The Effects of Corporate Governance Processes of Strategy Change and Value Creation in Small- or Medium-Sized Firms: A Study of Family-Owned Firms in Italy

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Unlike in other countries, in Italy industrial production is dominated by small and medium sized firms (SMEs), particularly family-owned ones. In SMEs, where strategic leadership often lies in the hands of a single person, there can be a lack of the resources and competences necessary to bring about strategic change and innovation. In many studies, innovation is considered to be the main determinate of a firm's capacity to create value. Through the AIDA data base of the Bureau van Dick, I selected a sample of 109 Family-Controlled Small- and medium-sized Companies and gathered financial information about them. Finally I collected data on the strategic change and innovation of these family-owned firms by interviewing their CEOs. Through multivariate regression analysis of the data collected I demonstrate that extending the Board and the Top Management Team by involving individuals who do not belong to the dominant family has a positive effect on the firm's strategic change and innovation.

1. Introduction

In recent years, governance research has gone beyond large firms to include studies of Small- and Medium-sized enterprises (SMEs) [Huse, 2000]. SMEs are closely held and, as such, are likely to meet specific challenges regarding governance, strategic change and innovation. My contribution deals particularly with how small- or medium-sized family firms face up to these challenges. Using a sample of 109 Family-Controlled Small- and medium-sized Companies (Società per Azioni and Società a Responsabilità Limitata), the paper shows that corporate governance mechanisms are a limited, albeit significant, element within the variables which influence firms' strategic change and innovation. As Hitt, Hoskisson, Johnson and Moesel (1996, pag. 1085) noted, "Firm innovation has become important for value creation". Many other studies consider a firm's innovative capacity to be the main determinate of its capacity to create value, among the more important authors in the international literature are: Tsai, Ghoshal (1998) and Vinding (2006).

Miller and Le Breton-Miller (2003, p. 127) define the family firm as one in which a family has enough ownership to determine the composition of the board, where the CEO (*chief executive officer*) and at least one other executive is a family member, and where the intent is to pass the firm on to the next generation. The CEO is the leader of the Top Management Team (TMT), i.e. the entire group of the firm's top executives [Wu et al., 2005], and dominates the distribution of responsibilities and tasks within the team itself [Haleblian, Finkelstein, 1993].

There are many different definitions of the family firm and the one adopted here is the most restrictive. As Lester and Cannella (2006) note, this definition helps avoid the mistake,

made in many studies of family firms, of not differentiating "*between entrepreneur-controlled businesses (ECBs) and family controlled businesses (FCBs)*". ECBs, by definition, have just a single owner-manager involved in the business, and are far less likely to have any intention of passing the company on to subsequent generations. While many FCBs start out as ECBs and make the transition only after the founder passes the firm on. For the purposes of my study, ECBs are not "*family businesses*" [Miller, Le Breton-Miller and Lester, 2005].

However, recent research has shown that in Italy, unlike in other countries, the ownership-control-management combination of FCB is normal for SMEs, as well as being common among large firms [Corbetta and Minichilli, 2005].

In small- or medium-sized family firms, governance issues are more entwined than in large, publicly held firms where the separation of ownership and management is more clear-cut [Cowling, 2003; Schulze *et al.*, 2001, 2003]. This is because, in SMEs, ownership, board, and top management often overlap, with the same people, or people from the same family, involved at all levels [Mustakallio *et al.*, 2002; Nordqvist and Melin, 2002]. Therefore, governance research into small- or medium-sized family firms investigates how ownership, board and management are interrelated in creating key organizational outcomes such as strategic change and innovation.

SMEs, in which a group of the CEO's family members hold majority ownership, have the same ownership and TMT leadership characteristics in common. Given these characteristics, I analysed how demographic variables regarding the participation on the board and in the TMT of non-family members influence the ability of family-controlled SMEs to introduce innovation and strategic change. Although demographic characteristics cannot accurately capture the processes within teams and between individuals [Pettigrew, 1992], most research into top executives and strategic leadership focuses on these attributes because it is difficult to measure managerial values and cognitive attitudes accurately [Finkelstein and Hambrick, 1996].

In the following section, I will present theories on the (negative and positive) consequences that family ownership-management generates regarding SME ability to promote strategic change and innovation.

In sections 3 and 4, I present the empirical research, together with description of the data, variables and methodology. The research will use econometric models which are able to quantify the effects of strategic change and innovation deriving from the governance variables of firms in a sample of 109 SMEs. These firms are all found within the same sector of activity (code no. 28, ATECO 2007) and their turnover is less than 50 million euro. The sample group was not formed randomly, but rather is composed of all of the Italian firms in the sector whose balance sheet and other company information are available for consultation through the AIDA data base (of the Bureau van Dick) and whose CEOs were prepared to answer a questionnaire made up of questions regarding the corporate governance, strategies and innovative activity.

The results will be discussed in section 5.

2. Theoretical background and hypotheses

Most studies which conclude that the performance of family firms is worse than that of their non-family counterparts (e.g. Morck, Strangeland, Yeung, 2000) suggest that the family's desire for capital preservation, stability, and risk aversion keep the firm from pursuing strategies that might otherwise improve performance, but would also threaten the family's continued control.

There also appears to be some broad agreement in the literature that family firms tend to pursue strategies that are more risk averse than those of regular public companies. For example, some studies show that family firms shun debt in order to avoid the risk of bankruptcy or the risk that sizable debt will fall under the control of third parties, thus threatening the family's control [Gorriz and Fumas, 1996; Mishra and McConaughy, 1999; Schulze *et al.*, 2003]. Furthermore, this risk aversion can limit the firm's ability to grow and innovate [Cho and Pucik, 2005]. Family firms have also been found to pursue cautious investment policies that likewise tend to inhibit growth [Mustakallio, Autio and Zahra, 2002].

Conversely, research suggesting that family firm performance is superior to that of other firms often uses the argument that families are better stewards of firm resources because of an overall aversion to managerial opportunism to explain this result. Recent research seems to provide compelling evidence of superior family firm performance [Miller et al., 2005].

The negative and positive effects, of family ownership-management upon SME ability to develop strategic change and innovation, will be described separately as the dark and bright sides of family governance in SMEs.

This paper is not intended to examine the consequences generated by the corporate governance systems on the firm's financial performance.

Despite this, most studies have focused on explaining aspects of financial performance, while few have examined how the broader governance structure of the firm affects strategic change and innovation [Goodstein and Boeker, 1991; Goodstein *et al*, 1994; Pettigrew, 1992]. Research focusing on performance does not take into account the fact that governance choices have to result in action, such as strategic change and innovation, before they can have performance implications. Furthermore, in an SME context, the use of performance as a dependent variable is problematic due to the multitude of goals that usually prevail in such firms [Wiklund, 1998]. Concerns for employee well-being and/or the welfare of the owner-family may be of great importance to small business managers [Wiklund *et al*, 2003], rendering other dependent variables, such as strategic change and innovation, appropriate.

2.1. The dark side of family governance in SMEs: consequences for strategic change and innovation

Agency theory stresses that the extent of involvement in risky activities is likely to be influenced by the ownership and governance of the firm [Fama, 1980; Fama and

Jensen, 1983; Jensen and Meckling, 1976]. According to this theory, equity ownership influences managers' risk-taking propensity [Eisenhardt, 1989; Keasey *et al*, 2005; Zajac and Westphal, 1994], suggesting that managers become risk averse as their ownership of the firm increases [Beatty and Zajac, 1994; Denis *et al*, 1997].

Strategic change and innovation typically involves taking risks. The concentrated nature of ownership puts closely held firms at a disadvantage in terms of risk bearing and promotes strategic inertia [Chandler, 1990; Meyer and Zucker, 1989; Schulze *et al*, 2002]. This means that high concentration of ownership may lead to risk avoiding strategic choices [Chandler, 1990]. Moreover, in the family firm, the blending of family and business matters in strategic decision-making may promote inertia, for instance when a CEO postpones necessary business decisions, such as a generational succession, because of concerns about family welfare [Schulze et al., 2002]. These authors argue that family ownership impedes strategic change activities, such as innovation, venturing and strategic renewal activities, as a result of the risk aversion of the concentrated ownership, altruistic incentives and problems with self-control. There is also a current in the family firm literature that depicts these firms as conservative and resistant to change [Aronoff and Ward, 1997; Kets de Vries, 1993; Sharma *et al*, 1997], introvert [Poutziouris *et al*, 2004], and paralyzed by internal family conflict [Barach, 1984].

The concentration of ownership among the firm's top management can lead to risk aversion and a lack of willingness to engage in strategic change activities such as corporate diversification, product innovation or entering into new international markets [George *et al*, 2005; Hill and Snell, 1988; Hoskisson *et al*, 2000].

Controlling owner-CEOs may view their firms as personal fiefdoms. They have the discretion to act—or not—without board or TMT intervention, and this can lead to risky decisions or, if the situation holds for a long time, strategic stagnation [Finkelstein and Hambrick, 1996; Miller and Le Breton-Miller, 2006a], both of which may be hazardous.

The concentration of ownership and the unification of ownership and management means that the managers, given that they are family members, will be subjected to less pressure from outside investors and other monitors who demand accountability, transparency and strategic renewal, things which might give rise to a defensive attitude that may harm longevity and efficiency [Carney, 2005]

2.2. The bright side of family governance in SME: consequences for strategic change and innovation

With respect to the theory of the firm, the Stewardship theory [Davis *et al*, 1997; Donaldson and Davis, 1991] offers a different and complementary perspective on family purposes and behaviour. It posits that managers and owners are driven by more than economic private interest, and often act altruistically for the benefit of the entire organization and its stakeholders. The belief is that stewards are motivated by higher level needs, they identify with the organization, embrace its objectives, and act for its collective good. Previous literature [Anderson and Reeb, 2004; Chrisman, Chua and Sharma, 2005; Corbetta and Salvato, 2004; Miller and Le Breton-Miller, 2006a] suggests

that stewardship theory applies particularly well to family firms since family owners often have a deep emotional investment in their company [Bubolz, 2001] due to the fact that their fortune, personal satisfaction, and reputation are tied to the firm.

In a stewardship framework, the closer relationship between managers and controlling families is enhanced as a positive feature, since it leads to a stronger commitment to the firm. Managers operate with the expectation that they will have their position for a long period of time and this motivates them to be farsighted stewards of the business, trying to uphold the best interests of the organization [Donaldson and Davis, 1991]. In this sense, they are less sensitive to short-term performance and they are less inclined to make opportunistic, short-term decisions just to boost it, since these may come back to haunt them later on in their careers [Miller and Le Breton-Miller, 2006a].

A second important feature of family firms is that the controlling shareholders normally aim at keeping their investment in the long term. Indeed founding families "*are a unique class of investors. The combination of undiversified family holdings, the desire to pass the firm onto subsequent generations, and concerns over family and firm reputation suggest that family shareholders are more likely than other shareholders to value firm survival over strict adherence to wealth maximization*" [Anderson *et al*, 2003, p. 265].

From a stewardship perspective, the orientation toward the firm's long-term survival is seen as a motivation to manage capital carefully and invest in long-lasting assets, like reputation and social capital [Miller and Le Breton-Miller, 2006a], for the benefit of all stakeholders.

To increase returns over what could be a lengthy career, family CEOs may make what are quintessentially farsighted investments, such as those in research and development, training, and state-of the-art infrastructure. Indeed, some evidence reveals that family firms do outspend non-family firms peers in R&D [Miller and Le Breton-Miller, 2006b] and in capital investments in plant, equipment, and even information technology [Kang, 2000].

Due to these stewardship concerns, large investments in the future and refusal to be distracted by short-term expedients, family-managed firm will have a better chance of developing distinctive core capabilities.

Barney (1991) has argued that firms enjoy competitive advantage when they develop resources that are valuable, rare, inimitable, and for which there are no ready substitutes. In accordance with Dierickx and Cool (1991) and Teece *et al* (1997), such resources and capabilities result from orchestrated long-run investments, such as those in research and development, training, and infrastructure, as well as other long-lasting assets, like reputation and social capital, which I have already described. This farsighted, focused investment approach builds on path dependencies that keep a firm's capabilities growing cumulatively, thereby making its learning trajectory especially tough for rivals to imitate [Miller, 2003]. Short-tenure executives will find such programmatic investments more difficult to make.

Family governance is distinguished not by the separation, but by the unification of ownership and control. The personalized authority structures of family firms offer great latitude in directing investments. Opportunistic investment is the ability to allocate organizational resources without regard for internal and external processes of accountability.

Owner–managers may analyze their investment decisions on the back of an envelope or utilize heuristic methods or a mental calculus rather than a careful and exact accounting calculation [Carney, 2005]. This approach to analysis facilitates rapid decision making and offers advantages in pursuing ephemeral opportunities where time is of the essence and in situations where it is "*better to be always first than always right*" [Williamson, 1997, p. 55]. Owner–managers have greater latitude to allocate resources on the basis of "animal spirits" or "gut feeling" and to pursue opportunities that can only be rationalized by particularistic or intuitive criteria [Carney, 2005]. The authority in family governance is literally incorporated in the person of an owner–manager. Indeed, it is this personalization of authority in the family firm that allows the family to project its own vision onto the business [Chua, Chrisman and Sharma, 1999]. On the contrary, under managerial Governance (where the separation of ownership and management is more clear-cut), the structure of authority is relatively diffuse, impersonal, and vested in the role, a phenomenon Weber (1947) described as rational–legal authority.

2.3. The Board and TMT can contribute to strategic change and innovation within small- and medium-sized family firms

Boards of directors perform a service task and are supposed to bring different types of resources to the firm [Gabrielsson and Huse 2005; Huse 2005, Forbes and Milliken 1999; Sirmon and Hitt 2003]. These resources, which also include knowledge and relationships with third parties, may become indispensable for the making of strategic change when the firm's environment changes significantly [Pfeffer, 1972; Pfeffer and Salancik, 1978; Gales and Kesner, 1994] .

With regards the firm's innovation processes, Moran and Ghoshal (1996) and Tsai and Ghoshal (1998) state that, in order to create new or better products and services, firms need to exchange and combine new resources, or find new ways to do so with existing ones. Innovation requires diverse resource inputs [e.g. Kanter, 1988] and combinative capacities [Kogut and Zander, 1992]. Thus, giving access to the board to individuals with knowledge and experience or combinative capacities that are different from those of the family owner-manager, may be associated with innovation, which may serve as an indicator for value creation [Tsai and Ghoshal, 1998].

A board, which does not limit itself to controlling, but rather assists, the management might reinforce the initiatives of strategic change and innovation undertaken by the family owner-manager (which develop within the good stewardship perspective) and/or may minimize or oppose tendencies towards stagnation, strategic immobility and poor innovation (which might be generated given the prospective family owner-manager's risk aversion).

According to the upper echelon theoretical perspective [Hambrick and Mason, 1984], the TMT may also help increase the firms potential for strategic change and innovation. This perspective purports that firm performance is a "reflection" of the characteristics and actions of the firm's central managerial team, known as the TMT. In this work, it is argued, in accordance with past research, that the human capital of this team is an important element in success [Cooper, Gimeno-Gascon and Woo, 1994; Herron and Robinson, 1993; Thakur, 1999].

Upper echelon research generally focuses on the entire group of the firm's top executives as the appropriate level of analysis, and, thus, implicitly assumes an even distribution of power within the elite echelon of corporate actors [Dalton and Dalton, 2005]. However, there is research which supports the argument that group characteristics are relatively less important than the characteristics of the leader, i.e. the CEO [Cannella and Holcomb, 2005]. This particularly applies to family-controlled firms where a CEO who belongs to the main owner family exerts a strong leadership influence on corporate decisions and outcomes.

Italian small- and medium-sized companies (Società per Azioni and Società a Responsabilità Limitata) often have a single administrator or a small sized board which nominates the managing director from within. I use the title CEO (chief executive officer) to indicate this single administrator or managing director.

The CEO is the leader of the Top Management Team (TMT) [Wu et al, 2005] and dominates the distribution of responsibilities and tasks within the team itself [Haleblian and Finkelstein, 1993].

In SMEs which are also family firms, board and top management often overlap, with the same people, or people from the same family, involved at all levels [Mustakallio et al, 2002; Nordqvist and Melin, 2002]. Therefore, governance research regarding small- or medium-sized family firms investigates how ownership, board and management are interrelated in creating key organizational outcomes such as strategic change and innovation

In this work, the CEO is a family member who controls the company and at least one other family member is present in the TMT. However, the size of either the board or the TMT may grow as a result of individuals from outside the controlling family becoming involved.

Board contribution

A boards of directors may make an important contribution to the firm's strategy [Pugliese et al. 2009] with regards, generally, the processes through which the firm makes its most important strategic decisions [Pugliese *et al* 2009]. Indeed, boards participate in various phases of strategic decision making through interacting with TMTs [Judge and Dobbins, 1995; Forbes and Milliken, 1999; Rindova, 1999].

Previous to this, the international literature had shown the important influence of board insiders and outsiders in the choice of the firm's innovation strategies. Hill and Snell

(1988) and Baysinger *et al* (1991) were among the first studies to show board influence on the firm's innovation activity.

The board has been described as the ''apex of the firm's decision control system'' [Fama and Jensen, 1983, p. 311]. Small- and medium-sized family firms, however, are closely held and owner-managed and thus owners have direct and detailed insights into internal processes of the firm [Cowling, 2003]. In such closely held firms the role of the board is different, because the risk of opportunistic behaviour by management is lower (or zero). The board can therefore focus less on control and more on service activities, such as on stewardship and strategic development.

As a result, there is less need for the board's control function [Brunninge and Nordqvist, 2004; Ford, 1988; Huse, 2000], while a vital function of the board is to perform service tasks, i.e. to advice and counsel the family owner-manager. Over the last two decades, researchers have enhanced our understanding of the board's strategic tasks from different perspectives. For example Fama and Jensen have pointed out that, according to agency theory, the board should perform ratifying, controlling and evaluating strategies to fulfil its function as "*the apex of the firm's decision control system*" [Fama and Jensen, 1983, p. 311]. In an early review of boards of directors, studies applying resource dependency theory show that directors' involvement in the strategic arena usually takes the form of initiating strategic analysis and suggesting alternatives [Zahra and Pearce, 1989]. Based on a practical view of board strategic involvement, other researchers have specified implementing strategies as one critical part of this involvement [Huse, 2005; Zahra, 1990]. In short, board strategic tasks cover a set of activities that may range from initiating strategies to implementing them.

Authoritative literature asserts that boards should have outside members with the power to speak the truth to an entrenched family boss [Anderson and Reeb, 2004]. Outsiders are members of the board who neither worked for the company on a daily basis nor belonged to the main owner family. Literature underlines the fact that there are also examples of SMEs which have active boards with outside members who have a role in strategy development [Fiegener, 2005]. Outside members are more likely to view the tasks of the board as being different from and complementary to that of management, while insiders may view board work as an extension of their managerial responsibilities [Forbes and Milliken, 1999; Mace, 1986]. Outside board members are not tied to the day-to-day operations of the firm and consequently they are likely to think more freely with regards the strategic alternatives open to the firm [Forbes and Milliken, 1999]. Therefore, outside board members in family closely held firms can point out new strategic directions and also provide information and advice during a change process [Borch and Huse, 1993]. Drawing upon their personal contacts they can also link the company with important stakeholders within its environment [Borch and Huse, 1993; Zahra and Pearce, 1989], operating as agents for resource acquisition [Goodstein and Boeker, 1991] and enhancing the organization's reputation and legitimacy [Hung, 1998; Johannisson and Huse, 2000; Pfeffer and Salancik, 1978], thus facilitating favourable external conditions for change.

The quoted literature indicates the probability that including individuals who are not a part of the dominant family on the board might have positive effects on strategic change and innovation.

In line with the Schumpeter approach, which considered innovation to be an occasion to substitute firms' old combinations of resources [Schumpeter, 1934], firms need to combine new resources, or find new ways of combining existing ones, in order to create new or better products and services [Moran and Ghoshal,1996; Tsai and Ghoshal, 1998]. Innovation requires diverse resource inputs [e.g. Kanter, 1988] and combinative capacities [Kogut and Zander, 1992]. The extension of the board to include individuals with knowledge and experience which the family owner-manager does not possess answers this need. Indeed, it both permits the exploitation of new knowledge resources (those of the outside members) and their combination with those that the firm already has, and the discovery of new ways to combine existing resources by making use of outsiders' knowledge and experience.

Unlike companies that are quoted on the stock market, SMEs are not subject to regulations or self-regulatory codes which impose the employment of outsiders. Therefore, it may be assumed that SMEs employ outsiders since they "*will come to support the organization, will concern themselves with its problems, will variably present it to others, and will try to aid it*" [Pfeffer and Salancik, 1978, p. 163]. In such circumstances, the board may provide certain primary benefits, such as (1) advice and counsel, and (2) channels for communicating information between external organizations and the firm [Pfeffer and Salancik, 1978].

The experience of outside board members gained from contexts other than the firm also help to generate new perspectives and ideas and can increase cognitive diversity. Cognitive diversity means the existence of multiple and different data collection, analysis and interpretation styles among the members of a group. Boards with active outside directors who have different information acquisition and interpretation styles, are likely to consider a wide array of data sources regarding their companies' markets, competitors, operations, and customers [Keck, 1997; Leonard and Sensiper, 1998]. This could improve SMEs capacity to identify more needs and opportunities for strategic change and innovation.

Putting together the different contributions of the literature looked at, I believe it reasonable that the inclusion of non-family members on the board might : increase the capability to interpret environmental change; extend the competences within the firm that are necessary for the development of new resources or, more simply, improve the understanding of how present resources may be combined differently so as to generate strategic change and/or innovation.

This leads to the following:

Hypothesis 1a: The presence of outside directors on the board has a positive effect on strategic change

Hypothesis 1b: The presence of outside directors on the board has a positive effect on innovation.

The TMT contribution

The ability to introduce innovation in family firms is influenced by phenomena which typically affect this type of firm and are related to the TMT. For example, Carney (2005) theorises that the tendency to restrict the top management team to family insiders is one of the ways in which these firms exhibit their natural parsimonious propensities (financial caution). There is a strong negative relationship between such propensities and the capacity for innovation, since parsimonious propensities may encourage an efficient operational environment which roots out some of those slack resources that Nohria and Gulati (1996) describe as necessary for successful experimentation and innovation [Gedajlovic and Carney, 2010].

Ensley and Pearson (2005) suggest that TMTs with many members from the same family, i.e. with a high degree of "familiness", should mean more shared strategic consensus in the TMT as a result of altruism, loyalty and commitment. Moreover, the fact that a TMT quickly achieves a greater consensus regarding a firm's strategic direction is not always beneficial to that firm's innovation processes. Indeed, Gedajlovic and Carney (2010) note that in firms where family members dominate the TMT, such a consensus is soon arrived at, but that such dominant leadership may reduce constructive dialogue and the screening of novel ideas. In line with these assertions, other researchers find that families may exclude non-family managers, even those executives with strong professional or scientific qualifications, from their important strategic decisions [Tsui-Auch, 2004]. The tendency to restrict the top management team to family members inhibits the development of absorptive capacity, and reduces access to outside sources of information that are needed to calibrate and refine the complex systems which often constitute the base for important innovation [Cabrera-Suárez *et al*, 2001; Pollak, 1985].

Cohen and Levinthal (1990) define the absorptive capacity construct as the capacity of a firm to value, assimilate and apply, for commercial ends, knowledge from external sources. Based on previous studies such as Allen (1984), they hold that absorptive capacity is a by-product of an organization's Research and Development (R&D) efforts.

However, the passage from knowledge absorption to its economic use is not always guaranteed. Greater effort in R&D means greater capacity to generate knowledge within the organization and interpret and understand the knowledge of others, but Davenport and Prusak (1998) note that absorbed knowledge, whether from an individual or an organization, may remain unused for diverse organizational reasons. This argument is highly relevant in this paper given that it is directly linked to the functions performed by TMTs in SMEs. Indeed, small size and flexible organizational structures intensify TMT involvement in all of the firm's activities. For example, specialized departments for marketing and product development are less common in SMEs [Cowling, 2003] and, if they exist, their decisions are heavily influenced by top management.

Non-family member involvement in TMTs increases diversity and the breadth of the organization's knowledge base [Gedajlovic and Carney, 2010], so helping the processes by which knowledge absorbed from external sources can be utilised within the firm and incorporated into its own product portfolio (innovation).

This leads to the following:

Hypothesis 2a: participation in the TMT by non-family members improves the relationship between absorptive capacity and the generation of innovation

Within the resource-based view (RBV), recent studies have shown that firms' absorptive capacities influence their strategies and strategic changes. The resource-based view "perceives the firm as a unique bundle of idiosyncratic resources and capabilities where the primary task of management is to maximize value through the optimal deployment of existing resources and capabilities, while developing the firm's resource base for the future" [Grant, 1996]. In dynamic markets, where the competitive landscape is shifting, the dynamic capabilities by which firm managers "integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" [Teece et al, 1997, p. 516] become the source of sustained competitive advantage. The manipulation of knowledge resources, in particular, is especially critical in such markets [Grant, 1996; Kogut B. and Zander U., 1996].[1] Research on the dynamic capabilities of the firm [Eisenhardt and Martin, 2000; Raff, 2000] suggests that dynamic capabilities are embedded in organizational processes and are directed toward enabling organizational change and evolution [Zott, 2003]. These capabilities enable the firm to reconfigure its resource base and adapt to changing market conditions in order to achieve a competitive advantage. Zhara and George (2002) propose a reconceptualization of absorptive capacity as a dynamic capability pertaining to knowledge creation and utilization that enhances a firm's ability to integrate, reconfigure, gain and release resources to match and even create market change. Therefore, when faced with environmental change, firms with greater absorptive capacity develop their own base of resources and knowledge more quickly and cheaply than their competitors are able to [Zahra and George, 2002, p. 195–196]. In such a perspective absorptive capacity fuels strategic change. [Pingying, 2010].

Agency theory suggests that top managers' inclination to change strategy is linked to the ownership structure of the firm [Bethel and Liebeskind, 1993]. This is because managers' wealth increases with growth and diversification, rather than through the firm's total equity value. In SMEs, ownership and management are often unified, potentially making such behaviour less likely.

Turning, instead, to upper echelon theory, Hambrick and Mason (1984) posit that TMT cognitive characteristics, such as values, norms and interests, significantly influence the way that firms process and interpret information about their markets and customers, thus also having an impact on their ability to recognize and pursue strategic change. Previous research has investigated TMT characteristics, most notably the relationship between TMT demography and performance [Amason, 1996; Amason and Sapienza, 1997].

The effect of TMT characteristics on strategic change is likely to be particularly strong in SMEs because small size and flexible organizational structures intensify TMT involvement in all activities of the firm. When non-family members are involved with the TMT, this leads to an increase in the diversity or breadth of the organization's knowledge base. Therefore, larger TMTs are likely to have more resources and competences available to them in decision-making. A larger TMT also increases cognitive diversity, which is useful for the adding of alternative possibilities to strategy-making. Effective TMTs engage in cognitive conflict, defined as task-orientated disagreement arising from differences in perspectives [Amason and Sapienza, 1997]. Moreover, TMT members are unlikely to have the same tasks, i.e. they represent different functional areas of the firm's operations, so adding to diversity. By increasing cognitive diversity, a larger and functionally more varied group may increase creativity in decision-making and point to new alternatives for the firm's future development [Forbes and Milliken, 1999]. In closely held firms, a larger TMT with more non-owner top managers may partly counteract the dominant influence that the owner-managers otherwise has on strategic direction. Being one of several TMT members, the individual member may feel more confident about suggesting alternative strategic ideas and advocating strategic change. Hence, a larger TMT should increase willingness for change as well as the number of available options for carrying out change. Therefore:

Hypothesis 2b: non-family member participation in the TMT has a positive effect on strategic change

3. Methods

3.1. Sample Selection and identification method of Family Firms

I employed a method to identify small- and medium-sized family firms, in the form of companies, upon which it might be useful to test the hypotheses formulated. In an initial phase, through the AIDA data base of the Bureau van Dick (https://aida.bvdep.com), for 13th December 2009, I identified all of the companies (Società per Azioni and Società a Responsabilità Limitata) with a turnover of less than 50 million euro belonging to same activity sector 28 of the Ateco 2007 (machinery production sector and, more in general, of equipment for use in industry), with head offices in Italy and which presented non-null values of capitalized Research & Development costs on their 2006 and 2007 balance sheets. The choice of sector 28 of the Ateco 2007 (machinery production sector and, more in general, of equipment for use in industry) was not casual. In this sector, knowledge resources are fundamental for the acquisition and maintenance of sustained competitive advantage. Frequently the firms in this sector, even the small and medium sized ones, invest conspicuous amounts of resources in R&D to generate continuous innovation of products and productive processes. Moreover, this sector continuously experiences changes in environmental conditions, particularly with regards technology, given that the level of mechanical, electronic and automation technology incorporated in industrial machinery is high. This means that, in order to maintain competitive advantage, a firm in this sector needs dynamic capability and the ability to change strategy in line with evolution and change in internal capability and environmental conditions. The

AIDA data base generated a list of 391 companies which satisfied the requisites. AIDA provided a great deal of information regarding these companies, including addresses, e-mail addresses and telephone numbers.

In order to collect data, I contacted the firms whose e-mail addresses I had obtained through AIDA in the previous phase. I asked them for a telephone number for the company CEO, or for one of his/her direct collaborators/assistants, in order to carry out a telephone interview of no longer than 15 minutes. I received replies from 163 firms. This interview was organized around 20 questions and guaranteed anonymity. During the interviews, I asked, above all, for information regarding the presence among shareholders of at least two members of the same family and whether the CEO and at least one other manager were from that family too. I received 109 positive answers. Therefore, I continued the interview in the cases of these 109 firms only and these comprised the sample of analyzed firms which were tested on the base of the research hypotheses. During the interviews, I gathered, on one hand, data regarding the dependent variables of strategic change and innovation and, on the other hand, data inherent to the variables on which the former might depend, i.e. independent variables and variables of control. It should be made clear that the data regarding dependent variables refer to the years 2008 and 2009, while those regarding independent variables and variables of control refer to 2006 and 2007.

The delay of two years was chosen for two principal reasons, both well described in the previous literature [Melin and Hellgren, 1994; Pettigrew and Whipp 1991]. A delay between independent and dependent variables acts as a safeguard against risks deriving from the phenomenon of inverse causality. Furthermore, efforts in strategic change and innovation need time to come to fruition, so a substantial delay should be allowed for between independent and dependent variables.

3.2. Collection of Data, variables and measures

Dependent variables

I used the "*Innovation*" variable to measure the innovations introduced by each enterprise during the reference period (2008-2009).

As Hitt *et al.* (1996; 1997) have pointed out, innovation in the firm is important for the creation of value. I decided to assess product and process innovation. In particular, I asked the interviewees to tell me the number of innovations introduced over the previous two years. In line with previous research [Tsai and Ghoshal, 1998], I used the following items as a product and process innovation indicator: (1) number of developments or introductions of new materials; (2) number of developments of or introductions of new intermediate products; (3) number of developments of or introductions of new components; (4) number of developments of or introductions of new attributes of the products; (5) new developments of or introductions of new equipment; (6) improvements in the level of automation; (7) number of new organizational methods in the productive activities, and (8) use of new energy sources. To measure the variable, I added up the number of innovations reported for each item over the period of time under consideration. I ran Cronbach's alpha to validate the aggregation of items.

The scale's Cronbach's Alpha was 0.68, the value of the alpha was within the limits of tolerance suggested in the literature [Nunnally, 1978; Malhotra, 1997]. I considered thus the feasibility and coherency of the scales as valid.

Then, I used the *"CH.Strategy"* variable to measure each firm's strategic changes during the reference period (2008-2009).

Strategic change is a process involving most parts of a firm and its relation to the environment, and, thus, a comprehensive scale is needed for its measurement [Johnson, 1988; Melin and Hellgren, 1994; Pettigrew and Whipp, 1991]. There are diverse conceptualizations of strategic change. Most empirical studies of governance and strategic change take a very narrow approach. They typically conceptualize strategic change as either the change from one generic strategy to another, i.e. using typologies of strategic orientation [e.g. Boeker, 1989], or only include service additions, divestures and/or industry changes [e.g. Golden and Zajac, 2001; Goodstein *et al.*, 1994].

With regards Italian SMEs, such definitions of strategic change are too reductive, and few events would be surveyed. Therefore, I subscribe to a broad view of strategic change and I used wider definitions of strategic change, found in the literature, among which for example Mintzberg *et al.* (1998), Ansoff (1965), Robbins and Pearce (1992), Melin and Hellgren (1994). In particular, I asked whether, in the course of the two previous years, the firm had introduced changes along 11 dimensions, with a dichotomous yes/no response format. The surveyed dimensions were: (a) conscious staff reductions or increases; (b) major cost reductions; (c) cutting down, selling or closing down ineffective businesses; (d) introducing more sophisticated cost control systems; (e) starting doing business with a country the company had previously not done business with; (f) starting business in a new place within Italy; (g) starting marketing oneself in a new way; (h) carrying out measures in advance that the company otherwise would have been forced to do sooner or later; and (i) carrying out changes particularly in order to get ahead of competitors; (j) introducing an important new product or service or, in any other way, substantially changing what is on offer to customers; (m) commencing the development of a important, completely-new product, service or similar. These latter two elements are considered pertinent to diversification strategies, as opposed to modifications to a product that is already on offer to customers (innovation). Therefore, the operations of strategic change surveyed include changes which do not influence the measurement of the *Innovation* variable.

In measuring the *CH.Strategy* variable I used the following method for the aggregation of the above-mentioned dimensions. Flag "1" was attributed to each dimension if the firm had introduced at least one change along this dimension; otherwise flag "0" was attributed. I measured the *CH.Strategy* variable for each sample firm by summing the flags ("0" and "1") attributed to the 11 dimensions.

Then, I ran Cronbach's alpha to validate the aggregation of items. Cronbach's alpha of the scale was 0.61 and the value of alpha was within the limits of tolerance suggested in the literature [Nunnally, 1978; Malhotra, 1997]. I thus considered the feasibility and coherence of the scales as valid.

Independent variables

As I have already said, the data used to measure the following variables refers to the years 2006 and 2007.

To find out about the presence of outside directors on the board, I asked if there were any members of the board who neither worked for the company on a daily basis nor belonged to the main owner family. Close to half the sample had no outside directors on the board. For those that did, just one outside director was most common. Due to this skewed variable distribution, I dummy coded the variable "0" for those firms that had no outside directors and "1" for those that did. This dummy variable was named "*Outsider*".

Next, I measured the degree to which the TMT was open to people from outside the main owner family. This variable was measured by asking: "does the firm have an active decision-making top management team." If the answer was yes, I then asked how many people were members of the TMT. In cases where there was at least one member of the TMT who did not belong to the main owner family, I coded this variable "1", otherwise it was "0". This dummy variable was named *OpenTMT*.

Finally, hypothesis *2a* predicts that a firm's innovative performance depends on that firm's absorptive capacity. The "*R&D*" variable is considered as a proxy of each firm's absorptive capacity. Indeed, Cohen and Levinthal (1989, p. 569) argue: "*that while R&D obviously generates innovations, it also develops the firm's ability to identify, assimilate, and exploit knowledge from the environment-what we call a firm's 'learning' or 'absorptive' capacity*". R&D investment improve firms' capacity to absorb the necessary knowledge for future innovation [Cohen and Levinthal, 1990].

I measured the R&D variable using data on the costs relating to applied research and development which were capitalized.[2] The data were collected through the AIDA data base. In particular, I coded the *R&D* variable as a dummy variable which was"0" for those firms that had not registered any increase in capitalized R&D costs over the two years (2006-2007), otherwise it had a value of "1".

Control variables

The ability to introduce strategic change and innovation may also depend on a firm's size and performance. Therefore, for each firm, through the data gathered by AIDA, I include the following variable of control in the analysis:

"FirmSize", calculated as a natural log of the average value of turnover over the two years (2006-2007).

"*Performance*", calculated as an average of the values of ROA (Return on Assets) over the two years (2006-2007). ROA is defined as the net operating income before extraordinary items divided by total assets.

4. Analysis and results

The descriptive statistics for the variables are presented in Table 1. The correlation statistics for the variables are presented in Table 2. Table 2 shows certain significant

correlations. *OpenTMT* with *Innovation; Performance* with *Innovation* and *FirmSize* with *CH.*Strategy are significantly correlated ($p<0.05$). The variables *OpenTMT* with *CH.*Strategy; *R&D* with *Innovation*; *Outsiders* with *CH.Strategy*; *FirmSize* with *Outsiders* and *FirmSize* with *OpenTMT* are strongly correlated ($p<0.01$). *FirmSize* with *Innovation* and *Performance* with *CH.Strategy* is weakly correlated ($p<0.1$).

Table 1. Descriptive statistics on all selected variables

Observations 109

Variable	Mean	Median	SD	Maximum	Minimum
Innovation	13.742	12	9.066	21	3
CH.Strategy	4.712	3	4.021	8	0
Outsiders	0.321	0	0.403	1	0
OpenTMT	0.431	0	0.507	1	0
R&D	0.688	1	0.503	1	0
FirmSize	16.960	16.132	1.553	17.665	14.581
Performance	0.043	0.049	0.081	0.093	-0.069

Table 2. Correlation matrix

		1	*2*	*3*	*4*	*5*	*6*	*7*
1	***Innovation***	1						
2	***CH.Strategy***	0.12	1					
3	***Outsiders***	0.101	0.251**	1				
4	***OpenTMT***	0.189*	0.229**	0.195	1			
5	***R&D***	0.228**	0.119	0.091	0.089	1		
6	***FirmSize***	0.131 †	0.217*	0.241**	0.235**	0.117	1	
7	***Performance***	0.214*	0.121†	0.123	0.124	0.118	0.119	1

Notes: Pearson's product-moment correlation coefficients. N = 109; **, *, † indicate significance (1-tailed) at: 0.01 and 0.05 or 0.10 level, respectively.

In addition to the univariate tests that provide preliminary evidence about some hypothesized relationships, I employ a multivariate regression model to examine the dynamic interaction among the variables and their relationship with strategic change and innovation.

With this aim, I ran two different hierarchical regression models.

The first model, in Table 3, uses *CH.Strategy*, as a dependent variable, to test hypotheses *1a* and *2b* focusing on strategic change.

The second model, in Table 4, uses *Innovation*, as a dependent variable, to test hypothesis *1b* and *2a* focusing on innovation.

Hierarchical regression models of the dependent CH.Strategy variable

In Table 3, the first thing I did was place just the control variables in *Model I*. The results are reported in the second column of table 3. This model explains about 7% of the variance with *F* which is equal to 3.98 (significance at 0.05 level). A positive effect can be noted for *FirmSize*, suggesting that larger firms are more inclined to strategic change. In the next step, I analysed *Model II*, inserting the independent variable corresponding to the tests of hypotheses *1a*. The results are reported in the third column of table 3. *Model II* makes a more significant contribution than *Model I*, the significant improvement in model fit is given by $\Delta R^2 = 0.05$ with *Fchange* equal to 6.94, significance at $p < 0.01$.

Table 3. Results of hierarchical regression analysis of the strategic change (CH.Strategy)

Standardized regression coefficients are displayed in the table. N = 109	***Model I***	***Model II***	***Model III***
Control Variable			
FirmSize	0.245*	0.221*	0.214*
Performance	0.151	0.123	0.112
Independent Variable			
Outsiders		0.149**	0.145**
OpenTMT			0.127**
R^2	0.07	0.13	0.17
Fsign	3.98*	4.89**	5.13***
Adj R^2	0.07	0.10	0.13
ΔR^2	0.07	0.05	0.04
Fchange	3.98*	6.94**	6.89**

Note: ***, **, *, indicate significance at 0.001 and 0.01 or 0.05 level, respectively.

Within *Model II*, when the regression coefficients are examined, the findings suggest that, outside directors on the board are associated with more strategic change ($p < 0.01$), as anticipated by hypothesis *1a*. Therefore, hypothesis *1a* is supported. In the next step, I analysed *Model III*, inserting the independent variable corresponding to the tests of hypotheses *2b*. The results are reported in column four of table 3. *Model III* makes a more significant contribution than *Model II*, the significant improvement in model fit is given by $\Delta R^2 = 0.04$ with *Fchange* equal to 6.89 significance at $p < 0.01$. The full model is fit, it particularly explains about 17% of the variance and *Fsign* = 5.13, significance at 0.001 level. Within *Model III*, when the regression coefficients are examined, the findings suggest that involvement in the TMT of individuals who are not members of the main owner family is associated with more strategic change, supporting hypothesis *2b* ($p < 0.01$).

Table 4. Results of hierarchical regression analysis of innovation

Standardized regression coefficients are displayed in the table. N = 109	***Model I***	***Model II***	***Model III***	***Model IV***	***Model V***
Control Variable					
FirmSize	0.331	0.273	0.227	0.198	0.153
Performance	0.233*	0.195*	0.187*	0.175*	0.169*
Independent Variable					
Outsiders		0.157	0.171	0.127	0.106
R&D			0.136**	0.128**	0.110**
OpenTMT				0.103*	0.097*
Interaction					
OpenTMT × R&D					0.142**
R^2	0.06	0.08	0.14	0.17	0.20
Fsign	3.21*	3.02*	4.31**	4.19**	4.2***
Adj R^2	0.04	0.05	0.11	0.13	0.15
ΔR^2	0.06	0.02	0.06	0.03	0.03
Fchange	3.21*	3.73	7.19**	4.91*	8.21**

Note: ***, **, * indicate significance at 0.001 and 0.01 or 0.05 level, respectively.

Hierarchical regression models of the Innovation dependent variable

In Table 4, the first thing I did was place just the control variables in *Model I*. The results are reported in column two of table 4. This model explains about 6% of the variance with *F* that is equal to 3.21 (significance at 0.05 level). A positive effect can be noted for *Performance*, suggesting that better performance improves expectations for the future and leads SMEs to innovate more. In the next step, I analysed *Model II*, inserting the independent variable corresponding to the tests of hypothesis *1b*. The results are reported in the third column of table 4. *Model II* does not make a more significant contribution than the base model, i.e. *Model I* (ΔR^2= 0.02, *Fchange*=3.73 is not statistically significant). These findings suggest that there is no significant association between outsider presence on the board and innovation, therefore, hypothesis *1b* is not supported by this analysis.

In the next step, I analysed *Model III*, inserting the independent variable *R&D*. The results are reported in column four of table 4. *Model III* makes a more significant contribution than *Model II*, the significant improvement in model fit is given by ΔR^2= 0.06 with *Fchange* equal to 7.19, significance at $p < 0.01$. Within *Model III*, when the regression coefficients are examined, the findings suggest that effort in R&D is associated with a significant ($p < 0.01$) increase in innovation.

In the next step, I analysed *Model IV*, inserting the independent variable *OpenTMT*. The results are reported in column five of table 4. *Model IV* makes a more significant contribution than *Model III*, the significant improvement in model fit is given by ΔR^2 =0.03 with *Fchange* equal to 4.91, significance at $p < 0.05$. Within *Model IV*, when the regression coefficients are examined, the findings suggest that including non-family members in the TMT is associated with a significant ($p < 0.05$) increase in innovation. With regard to hypothesis *2a*, it is now simply necessary to verify what effects the interaction between the R&D (proxy of firm's absorptive capacity) and *OpenTMT* variables has on regression analysis.

In a hierarchical approach an interaction effect exists if, and only if, the interaction term makes a more significant contribution than *Model IV* [Cohen and Cohen, 1983]. With regards this, column six , in Table 4, reports the findings for when an interaction term corresponding to hypothesis *2a* is added to the equation (*Model V*). The addition of the interaction term of TMT openness with R&D, i.e. *OpenTMT* × *R&D*, gives a statistically significant improvement in model fit. In fact ΔR^2 is equal to 0.03 with *Fchange* = 8.21, significance at $p < 0.01$. The full model (Model V) is fit, it particularly explains about 20% of the variance with *Fsign* = 4.2, significance at 0.001 level. With regards the interaction term *OpenTMT* × *R&D*, the regression coefficient is positive and statistically significant at $p < 0.01$. Therefore, entry into the TMT of individuals who are not members of the dominant family has a particularly strong, positive effect on innovation in family firms when the dummy variable R&D is "1", i.e. when the firm invests in research and development. Therefore, this empirical analysis provides strong support for hypothesis *2a*.

5. Discussion and Conclusions

Small- and medium-sized family firms have tendencies which may inhibit strategic change and innovation.

The parsimonious inclinations of family firms may promote an efficient operating context which hinders the forming of all those conditions that Nohria and Gulati (1996) describe as necessary for successful experimentation and innovation.

Family firms have also been found to pursue cautious investment policies that likewise tend to inhibit growth [Mustakallio, Autio and Zahra, 2002]. Furthermore, this risk aversion can limit the firm's ability to grow and innovate [Cho and Pucik, 2005] and might lead to reluctance to change [Beatty and Zajac, 1994; Denis *et al.*, 1997] and a general conservativeness [Aronoff and Ward, 1997; Kets de Vries, 1993; Sharma *et al.*, 1997].

The research question at the heart of this work is whether negative ownership consequences can be counteracted by the active use of other governance mechanisms.

This question directs the entire paper and the formulation of its basic hypotheses.

In particular, it is hypothesized that outside directors on the board and the opening up of TMT to individuals from outside the dominant family promote strategic change and innovation in SME.

Results from the empirical analysis carried out support the majority of hypotheses. It is probable that firms' willingness to change strategically and innovate is affected by their governance. Most importantly, it is probable that strategic inertia and poor innovation in small- or medium-sized family firms have explanations other than just an unwillingness to change and to innovate. Strategic change and innovation are challenging tasks, requiring the capacity to interpret a complex environment and the competence to mobilize and manage the resources necessary to respond to the competitive challenges that have been identified.

Particularly in SMEs where strategic leadership often lies in the hands of a single person, there can be a lack of resources and competences to bring about change. The results indicate that it is possible to facilitate strategic change by introducing governance mechanisms that increase the strategic capacity and competence of the firm. In particular, the presence of outside directors on the board makes strategic change more likely to happen (hypothesis *1a*). With reliance on outside directors in decision-making, strategic leadership is no longer limited to a single individual. The additional strategists can contribute to change by increasing cognitive diversity [Amason, 1996; Amason and Sapienza, 1997; Forbes and Milliken, 1999], linking the company to important external stakeholders [Borch and Huse, 1993; Huse, 2000; Zahra and Pearce, 1989] and increasing the legitimacy of the organization [Johannisson and Huse, 2000; Pfeffer and Salancik, 1978].

The results do not support the hypothesis that the including of outsiders on the board leads to improvement in the family SME's innovation capacity (hypothesis *1b*). In order to interpret the latter result correctly, it should be remembered that board insiders are

those who work for the company on a daily basis, whether or not they are a part of the main owner family. What is said in the literature about innovation strategies requiring a high degree of intra-firm integration should also be born in mind: a firm involved in innovation brings more insiders on to the board in an attempt to integrate the functional activities of the firm around its strategy [Lawrence and Lorsch, 1967; Hill and Snell, 1988]. By way of contrast, a firm which has diversified into many different fields (increase in *CH.Strategy* variable) brings outsiders on to the board for their expertise [Hill and Snell, 1988], either of the different areas the firm is active in, or in pursuing a diversification strategy. Board members might be selected by family owner-managers of SME on the basis of strategic requirements. Given that, by virtue of their selection, insiders are likely to prefer innovation and outsiders diversification, the findings reported in Table 4 are perhaps not so strange.

To conclude, the results of the empirical research support the hypothesis that the decision to extend the TMT by adding individuals from outside the controlling family generates positive effects with regards strategic change (hypothesis *2b*) and innovation (hypothesis *2a*). With regards this, important conclusions might be drawn. In particular, greater effort in R&D means greater capacity to generate knowledge within the organization and interpret and understand the knowledge of others. However, the tendency of family-owned firms to restrict the top management team to family members may inhibit the development of absorptive capacity, and reduce access to outside sources of information that are needed to calibrate and refine the complex systems which often constitute the base for important innovation.

Other conclusions can be drawn from the analysis carried out. Adverse environmental conditions or emerging new opportunities call for strategic change or innovation and such change and innovation is often difficult for family owner-managers to accomplish. My advice is clear cut. Expansion of the circle of individuals involved in decision-making helps overcome these problems.

My study is not without its limitations. I opt for a sample that contains SMEs from the same industrial sector – that with code 28 in ATECO 2007 –. In this sector, strategic change and innovation are very important aspects in a firm's survival. The advantage of analyzing data from firms belonging to the same sector is the homogeneity that characterizes the examples studied. This also permits the researcher to find correlations between variables through the use of simplified econometric models. These models are only capable of explaining a part of the complexity of the entire phenomenon. In particular, the full models in Table 3 and 4, although statistically significant ($p< 0.001$), only explain respectively 17% of the variance of the "strategic change" phenomenon and 20% of the variance in the "innovation" phenomenon. Indeed, we need to bear in mind the fact that strategic change and innovation are complex phenomena and that governance mechanisms only represent a limited part of the variables affecting strategic change and innovation in a firm. Finally, the data for this study were gathered in Italy. Therefore, special attention should given when generalizing about my discoveries both with regards other productive sectors and other national contexts.

Footnotes

1 Various researchers have given a number of different meanings to many of these terms such as resource, asset, capability and competence, causing terminological confusion in the strategy literature. For simplicity's sake, from now on, I use 'resource' in a broader sense including assets and capabilities and the competence related with them. For a more precise definition of these terms, refer to Sanchez et al (1996).

2 In Italy, according to some national accounting standards, companies are allowed to capitalize some R&D costs. This leaves the managers flexibility in deciding how to account for their R&D costs (whether to record them as an expense on the income statement, or as an asset on the balance sheet)

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