. In particular, ownership by insiders, which are involved in the management and/or have a thorough knowledge of the firm, is positively related to a strategy of incremental innovation and adaptation of new technologies to the needs of specific customers. This kind of strategy is feasible in the presence of “patient capital”, which is a peculiarity of insider owners in family firms (Sirmon and Hitt, 2003), and implies the inclusion of external and internal stakeholders in the innovation processes and high levels of absorptive capacity, i.e., capacity to acquire and adapt new external knowledge to the firm’s internal processes. In Miles and Snow’s terms, these features are consistent with the adoption of defender or analyzer strategies.

Hypothesis 2b. Defender and analyzer firms have a higher proportion of insider ownership than the other typologies of firms.

On the other hand, the presence of outsiders in the ownership structure appears to be positively associated with the pursuit of radical innovation strategies. In family firms, outsider owners can be defined as those owners who aren’t involved in the management of the firm and do not have family ties with the controlling owners. These owners may be for example venture capitalists and private equity institutions, or other firms belonging to the same or to another industry. Research shows that non-family outsiders enter the ownership structure to bring in knowledge and competences, to support high growth strategies, and to reduce the financial risk associated with the innovation projects (Tylecote and Visintin, 2007; Pittino, 2006). In our perspective, those goals are coherent with a prospector strategy.

Hypothesis 2c Prospector firms have a higher proportion of outsider ownership than the other typologies of firms

Specialization of the members of dominant coalition

The specialization of the most influential members of the dominant coalition is one of the dimensions specified by Miles and Snow in the definition of the administrative level of their strategic typologies. The dominant coalition is the group of actors which is in charge of the main decisions of the company and it is usually identified with the top executives' group. Some researches, especially during the eighties tried to verify the predictions of the configurational theories, testing the existence of a matching between top managers' profile and strategies (Leontiades, 1982, Chaganti and Sambahrya, 1987; Slater, 1989; Sambahrya, 1989, Thomas and Ramaswamy, 1996) . Although these researches are scarce in number and suffer from the general limitations of all the empirical tests of the upper echelons theory (for a critique, see Priem et al., 1999) results turn out to be fairly consistent. For example, Chaganti and Sambahrya (1987), analyzing a sample of top executives in three tobacco companies find that prospectors compared to defenders tend to have top managers with stronger R&D and weaker finance orientation; analyzers, compared to prospectors tend to have weaker marketing orientation, and stronger R&D orientation compared to defenders. Thomas and Ramaswamy (1996) find that top managers of prospector firms have predominantly output oriented functional backgrounds, whereas top managers of defenders are more throughput oriented.

We try to apply this rationale to the members of the dominant coalition in family firms, analyzing if their functional specialization match with the strategy pursued by the firm. In particular:

Hypothesis 3a Members of the dominant coalition of Prospector firms tend to be more specialized in R&D compared to the other typologies of firms and tend to be less specialized in production and finance compared to defender firms.

Hypothesis 3b Members of the dominant coalition of the analyzer firms tend to be more specialized in marketing compared to the other typologies of firms and more specialized in R&D compared to defender firms.

Hypothesis 3c Members of the dominant coalition of the defender firms tend to be more specialized in production and finance compared to the other typologies of firms.

Hypothesis 3d Members of the dominant coalition of the reactor groups tend to exhibit an unspecific pattern of specialization

3. Sample and Methods

The sample consisted on a representative group of small and medium enterprises of the region Friuli Venezia Giulia selected for a survey on the competitive profile of the local enterprises, carried out in 2004 by the University of Udine and the MIB Business School of Trieste. Data were collected between May and June 2004 through structured interviews with firms' entrepreneurs or top executives, based on a predefined questionnaire. The questionnaire was made up of seven parts, each focused on a different topic, in particular: (1) profile of the firm and source of competitive advantage, (2) governance and management structures, (3) strategies of growth (4) strategies of internationalisation (5) human resource management techniques, (6) management of innovation, (6) financial profile and management. The sample was composed of 110 companies. Out of the 110 companies, 82 turned out to be family businesses, according to the definition provided in the

previous section. We excluded from the analysis the companies with more than 150 employees and the resulting sample was composed of 78 firms.

To classify the firms according to Miles and Snow strategic typologies we firstly carried out a factor analysis to identify a relatively small number of dimension of classification. The responses to the questionnaire were interpreted to identify the three main sets of problems that according to the Miles and Snows' approach the governance of a company is called to resolve in the definition of the strategy, namely the entrepreneurial (choice of product-market domain), the engineering (choice of technologies for production and distribution) and the administrative (selection of areas for future innovation and rationalisation of structure and process).

Each issue was investigated through the analysis of a set of questions formulated as items with response on a five point scale. An exploratory factor analysis using principal components analysis with varimax rotation was performed to identify the unidimensionality/convergent validity of each predetermined multi-item construct. As a consequence of this analysis a number of items was dropped and 5 factors were identified, two for the entrepreneurial problem, two for the engineering problem and one for the administrative problem (Figure 1).

QUI INSERIRE FIGURA 1

A joint domain factor analysis was then performed, including all of the items used to develop the four original *antecedent* research constructs. The result provides significant support for *factorial/discriminant validity* of the measurement scales. The number of factors turned out to be the same. Factor loadings were rather high and ranged from 0.432 and 0.893. Only one variable was dropped (SES5) The 5 factors explain 57,2% of the variance.

QUI INSERIRE TABELLA 1

Reliability of factors was evaluated by assessing internal consistency of the indicator items using Cronbach's Alpha.

Factors were employed to classify the firms using clustering techniques. K-means cluster analysis with statistical software SPSS 14.0 was conducted to impose the grouping of firms in four clusters; following the description of the strategic ideal-types provided by Miles and Snow, average scores assumed by the five factors in each cluster were used to name the groups of firms, through their approximation to the strategic typologies (Table 2). Cluster with the higher score in the factors Scientific Environment Scanning (SES) and Product concept (PC) was named "Prospectors"; cluster with the higher score in the factor Domain establishment (DE) and Selection of areas of future innovation (SAOI) was named "Defenders"; cluster with intermediate scores in DE, PC, SES and higher scores in business environment scanning (BES) was named "Analyzers".

QUI INSERIRE TABELLA 2

The fourth cluster was a residual group, which showed no distinctive features in the scores of the factors. To classify the firms in this group we followed the results of the study by Snow and Hrebniak (1980) and returned back to the section of the questionnaire which assessed the distinctive competences of the firm. We discovered that, comparing to the other groups, the fourth cluster does not show a clear pattern of distinctive competences, and this, according to the findings of Snow and Hrebniak (1980) is consistent with the definition of "reactor firm". Therefore, we classified the fourth cluster as "Reactors".

We also carried out a preliminary analysis to assess whether firms belonging to the strategic typologies exhibit significant differences in relevant control variables: in particular, we checked for

differences in firms' size, industry sector and position in the sector's value chain, and found no significant differences among the strategic typologies.

Measures

Profile of the leadership. The demographic profile of the leadership has been defined through: (1) the *age* of the entrepreneur; (2) the *level of education*, measured through a categorical variable which assumes values ranging from 1 (primary school) to 4 (post graduate studies). *Generation of entrepreneurial leadership* is a discrete variable which assumes values 1 to n, corresponding to the number of family generations in charge for the firm since the founding. The *position with respect to the succession* has been approximated through a dichotomous variable which assumes: value 1 (Yes) if the firm is going through the succession process or finds itself right after the conclusion of the process (the process has been completed less than three years before); and value 0 (No) if the process has not yet started or has been completed more than three years before.

Profile of the ownership. The profile of the ownership has been operationalized through the definition of the identity of the owners and the shares held by each category of owners. The following categories have been identified: (1) entrepreneur; (2) family members involved in the management of the firm; (3) family members not involved in the management of the firm; (4) non family members involved in the management of the firm; (5) non family members not involved in the management of the firm; (6) Firms belonging to the same sector; (7) Firms belonging to other sectors; (8) Financial institutions. Categories under 5, 6, 7, 8 have been defined as "outsiders", whereas the remaining are classified as "insiders".

Specialization of the members of the dominant coalition. The dominant coalition has been identified through a specific question asking how was composed the group in charge for the main decisions of the firm. For each member of the dominant coalition, we asked whether he or she was in charge for

specific functions, categorized as follows: administration and finance; research and development, human resource management, marketing and sales, production, inbound and outbound logistics.

For the purposes of this study we focused only on R&D, production, marketing and finance.

The measure of specialization has been specified through a categorical variable that for each function assumes the following values: 0, if no distinctive specialization emerges and all the functions are held by the entrepreneur and/or by the family members or if the function/activity is not specified in the firm; 1, if the function is run by the entrepreneur or family members, whereas non family members are in charge for other functions; 2, if the function is run by non family members belonging to the dominant coalition.

Since configurational approach do not assumes any particular causal direction between contextual, structural and strategic variables but emphasizes the complementarity between the different dimensions (Miller and Friesen, 1984; Meyer et al., 1993, Miller and Le Breton-Miller, 2005), we used analysis of variance with LSD post-hoc tests (to identify significance of differences between pairs of typologies) and chi square test to assess whether the relevant dimensions are significantly different among the groups which represent the strategic typologies.

4. Results

Hypothesis 1 (a, b, c)

We hypothesized that profile and dynamics of the entrepreneurial leadership varies according to strategy. We tested the hypotheses 1a, 1b and 1c using analysis of variance with LSD post-hoc tests for the variables age, level of education and generation of leadership (Table 2) and chi-square test for the variable position with respect to the succession process (Table 3).

Hypothesis 1a is partially confirmed: level of education is significantly higher in the prospector firms compared to the other strategic typologies. On average, reactor firms show the lowest level of education of the entrepreneur, whereas analyzer firms are in an intermediate position between

defenders and prospectors. Post hoc tests however reveal that significant differences emerge between the prospectors and the other typologies.

In opposition to hypothesis 1a, entrepreneurs of reactor firms have a significantly lower age than the other typologies. We hypothesized that entrepreneurs of prospectors would be the youngest, but their age is higher than those of the analyzers and the reactors and lower than the defenders. Post hoc tests show that significant differences emerge only in the comparison between the reactors and the other typologies.

QUI INSERIRE TABELLA 3

Hypothesis 1b is also partially supported: prospectors are more likely to be first generation family firms (the average value of “generation” is 1.30), but the difference is significant only in comparison to the analyzers, which, on average are second generation firms. Analyzers are on average the oldest family firms and this seems to suggest the existence of a congruence between the strong emphasis on social capital and relationship building behavior which characterizes established family firms (Sirmon and Hitt, 2003; Chrisman, Chua, Sharma, 2005), and the pursuit of an analyzer strategy, focused on knowledge absorption and adaptation.

Hypothesis 1c is verified: 90% of prospector firms is not involved in the succession process, whereas 66.4% of the reactor firms and 52.7% of prospectors is engaged in the management of the intergenerational transition. This seems to support the assumption that the management of the succession absorbs a huge amount of cognitive resources and inhibits the adoption of proactive and entrepreneurial strategies. Chi square test proves that differences among clusters are significant.

QUI INSERIRE TABELLA 4

Hypothesis 2 (a, b, c)

We hypothesized that the profile of the owners is significantly different among the strategic typologies. We tested the hypotheses through an analysis of variance (Table 4).

QUI INSERIRE TABELLA 5

Hypothesis 2a is confirmed: reactor firms have the higher proportion of ownership held by family members not involved in the management of the firm. Differences are significant compared to all the other strategic typologies. It is also interesting to observe that the ownership by “not active” family members is lower in the prospectors. In the analyzers the dispersion of family ownership assumes an intermediate value between defenders and prospectors, but differences between typologies are not significant.

This finding seems to indicate that there exists a relationship between differentiation of family owners and problems in the definition of a clear strategy.

Hypothesis 2b is not confirmed. Although the signs of the differences are consistent with the hypothesis, the share of insider ownership does not appear to be significantly higher in the analyzers and defenders, compared to the other typologies. An unexpected results also emerges: the share of ownership by insider non family members is higher in the reactors.

Hypothesis 2c is partially confirmed. Ownership by outsiders (i.e. other companies of other sector) is significantly higher in prospector firms. Differences between the average share by outsiders and by other categories of owners have also the hypothesized sign (financial institutions, individuals), but turn out to be not significant.

It is also interesting to observe that ownership concentration is higher (although not significantly) in prospector and analyzer firms.

Hypothesis 3 (a, b, c, d)

We hypothesized that the specialization of the members of the dominant coalition would be significantly different among strategic typologies. We tested the hypotheses through chi-square analysis of the members’ specialization in the R&D, marketing, production and finance functions (Table 5).

Results indicate that significant differences exist in the profiles of specialization among strategic types, but not in the way specified in our hypotheses.

Out of the four Hypotheses only 3a is partially verified: members of the dominant coalition of prospectors tend to be more specialized in research and development than the members of the other typologies. However, member of prospectors' dominant coalition exhibit stronger specialization in the other functions too, and this result contrasts with the second part of hypothesis 3a, which predicts that defenders would exhibit a higher specialization in production and finance. Hypotheses 3b is partially supported: members of analyzers' dominant coalitions are more specialized in R&D than their counterparts in defender firms; analyzers have also higher specialization in marketing, but at the same level of the prospectors.

Hypothesis 3c is not supported: defenders do not show distinctive specialization in production and finance.

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Hypothesis 3d is not supported. The lack of specialization in the relevant functions is not exclusive to the reactors: also defenders show a tendency to under-specialize.

Results seem thus to indicate that the proactiveness of strategy is related to the overall specialization of the dominant coalition and to the level of division of labor between family and non family members.

5. Conclusions

The main goal of this work was to complete Miles and Snow's ideal types with characteristics concerning the profile of the leadership and the profile of the ownership with a focus on family firms. The paper goes through some of the assumptions of Miles and Snow's on the specialization of the dominant coalition but with a peculiar reference to family and non-family members.

The most significant results can be summarized as follows.

Prospector firms appear to be lead by entrepreneurs of the first generation with a graduate or post-graduate education and to have the dominant coalition full time involved in the management of

strategic issues (and not of succession problems). Ownership is rather concentrated in the hands of the entrepreneur with a small but significant presence of firms of other sectors. The presence of non family members in the strategic functions is higher than in the other groups, particularly in the R&D and production areas (this latter finding is in contrast with Miles and Snow's descriptions, as in their ideal types the production function is controlled by the dominant coalition in the Defenders group). The findings appear consistent with the strategy adopted as radical innovations are usually carried out by new start up companies, often spin-offs of larger ones (which keep an ownership stake), by highly qualified entrepreneurs. The small percentage of stakes owned by financial institutions (which in other countries are central in the development of companies in high-tech, highly innovative sectors) probably depends on the underdevelopment of the venture capital market in Italy.

Analyzer firms in their pursuit of imitative and adaptive strategies appear to be supported by the presence of an entrepreneur with a lower level of education than the Prospector (absorptive capacity is important to copy and adapt but the entrepreneur does not need to be a rocket scientist and competencies can be acquired on the market) and to belong to the second generation of a family (close and long term relationships with various stakeholders are central for this kind of strategy). Firms can adopt this strategy while facing a succession process (Prospectors could move to this strategy when having to deal with such a level of internal complexity). The entrepreneur and his/her family make up for the largest part of the ownership (good relationships with the stakeholders require a stable and consistent dominant coalition), whereas the presence of companies operating in other sectors is significantly lower than it is the case for the Prospectors. The presence of non-family members in the strategic functions is rather high, particularly in R&D and finance areas. As suggested by Miles and Snow, marketing is the function that is present in the largest number of companies and presents the highest level of specialization.

Family firms adopting a Defender strategy, are led, as expected, by entrepreneurs with a significantly lower level of education than the Prospectors (average differences with the Analyzers

have the correct sign but are not significant). These companies can either be of the first or of the second generation or could be facing a succession process, but they appear to be significantly younger than the analyzers. The degree of ownership concentration is lower (but not significantly lower) than it is the case of the Prospectors and the Analyzers, probably because the pursuit of economies of scale requires larger capital investments. The degree of specialization of the dominant coalition is much lower than in the other three groups (particularly the Prospectors and the Analysers) but generally strong in production and marketing (when this function exists).

Finally, the Reactors do not appear to adopt a consistent configuration of strategy and governance. These are probably companies that are in the middle of a radical reconfiguration or find it difficult to reconcile all the owners' and managers' interests into a coherent strategy (they are often in the middle of a succession process, the ownership concentration is much lower than in the other groups and the presence of non-family members involved in the management of the company and of family members not involved in the management are significantly higher). As for the dominant coalition, the Reactors appear to resemble rather closely the Defenders, but with a much lower specialization, and with a stronger focus on production (in a large percentage of the companies, the marketing and R&D functions do not exist).

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Figure 1: Factors representing relevant Miles and Snow dimensions

The entrepreneurial problem	The engineering problem	The administrative problem
FACTORS Scientific environment scanning Business environment scanning Domain establishment	FACTORS Product concept	FACTORS Selection of areas of future innovation

Table 1: Joint domain factor analysis for the dimensions of classification and Cronbach Alfa values for the factors

	Entrepreneurial problem			Engineering Problem	Administrative problem
	SES	BES	DE	PC	SAOI
SES1	0.800				
SES2	0.831				
SES3	0.669				
SES4	0.639				
SES 5	0.444		0.400		
BES1		0.679			
BES2		0.893			
DE1			0.657		
DE2			0.669		
DE3			0.605		
DE4			0.680		
DE5			0.646		
DE6			0.426		
PC1				0.737	
PC2				0.489	
PC3				0.490	
SAOI1					0.680
SAOI2					0.646
SAOI3					0.432
SAOI4					0.456
Eigen value	2,8	2,7	2,06	1,93	1,911
Cum Variance	14,1	28,05	38,38	28,8	57,62

	SES	BES	DE	PC	SAOI
Cronbach Alfa	0.816	0.625	0.633	0.749	0.566

Table 2: Average factor scores and cluster identification

	Prospectors	Analyzers	Defenders	Reactors	F-value	P-value
SES	4,50	3,14	1,14	1,38	16,212	0,000
BES	2,36	4,68	2,81	1,95	33,565	0,000
DE	2,33	3,33	3,66	2,35	11,635	0,000
PC	4,16	3,47	2,06	2,47	48,941	0,000
SAOI	3,22	3,41	4,08	3,30	4,557	0,082

Table 3. Analyses of variance and post-hoc tests for differences in the variables of entrepreneurial profile

	Prospectors	Analyzers	Defenders	Reactors	F-value	P-value	Pairs with significant differences
Age	55.83 (15.2)	54.07 (10.3)	56.13 (12.1)	51.06 (11.2)	0.734	0.035	P – R; D – R; A – R
Level of education	2.27 (0.70)	1.94 (0.77)	1.70 (0.77)	1.37 (0.73)	4.44	0.006	P – A; P – D; P – R
Generation	1.30 (0.38)	2.00 (1.00)	1.58 (0.64)	1.46 (0.24)	2.35	0.079	A – P; A – D; A – R

Standard deviations in parenthesis.

Table 4. Chi square test for differences in the variable succession process among strategic typologies

	Prospectors	Analyzers	Defenders	Reactors	Total
<i>Succession process</i>					
Yes	1 (10)	10 (58.8)	19 (52.7)	10 (66.4)	42
No	9 (90)	7 (41.2)	17 (47.8)	5 (33.3)	36
Total	10 (100)	17 (100)	36	15	78
Pearson Chi-square	Likelihood ratio				
7.22 (0.065)	8.15 (0.043)				

Percentages in parenthesis

Table 5. Analyses of variance and post-hoc tests for differences in the profile of ownership

	Prospectors	Analyzers	Defenders	Reactors	F-value	P-value	Pairs with significant differences
<i>Shares held by:</i>							
The entrepreneur(s)	71.8 (30.2)	73.2 (32.2)	65.9 (31.3)	56.2 (32.4)	0.974	0.410	
Family members involved	9.4 (18.5)	13.4 (23.8)	15.5 (0.77)	15.4 (0.73)	0.119	0.948	
Non family members involved	0.69 (1.97)	1.15 (2.99)	1.27 (5.3)	7.2 (14.2)	2.400	0.077	R – P; R – A; R – D
Family members not involved	3.08 (7.2)	5.00 (8.1)	9.6 (17.7)	13.5 (19.4)	2.117	0.096	R – P; R – A; R – D
Non family members not involved	3.1 (14.4)	2.9 (19.6)	0	0	2.027	0.121	
Firms of the same sector	3.8 (6.6)	3.17 (8.03)	1.14 (5.23)	4.3 (11.1)	0.941	0.427	
Firms of other sectors	4.2 (11.8)	1.2 (2.9)	0	1.6 (5.77)	2.522	0.052	P – A; P – D; P – R
Financial institutions	4.2 (22.1)	0	6.8 (22.3)	2.7 (19.4)	0.701	0.554	

Standard deviations in parenthesis.

Table 6. Chi square tests for differences in specialization of dominant coalition's members (percentages)

	Prospectors	Analyzers	Defenders	Reactors	Total
<i>Marketing Specialization</i>					
<i>The function does not exist</i>	20,00	17,65	22,22	33,33	23,08
No	10,00	11,76	16,67	0,00	11,54
Entrepreneur and Family members	20,00	23,53	27,78	13,33	23,08
Non family members	50,00	47,06	33,33	53,33	42,31
Pearson Chi-square		Likelihood ratio			100,00
6,141 (0,408)		6.188 (0.402)			

	Prospectors	Analyzers	Defenders	Reactors	Total
<i>Production specialization</i>					
<i>The function does not exist</i>	0,00	0,00	8,33	6,67	5,13
No	0,00	17,65	33,33	40,00	26,92
Entrepreneur and Family members	40,00	41,18	19,44	20,00	26,92
Non family members	60,00	41,18	38,89	33,33	41,03
Pearson Chi-square		Likelihood ratio			100,00
11.202 (0.082)		14.868 (0.021)			

	Prospectors	Analyzers	Defenders	Reactors	Total
<i>R&D specialization</i>					
<i>The function does not exist</i>	0,00	0,00	33,33	46,67	24,36
No	0,00	23,53	33,33	6,67	21,79
Entrepreneur and Family members	30,00	17,65	16,67	26,67	20,51
Non family members	70,00	58,82	16,67	20,00	33,33
Pearson Chi-square		Likelihood ratio			100,00
23.65 (0.001)		26.38 (0.000)			

	Prospectors	Analyzers	Defenders	Reactors	Total
<i>Finance specialization</i>					
<i>The function does not exist</i>	0,00	0,00	8,33	20,00	7,69
No	0,00	23,53	36,11	6,67	23,08
Entrepreneur and Family members	50,00	17,65	38,89	46,67	37,18
Non family members	50,00	58,82	16,67	26,67	32,05
Pearson Chi-square		Likelihood ratio			100,00
13.01 (0.043)		14.35 (0.026)			

