FAMILY GOVERNANCE AT WORK: ORGANIZING FOR NEW PRODUCT DEVELOPMENT IN FAMILY SMEs

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Paper accepted for publication in *Family Business Review*.

Please cite as: De Massis, A., Kotlar, J., Frattini, F., Chrisman, J.J., & Nordqvist, M. (2015). Family governance at work: Organizing for new product development in family SMEs. *Family Business Review*, in press.

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A growing body of research is concerned with how family governance influences innovation. Yet, the organizational issues that family governance engenders for innovation processes have been largely overlooked. In a study of six family SMEs, we investigate the design decisions that fit family and business logics to create high-performing new product development programs. Our results reveal three design principles concerning teams, leadership, and incentives that diverge from customary approaches of organizing for new product development, adding important dimensions to the determinants of successful new product development in family SMEs.

INTRODUCTION

Product innovation drives organizational change and growth (Agarwal & Helfat, 2009; Dougherty & Hardy, 1996) and is therefore considered an important component of corporate entrepreneurship (Branzei & Vertinsky, 2006; Covin & Slevin, 1991) and a major determinant of firms' competitive advantage and performance (Brown & Eisenhardt, 1995; Ernst, 2001). Recently, researchers have paid great attention to product innovation in family firms (De Massis, Di Minin, & Frattini, 2015; De Massis, Frattini, & Lichtentaler, 2013). This body of research suggests that the distinctive attributes of family governance, including centralized authority structures, incentives for parsimonious use of resources, and asymmetrical accountability norms (Carney, 2005; Gedajlovic et al., 2004, 2012), can be major impediments of family firms' innovativeness (De Massis et al., 2013). For example, family firms are reported to engage less in R&D investments (Block, 2012; Chrisman & Patel, 2012; Gómez-Mejía, Campbell, Martin et al., 2014; Kotlar et al., 2014), technology acquisitions (Kammerlander & Ganter, 2015; König, Kammerlander, & Enders, 2013; Kotlar et al., 2013) and open innovation (Classen, Van Gils, Bammens, & Carree, 2012; Nieto, Santamaria, & Fernandez, 2013) than non-family firms.

Accordingly, many scholars concur that "old, moneyed families block creative destruction among their own firms" (Morck & Yeung, 2003, p. 377) and that "for some family firms, maintaining family control may be a higher priority than innovating" (Gómez-Mejía et al., 2007, p. 134). However, if family firms innovate less then we should see them diminish as an organizational form over time. Patel and Chrisman's (2014) research suggests that the reason they continue to flourish is that they follow different innovation strategies than non-family firms and, when necessary, are able to change strategies more rapidly owing to their concentrated control. If family firms follow different strategies then it is also likely that they use different organizational designs to implement their innovation programs. But the nature of these differences, if any is unknown.

Existing research has made substantial strides on the macro-level focusing on the different innovation strategies adopted by family firms and the impact of family involvement on innovation inputs and outputs. However, by adopting a strategic perspective primarily focused on examining differences in innovation across types of firms, existing work has largely overlooked the micro perspective of the design of innovation activities within organizations (Brown & Eisenhardt, 1995; Dougherty & Hardy, 1996). The few exceptions to this trend (e.g., Cassia et al., 2011; De Massis, Frattini, Pizzurno & Cassia, 2015) have explored factors that hinder or facilitate innovation activities in family firms, but have not provided sufficient depth about the underlying organizational mechanisms. Thus, we are left with limited understanding about how family firms implement their innovation strategies and how innovation activities can be organized at the micro-level to fit their governance attributes (for a recent review, see De Massis et al., 2013).

This study aims at complementing and extending existing research on family firm innovation by taking a design perspective. It is based on the idea that family firms can be highly innovative while still maintaining a strong family character (Chrisman & Patel, 2012) and that lower innovation inputs do not necessarily translate into lower innovation outputs (Duran, Kammerlander, & van Essen, 2015). Based on these premises, this study attempts to extend current theory on innovation in family firms in three major respects. First, the study complements prior empirical studies on the effect of family governance on product innovation, which have been primarily quantitative in nature, focused on innovation input and outputs, and based on overly simplistic assumptions about how family governance influences innovation (e.g., Block, 2012; Chin, Chen, Kleinman, & Lee, 2009; Czarnitzki & Kraft, 2009; De Massis et al., 2013; Duran et al., 2015). In particular, this study aims at clarifying the mechanisms through which family governance can obstruct or facilitate innovation processes, and to extend and refine existing theory as to how family firms can best accommodate and leverage their governance attributes in order to maximize their innovative potential. Second, prior research has for the most part focused on broad aspects of innovation such as innovation inputs (e.g., R&D investments) and outputs (e.g., patents) (De Massis et al., 2013; Duran et al., 2015), and on firm-level explanatory variables such as prior performance (e.g., Patel & Chrisman, 2014) and resources (e.g., Sirmon & Hitt, 2003). On the other hand, a deeper understanding of the variables that relate to product innovation program design is likely to unveil new sources of variation among family firms and add much to our understanding of innovation management in family firms. Third, there are few empirically grounded, theoretical accounts of the organizational choices that family firms can take to organize high-performing new product development programs.

Taken together, these gaps in the literature led us to address the following research question: How do family firms design new product development programs that fit their governance systems and perform at high levels? Given limited theory and empirical evidence and given the explanatory nature of our research questions, we conduct a qualitative analysis of multiple case studies (Eisenhardt & Graebner, 2007). This method is particularly appropriate when the purpose is to extend and refine existing constructs and relationships, when the research aims at explaining how they work (or not) in a particular context, and when access to fine-grained information is not available in existing databases (Eisenhardt & Graebner, 2007; Yin, 2003). Our study examines six small and medium size (SME) family firms, chosen to ensure they embodied the family form of governance (each was characterized by family ownership, family management and close overlap between family and business) and had an NPD program (a multi-year, budget-backed portfolio of NPD projects). These criteria, along with a polar-sampling approach based on NPD performance, were used to study sources of variance in the dimensions of product innovation program design that differentiate higher- from lower-performing family SMEs.

Our study represents the first step toward extending and refining existing theory and research on innovation in family firms by identifying and clarifying three major NPD design principles concerning teams, leadership, and incentives (Brown & Eisenhardt, 1995; Cooper & Kleinschmidt, 1995) that together constitute a logically consistent way of organizing NPD programs in family SMEs. It identifies new dimensions that add to existing NPD design principles developed in large non-family firms, and extend conventional approaches to NPD design in important ways in order to accommodate the governance attributes of family SMEs. The findings of this study suggest that the product innovation performance of family SMEs depends on how well the design of NPD programs fits their governance attributes, and that such fit depends on dimensions of NPD design that have been overlooked in existing research, such as organization of NPD teams by relying upon existing departmental structures and employing resources on a part-time basis, separation of leadership and championing roles, and application of intrinsic incentives in place of extrinsic incentives to foster teamwork and achieve stronger goal alignment. Thus, we provide a theoretical explanation, inducted from empirical evidence, for the distinctive organizational challenges that family governance poses for product innovation, and shed light on how family SMEs address those challenges in practice. By doing so, our study highlights unique requirements for successful NPD programs in family SMEs, which refine and extend classic approaches to NPD design.

BACKGROUND

Prior research on family governance and new product development provides the context for this study. This section first discusses the governance attributes that characterize family SMEs and their links to innovation, and then reviews the organizational aspects that are most relevant to NPD activities.

Family governance as an organizing framework for NPD

We define family governance in terms of authority structures, incentive systems, and accountability norms (Carney, 2005; Gedajlovic et al., 2004). First, family governance depends on the personalization of authority among members of the family both in terms of ownership and management (Carney, 2005; Daily & Dollinger, 1992). As such, authority relationships tend to be centralized (Gedajlovic et al., 2004), and to resemble the authority structure of the family (Schulze, Lubatkin, Dino et al., 2001; Stewart & Hitt, 2012). Concentrated ownership (especially when the firm is privately held) reduces pressures for disclosure and transparency (Ali, Chen &

Radhakrishnan, 2007; Pazzaglia, Mengoli & Sapienza, 2013) and internal bureaucratic constraints that limit managerial authority (Carney, 2005). Unconstrained authority also creates non-economic utilities for controlling families. Thus, family owners and managers tend to prefer informal decision-making processes and organization structures that allow them to avoid ceding power to nonfamily managers (Chrisman, Memili & Misra, 2014; Daily & Dollinger, 1992).

A second key feature of family governance is the pursuit of family-centered goals, including intentions for continued family control and survival as a family firm (Berrone, Cruz & Gomez-Mejia, 2012; Kotlar & De Massis, 2013), which tend to take precedence over pure profit or growth maximization and are more difficult to measure (Chrisman & Patel, 2012; Zellweger, Kellermanns, Chrisman et al., 2012). As controlling families are reluctant to reduce their ownership stake in the firm (Gómez-Mejía et al., 2007; Zellweger et al., 2012), they must rely heavily on family investments and internally generated cash flows to fund growth. As a result, family governance also creates incentives for efficiency and parsimony (Gedajlovic et al., 2004).

Third, family governance often allows for the altruistic treatment of family members, which brings about very ambiguous accountability norms (Jaskiewicz, Uhlenbruck, Balkin & Reay, 2013; Pazzaglia et al., 2013; Schulze et al., 2001). Family members are often not held fully accountable for their actions (Gedajlovic et al., 2004). On the other hand, nonfamily employees are often considered as outsiders or agents who are neither treated as altruistically as family members nor trusted to behave benevolently toward the family or business (Cruz, Gómez-Mejía & Becerra, 2010; Gómez-Mejía, Nunez-Nickel & Gutierrez, 2001). As such, family governance can engender *bifurcation bias*, where family and nonfamily employees are held to different standards, with favoritism often shown to the former over the latter (Verbeke & Kano, 2012).

In sum, prior literature provides important insights into the role of family governance as a unique organizing environment. How this distinctive form of governance affects the performance of activities that involve such a high degree of novelty, uncertainty, and complexity as new product development, however, remains largely unanswered (Chrisman et al., 2015). Prior research has shown that family governance often inhibits investments in innovation (e.g., Chrisman & Patel, 2012; Gomez-Mejia et al., 2013; Kotlar et al., 2014), but that lower innovation inputs do not necessarily translate into lower innovation performance in family firms (Block, 2012; Duran et al., 2015). In fact, research continues to be divided as to whether family governance has an overall positive or negative effect on innovation performance (Chin et al., 2009; Czarnitzki & Kraft, 2009; Sciascia et al., 2015). Prior research has also shown that family-related variables, such as family social capital, relationship conflict and family affective commitment exert important effects on product innovation performance (Cassia et al., 2011; Chirico & Salvato, 2014). For example, De Massis, Frattini, Pizzurno & Cassia (2015) note that family influence constraints the composition and autonomy of innovation project teams. Similarly, Cassia et al. (2011) identify several dimensions along which the family can enable or constraint innovation. Yet, existing studies are confined to limited areas of innovation project design (i.e., the team), and do not offer sufficient depth about the mechanisms underlying the fit between NPD programs and the governance attributes of family SMEs (De Massis, Di Minin & Frattini, 2015). In the next section we draw more thoroughly from research on NPD design to lay the groundwork for constructs and relationships to look for in our empirical study.

Organizational design for NPD

Innovation scholarship has a long tradition of research that focuses on how new products are developed within organizations (Brown & Eisenhardt, 1995; Cardinal, Turner, Fern et al., 2011; Dougherty & Hardy, 1996). Scholars within this tradition have embraced heterogeneous theoretical lenses as well as empirical approaches. For our purposes, we draw on an integrative model developed by Brown and Eisenhardt (1995). Although not the only way to characterize product innovation activities, the three categories outlined by Brown and Eisenhardt (1995) draw attention to important problem areas internal to an organization: the design of the project team, project leadership, and incentive systems required for NPD success. Each is discussed below.

NPD teams have been the focus of most product development research, and are a central design aspect of NPD (Brown & Eisenhardt, 1995). In this regard, prior research emphasizes the importance of team composition (Bhuiyan, Gerwin & Thomson, 2004; Brown & Eisenhardt, 1995; Cardinal et al., 2011). Higher functional diversity among team members is thought to increase the amount and variety of information available to the team, thereby facilitating the processes through which new information is used (Clark & Fujimoto, 1991; Keller, 2001; Van der Vegt & Janssen, 2003). This, in turn, improves the quality of the development process and leads to higher performance (Brown & Eisenhardt, 1995). A further aspect of NPD teams emphasized in prior research is the necessity for close interaction among team members, which permits the overlap of development phases and may quicken the execution of complex problem-solving tasks that characterize NPD (Clark & Wheelwright, 1992). This suggests that innovation performance is higher when NPD is organized through dedicated teams, which have functional interaction on a full-time basis during the course of a project (Bhuiyan et al., 2004).

Project leaders play a pivotal role as well, because they act as bridges between teams and senior management (Brown & Eisenhardt, 1995; Somech, 2006). Prior research has highlighted at least three functions carried out by NPD project leaders (Ernst, 2002; Howell & Higgins, 1990). First, project leaders must match a firm's competences and resources with market needs to increase the chances of NPD success (Lewis, Welsh, Dehler et al., 2002; Sarin & McDermott, 2003). Second, project leaders need the skills to manage the project (Lewis et al., 2002). Finally, project leaders must act as champions for the innovation program, a function that includes lobbying for resources, protecting teams from outside interference, and managing relationships with senior management (Ancona & Caldwell, 1992; Shane, Venkataraman & MacMillan, 1995). The design of leadership roles and responsibilities is therefore crucial to ensure that project leaders are able to carry out the functions listed above. This, in turn, will increase the speed and effectiveness of NPD processes (Clark & Fujimoto, 1991).

Incentives provided by senior managers are also critical to the support and supervision of the NPD process (Cooper & Kleinschmidt, 1987). Support refers to the provision of resources to NPD teams when needed (Brown & Eisenhardt, 1995). Supervision involves efforts to foster motivation and commitment among team members and project leaders, which is typically attained through the provision of extrinsic incentives in the form of monetary rewards directly linked to NPD performance (Ernst, 2002; Schilling & Hill, 1998). In the extant literature on organizational design for NPD, the use of extrinsic incentives emerges as crucial for ensuring that NPD team members and project leaders are committed to project goals and accountable for project performance (Griffin, 1997; Page, 1993). Prior research also points to the importance of intrinsic motivation in complex tasks involving innovation and creativity (e.g., Amabile, 1983; 1993), but such work has not examined how such intrinsic motivation can be attained in the context of NPD programs. .

The design principles outlined above emerge from empirical work that has been primarily conducted in the context of large, mature corporations (e.g., Cooper & Kleinschmidt, 1995; Cooper, Edgett, & Kleinschmidt, 2004a, 2004b) or through computer-assisted simulations (e.g., Bhuiyan et al., 2004; Cardinal et al., 2011). There is increasing recognition among scholars, however, that these design principles may not have universal applicability, because the effectiveness of NPD design decisions might vary substantially based on how well the program is connected to the structure and strategies of the organization (Dougherty & Hardy, 1996). In this regard, some authors note that the resource constraints of small and medium enterprises (SMEs) can entail different requirements for the innovation management processes (Rosenbusch, Brinckmann, & Bausch, 2011). Also, recent studies have shown that some well-established design principles, such as interfunctional coordination, are not always needed in SMEs (e.g., Ledwith & O'Dwyer, 2009; O'Dwyer & Ledwith, 2009). Still, even though family governance is prominent among SMEs (e.g., La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999) prior NPD research largely overlooks the governance attributes of family SMEs and the unique challenges for the management of innovation in these firms (Block, Miller, Jaskiewicz, & Spiegel, 2013; König et al., 2013). To refine and extend current understanding of these issues, in the next sections we present our study of six family SMEs which points to the innovation activities and the design decisions that discriminate higher- from lower-performing NPD programs.

METHODS

The research method we adopted is theory building from multiple cases (De Massis & Kotlar, 2014; Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2003). This method is designed to develop explanatory theory about phenomena that have not been well-explored from consistent patterns of data using replication logic, in which a series of case studies functions as a set of experiments that each serve to confirm or disconfirm an emergent theory (Eisenhardt, 1989; Numagami, 1998; Yin, 2003). We focus on manufacturing firms because the product lines of such firms must be frequently improved and expanded, making the capacity to develop and introduce new products crucial for business development and survival. We focus on SMEs because family governance is likely to be more pronounced and important in influencing behaviors in smaller firms (e.g., Chrisman, Chua, Pearson et al., 2012).

We initially identified 15 firms through personal contacts and interviews with experts working with family firms. We then contacted each firm and interviewed the CEO to collect information on the criteria that allowed us to identify family SMEs. The final sample comprises six companies that were selected based on a theoretical sampling approach (e.g., Cardinal et al., 2011; Eisenhardt & Graebner, 2007) as described below.

Consistent with the research question outlined above, our case selection process aimed at examining variations in NPD design and NPD performance while keeping governance attributes constant. Therefore, we selected firms that reflected the set of governance attributes that characterize family SMEs, according to information collected in our preliminary interviews. More specifically, we followed Carney (2005) in examining firms where ownership and control is concentrated in the person of an owner–manager or family. This was operationalized by selecting firms where members of the family have 50 percent or more of the ordinary voting shares and accounted for 50 percent or more of the management team. As a verification, we also asked the CEO whether the company is a family business (e.g., Kotlar & De Massis, 2013). By doing so, we ensured that all selected firms are characterized by high concentration of organizational authority in the hands of the family (Burkart et al., 2003), and that the family and business are closely intertwined, indicating the potential for asymmetrical accountability norms (Demsetz & Lehn, 1985). Moreover, we chose family SMEs where the family has committed a significant portion of personal wealth to the firm, which is thought to provide incentives toward parsimony (Anderson & Reeb, 2003).

Furthermore, because of its centrality to our theoretical inquiry, we also ensured that the firms selected devoted substantial efforts to product development through a multi-year NPD program. Consistent with the literature, we use several criteria to identify NPD programs (Brown & Eisenhardt, 1995; Cooper & Kleinschmidt, 1995). First, it must consist of a portfolio of NPD projects oriented toward the market introduction of new products. Second, it must have a multi-year budget. Third, one or more senior managers must have responsibility for the entire program.

Finally, we ensured that the NPD program performance of the firms we studied could be categorized as either high or low. Thus, we arrived at the final sample of six firms after eliminating two firms that were judged to have average levels of NPD program performance. Such polar-sampling makes the impact of the constructs of interest more "transparently observable" (Eisenhardt & Graebner, 2007; Miles & Huberman, 1994), and is particularly appropriate when the objective is to gain insights into the main effects that are associated with success and failure (Eisenhardt, 1989; Patton, 2002). The performance of an NPD program can be defined by senior management's assessments of whether it met its long-term goals (e.g., Griffin, 1997) or by objective measures such as new product sales, change in market share, and change in operating margins (Cooper & Kleinschmidt, 1995). In the spirit of triangulating subjective and objective measures of performance, we preliminarily relied on subjective data obtained from knowledgeable informants such as senior managers who were initially asked if they were satisfied with overall performance at the end of the program (e.g., Thamhain, 1990). Objective information was also collected during the interview process (see below) and used to confirm the validity of our polar-sampling approach. The analysis period ranged from 5 to 8 years, and performance indicators were adjusted to take the different lengths of the programs into account. As noted above, the procedure yielded a sample of six cases that include three higher-performing and three lower-performing firms (Eisenhardt, 1989).

As summarized in Table 1, the variations among the firms in terms of size, founding date, industry segment, and family generation(s) in charge is appropriate to ensure sufficient robustness and analytical generalizability of results (Yin, 2003). Thus, among the higher-performing firms CastCo is a foundry in its fourth generation, MountCo is a sporting goods firms in the transition between the third and fourth generations, and PoolCo is a fiberglass firm managed by members of the first and second generation. Conversely, among the lower-performing firms FabricCo competes in medical textiles and is managed by second and third generation family members, SecureCo is an electronics firm transitioning from the first to second generation, and BikeCo is a bicycle manufacturer run by the second generation of the owning family. Further details about the firms, including background information, the analysis period, and the respective NPD programs, are reported in Table 2. The subjective and objective measures of NPD performance for each case are shown in Table 3.

Insert Tables 1, 2 and 3 about here

Data collection

The primary source of data is 49 semi-structured interviews with 43 informants. For each firm, we interviewed knowledgeable informants including senior managers (Chief Executive Officer, Chief Technology Officer, Heads of the Research and Development, Production, Marketing and Human Resource Departments, if existing) and people involved in product development programs. A minimum of five informants per firm, including at least three members of the family that owns the company were interviewed. The interviews lasted between one and two hours and were all tape recorded and transcribed. The topics and open-ended questions used in the interviews during the interviews are reported in the Appendix. These questions allowed a structured examination of the cases and potential replication of the analysis in future research (Yin, 2003).

Additional data on the management and organization of product development activities were collected through secondary sources such as balance sheets and project reports. These data were used to verify NPD outcomes (see Table 2 and Table 3), to gain insights into the characteristics of the new products developed, as well as to assess information regarding NPD teams, individual roles within NPD projects, and incentives provided to team members and leaders. Triangulation of data on recent events from multiple informants and data sources is useful because it reduces retrospective and personal interpretation biases, enhances objectivity, and improves the robustness of the resulting theory (Patton, 2002; Yin, 2003).

Data analysis

We used within-case and cross-case methods to analyze the case data (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). We began by building individual case studies from transcripts and supplementary data. As a check, the first three authors read through the original interviews and formed an independent view of each case. We also followed up with informants to fill in details, clarify events, and resolve discrepancies. We then began cross-case analysis to determine if there were consistent patterns of relationships across all cases (Eisenhardt, 1989). As it is common in qualitative case research, we had no a priori hypotheses. We first compared the cases to identify common issues along the NPD categories discussed above and unearth unique aspects of each particular case. Following the approach suggested by Miles and Huberman (1999) and relying on the general framework of key actors and processes in NPD (Brown & Eisenhardt, 1995), we then created tables and graphs to facilitate case comparisons. For each dimension of

NPD design (i.e., NPD teams, leadership, and senior management), we compared random case pairings and pairings based on similar organizational characteristics (e.g., firm age, firm size, industry) in order to search for patterns. As the analysis evolved, we raised the level of abstraction. As conceptual insights emerged, particularly differences in NPD design between higher- and lower-performing firms, we discussed these insights using a devil's advocacy method (Eisenhardt, 1989) to rule out alternative explanations. We also relied on other theoretical lenses (e.g., the taxonomy of Ernst, 2002), that enabled us to probe the emerging conceptual framework from many vantage points.

During the cross-case analysis we iteratively analyzed the qualitative data by moving back and forth among the theory, data, and literature to adjust for emerging theoretical relationships (see Table 4 for an example of cross-case analysis). We used replication logic in which each case is treated as a separate experiment such that theoretical relationships in one firm are verified with others (Yin, 2003). We continued this iterative process until we achieved theoretical saturation, such that the emerging theory provides a consistent and robust explanation of differences between higher- and the lower-performing firms (Eisenhardt & Graebner, 2007). This lengthy, iterative process yielded the insights that follow.

Insert Table 4 about here

RESULTS

The analysis led to key insights, summarized in Table 5. Overall, our findings indicate that distinctive authority structures, incentives systems, and accountability norms that are characteristic of family governance shape the organization of NPD programs in a way that has not been anticipated in prior research and literature. We discuss these aspects in detail below.

Insert Table 5 about here

Design of NPD teams

NPD teams are seen in the literature as the heart of the product development process. Contrary to the purported benefits of dedicated, cross-functional teams, including closer collaboration among diverse team members and superior external communication indicated in the literature (Clark & Fujimoto, 1991; Keller, 2001; Van der Vegt & Janssen, 2003), in our study NPD programs using part-time, departmental teams outperformed dedicated, cross-functional teams with members assigned to the NPD program on a full-time basis over the course of a project. The analysis presented below reveals how the governance approach of family SMEs led to these unexpected outcomes.

Family governance at work in NPD teams. In higher-performing NPD programs, personnel from different departments of the firm were assigned to work part-time on the innovation projects while continuing to perform most of their regular duties and reporting to the department head. This is what we call a departmental team structure. Conversely, in lower-performing NPD programs, cross-functional project teams staffed with dedicated people drafted from the various functions of the firm were created to work full-time on each innovation project. Given the complexity and uncertainty typically involved in NPD tasks, the departmental team organization is often seen as an inadequate design for obtaining cross-functional communication and collaboration (e.g., Bhuiyan et al., 2004; Cardinal et al., 2011; Cooper & Kleinschmidt, 1995). Nevertheless, in our informants' view the departmental team organization encouraged rich communication flows and strong collaboration among employees across departments, which permitted a sufficient degree of overlap between NPD phases. In this regard, at CastCo, the CEO repeatedly cited the benefits associated with maintaining a part-time departmental structure and the important role of family members' authority in favoring informal communication flows and cooperation among team members working in diverse departments. Similarly, at MountCo, the Head of R&D stated:

"The employees were always committed to the program's goals … they were autonomously willing to cooperate, and were also able to effectively balance the projects' needs with the daily requirements of the corporate processes." (MountCo, Head of R&D)

Moreover, at MountCo the CEO emphasized how important it was for the success of the NPD program "having employees altruistically sharing knowledge … and proactively seeking solutions across the organization as issues emerged during the development phases."
It is worth noting that PoolCo was an exception in this regard because their NPD projects were usually carried out through purposefully created, cross-functional teams. However, this exception seemed to be a consequence of the need for contract technicians from outside the firm on the team. Setting up a task force staffed with people temporarily drafted from the various functions of the firm was seen as the only possible way to involve outsiders effectively. Moreover, a carefully analysis of this case showed that employees still maintained an active role in their original departments and worked on projects on a part-time basis.

But how could firms in our sample achieve these positive results when team members remained distant from each-other and only devoted part of their time to NPD projects? Our analysis indicates that this was possible because of family governance. More specifically, the centralized authority and the informal working environment that go along with family governance were found to facilitate the coordination and cooperation of team members even if they were working in different offices. Family managers were found to leverage their authority, which is widely accepted throughout the organization, to act as facilitators, taking steps to coordinate NPD across departments and resolve conflicts between NPD and ordinary activities:

"It was common to see projects getting stuck at the passage from design to production … those were tough times for me, I didn't want to fight with department heads each time I needed some rework … but I could ask some of them [family members] for support … They are like an elite, they can talk with everyone, and command everyone, regardless of roles and departments … this helped a lot when it came to unlock tensions across departments." (CastCo, project leader).

In addition, by continuing to work in their original departments, the higher-performing firms avoided conflict between employees that joined NPD teams and those who did not. In fact, team members were often able to involve their departmental colleagues on informal bases when additional assistance was needed to accelerate the completion of critical tasks or to resolve complex problems. In this respect, the informal organizing climate that characterized the family approach to governance clearly emerged as an asset for higher-performing NPD programs. Communication flows across departments were indeed facilitated by informal relationships among employees, such that NPD teams were able to access departmental resources and knowledge, while rich information flows were obtained by the means of informal interactions across departments:

"Many of us have worked here for a long time … we are used to communicate informally … Sometimes they [R&D employees] ask me and my close colleagues to give them feedback on the features they want to implement in new products, and I also often talk with them to understand where they were directing our future offering." (MountCo, Head of Marketing).

By contrast, a common design found in lower-performing NPD programs (FabricCo, SecureCo, and BikeCo) was the formation of dedicated, cross-functional teams that normally moved into a new office to form a task-force. Team members were offered a full-time role in the NPD projects, and many employees aspired to join NPD teams, as this was seen as something new as well as an opportunity for personal growth. However, the criteria used to select team members were not well communicated outside the family circle, which caused the choices of team members made by program supervisors to be questioned. For example, a designer at FabricCo complained about a lack of transparency about Production Head's choices:

"Even before being a manager, he is an owner, he doesn't need to give explanations … when the first project was launched, I thought I was the right one to take part to it, and I told him, but he had already decided! … My colleague was chosen, but he doesn't have half of my experience, I still cannot understand this decision … Well, he is a close friend of the Production Head's cousin [who also works in the design office], and that obviously matters." (FabricCo, designer)

Such practices created faultlines within departments that slowed communication and made collaboration more difficult. Furthermore, as teams were formed, those excluded were left with extra work. New employees were sometimes hired to fill the voids but this did not completely resolve the problem because given the informal working environment that exists in family SMEs, the employees who left to join the NPD teams were often the only ones who knew the content of the jobs. Thus, it was common for team members to be temporarily called back to their departments to help train replacement personnel.

"The people we hired to replace project team members took so long to be autonomous in their tasks … even their colleagues often did not know how to help them … Department heads often needed team members to get back for some time, but well, new products are important..." (FabricCo, Head of Production)

As such, the organizational structure got complicated, generating conflicts between NPD projects and ordinary firm activities that appeared more difficult to manage given the power of some managers and the lack of formalization which characterizes family governance. Employees, in turn, saw the choices regarding team composition as imposed from above, and were bothered by the fact that choices were often made based on personal preferences. This generated envy and resentment by those excluded, such that a barrier grew between teams and departments. For example, at FabricCo the following situation occurred:

"That was kind of frustrating, he often had to run to his old office and help his colleagues but, when we needed something, going there meant like offending them [the colleagues from marketing] … it was like we are having good time and they have the work to be done, but that doesn't make sense at all because we all need one another." (FabricCo, R&D employee).

Also, the preferential treatment of some employees over others reduced the ability of department heads and family managers to monitor employees' behavior and performance. At SecureCo, for example, the conflicts between department employees and those assigned to cross-functional NPD project teams escalated to the point that the Head of Production, who was serving as a project leader, felt he had lost control over production employees' behavior:

"Interpersonal jealousy and rivalry emerged between those involved in different projects and those working in the departments … I think that, by losing a clear framework for evaluating people and providing feedback, we seriously compromised overall employee feelings toward the company … We needed everyone's contribution, but team members were isolated by others." (SecureCo, Head of Production).

Similarly, informants at FabricCo and BikeCo repeatedly lamented the lack of accountability norms regarding how team members approached their job:

"One may feel excluded, and also damaged by the appointment of a colleague in the NPD team. Those who remain have double the work to do, without any support … the question is, are our increased efforts acknowledged?" (FabricCo, production manager not involved in NPD projects).

"It was important to move people from their department to the NPD project and vice-versa … but they were left with too much freedom … many of them started free-riding, they always had a ready excuse to shirk their duties." (BikeCo, NPD project leader).

Finally, in the firms that employed dedicated, cross-functional teams family owners and managers found the cost to exceed the benefits, and thus approached NPD projects cautiously. Their attempts to contain costs led project leaders and team members in lower-performing NPD programs to lament the lack of support from senior management, which of course was demotivating, and had the potential to cause further damage to the cost-benefit calculus of the program.

Theory elaboration. Overall, these findings provide insights into the role of family governance on the functioning and effectiveness of NPD teams, which are summarized in Table 6a. The decisions taken in higher-performing firms to favor informal information flows and a departmental team organization that preserved the cohesion of the existing departments and allowed sufficient autonomy to the NPD teams to accomplish project goals were consistent with the authority structures (Carney, 2005; Daily & Dollinger, 1992) and norms of accountability (Verbeke & Kano, 2012) of family SMEs. This choice allowed higher-performing firms to leverage the interpersonal bonds and the tacit knowledge that previous research has often emphasized as key strengths of the family form of governance (Gedajlovic & Carney, 2010). Conversely, by designating dedicated cross-functional NPD teams, lower-performing firms exhibited significant problems in terms of communication and collaboration with the rest of the organization. Furthermore, the informal, part-time nature of the more successful departmental team structure appeared to be less costly than using dedicated cross-functional teams, which was consistent with family owners' incentive for efficiency and parsimonious use of firm resources (Carney, 2005; Gedajlovic et al., 2004). While the use of dedicated cross-functional teams to organize NPD projects is typically considered to be advantageous, in family SMEs such teams seem to lead to problems in resource duplication, information flows, accountability, and cost control.

Insert Table 6a about here

Design of NPD leadership

The project leader is a crucial agent in NPD programs (Brown & Eisenhardt, 1995). Project leaders have several roles, including the provision of management skills (Barczak & Wilemon, 1992), shaping the new product concept (Clark & Fujimoto, 1991), and lobbying for critical resources and support from top management (Ancona & Caldwell, 1992; Somech, 2006). Although these functions can sometimes be carried out effectively by a single agent (Ernst, 2002; Howell & Higgins, 1990), our research suggests that in family SMEs this is not the case.

Family governance at work in NPD leadership. The family SMEs in our sample faced serious challenges in identifying appropriate project leaders within the pool of managers already working in the organization. The tendency toward restricting authority to the family circle, and the concurrent informality typical of the family approach to governance (Verbeke & Kano, 2012), were generally found to constrain the availability of personnel with the qualifications, know-how, and commitment to exercise effective NPD project leadership. Indeed inadequate project leadership was often mentioned as a cause of failure in the lower-performing NPD programs, whereas higher-performing firms found ways to by-pass the disadvantages of an informal structure.

To begin, higher-performing firms addressed leadership issues by searching for managers with the appropriate qualifications from outside the company and assigning them to project leadership positions. For example, at CastCo, the lack of appropriate people to serve as project leaders was realized at the beginning of the innovation program. As the CEO recalled:

"In 2001 we didn't have people within the firm who were endowed with the skills and freedom needed to autonomously manage innovation projects … so we employed the first senior manager and we assigned to him a first project. As the number of projects increased, we found other people that could fit the project manager position, to which direct responsibility of the innovation projects was assigned ... it was immediately clear to everyone that these folks [the externally hired project leaders] know what they have to do and how a good project has to be run … we would not obtain the same results with only our people." (CastCo, CEO).

In other cases, project leadership was initially assigned to existing managers, but the weaknesses of that choice were soon realized and companies changed their policy. At MountCo, the first project leader was the Head of Marketing, a senior manager working in the company since 1994, but two professional managers were subsequently brought in to lead NPD teams. According to the CEO, bringing in outsiders to carry on the project leadership role was crucial. Similarly, at PoolCo, the Head of Production served as project leader of three projects, but understood that external professionals could be more effective leaders. He used his father's (the former CEO) professional network to recruit an experienced manager from another firm, and this turned into a winning move.

"I soon realized that my expertise was limited to production planning and management." (PoolCo, Head of Production); "I asked my father for help … in less than three days … a friend of his recommended one of their managers … he proved to well compensate the skills that were not available in our organization." (PoolCo, CEO).

Overall, all the higher-performing NPD programs brought in external professionals to serve as NPD project leaders, and this was found to be a suitable strategy to by-pass the disadvantages related to the informal structures associated with family governance. Furthermore, in higher-performing cases the role of project leaders was revised, such that championing activities were formally removed from their duties, and were officially assigned to family members. This allowed the family to maintain managerial control while ensuring that NPD teams were provided with appropriate support.

Our informants pointed to some distinctive traits of family governance, especially related to the differences between the power of family and nonfamily managers that emerged as crucial for understanding the role played by family managers officially appointed as project champions in the higher-performing NPD programs. The family managers serving as project champions enjoyed high and unfettered organizational authority based on their belonging to the family and, when needed, they were thus able to use their political influence to commit the organization to invest substantial resources in NPD projects. For example, at PoolCo, the CEO commented:

"I always want us [the family] to support NPD activities and play politics to sustain and protect NPD teams … we see the company as an extension of our family ties … employees recognize us as the dominant group." (PoolCo, CEO).

At MountCo, the CEO's daughter, who was the Head of Marketing, was appointed as the NPD champion because "He [the CEO] trusts me one hundred percent." In turn, her concern for the firm, family, and employees was recognized by others. Similarly, at CastCo, the championing activities were regularly conducted by the CEO's cousin working at a commercial partner firm. Although external to the company, the CEO commissioned the cousin to visit the firm weekly, talk with project leaders and team members, support the projects across the organization, and especially promote the innovation projects outside the firm by using his professional network for the benefit of the family.

On the other hand, in lower-performing NPD programs project leadership was assigned to managers already working in the firm. Contrarily to the higher-performing cases, all these firms faced persisting problems related to the skills and effort of project leaders. For example, at FabricCo project leadership was assigned to internal managers based on their membership in or relationships with the family. From interviews with the Chairman, it was clear that the choice was not related to their skills and experience in managing projects. While this may turn out to be a good move in the long term, in the short term the lack of experience of project leaders appeared to be a main reason for the unsatisfactory performance of the innovation program.

At BikeCo, appointing internal managers as project leaders also resulted in excessive freedom, low accountability, and, low commitment. For example, the CEO's son (Production Head) was appointed as leader of four NPD projects, and he felt free to decide how much time to devote to the projects: "I also have to manage my department … the NPD team members are able to work even without me." The CEO did not take any corrective actions, but admitted that the son did not have enough time to be fully engaged in the project.

What is more, in lower-performing NPD programs, project champions were left to emerge spontaneously. In particular, employees with high influence on the project team (e.g., powerful senior leaders or technocrats) often prevailed and established themselves as project champions owing to their deep involvement in the projects' operations. However, the motivations of non-family managers were noticeably different from those of family members, as they tended to adopt an individualistic attitude and to see championing activities as a way for them to climb the organization ladder. For example, at FabricCo the Head of Administration was unsatisfied with the project champion's attitude: "A promoter must be motivated towards the good of the company, not only towards his own career." A similar situation emerged at SecureCo, where the CEO's offspring serving as Head of Production had been explicitly indicated as the right person to serve as project champion by the majority of interviewees, but was prevented from doing so:

"They [non-family project champions] were protecting their position and prevented me from helping … they wanted the NPD projects to be their exclusive realm and were afraid of losing control over them." (SecureCo, Head of Production).

Also, the ability of non-family project champions to influence family owner-managers was limited. The evidence suggests that they were typically managers with a strong technical background, and thus deeply involved in operations. However, they lacked the political clout with the controlling family needed to obtain adequate resources for the NPD projects. For example, at FabricCo the Head of R&D often emerged as project champion because "He is the one who best knows our products. I thought he would be the most credible one to explain the importance of new products to other directors" (FabricCo, Head of Production). However, the other functional heads challenged his authority and questioned his abilities on several occasions. Similarly, at SecureCo the Head of Production – a family member who conducted championing activities in one project – admitted:

"Non-family members could never obtain the results I obtained, they do not have half of the opportunities that I, as a family member, have to speak with other people in the firm, nor the authority to impose any decision." (SecureCo, Head of Production).

Theory elaboration. Overall, the evidence reported above suggests that the concentration of authority in family hands (Carney, 2005; Gedajlovic et al., 2004), plus family members' aversion to sharing power (Gómez-Mejía et al., 2007; Zellweger et al., 2012), generate key challenges for finding appropriate leaders and champions for NPD projects in family SMEs (see Table 6b). On the one hand, family members often take leadership roles in NPD projects, but lack the technical background to fill those roles successfully. On the other hand, technocrats and other professionals working in the firm who take on championing roles were found to often place their personal goals before the goals of the firm to the detriment of the projects they were promoting. Furthermore, they had difficulty in gaining the acceptance of top managers within the family (Verbeke & Kano, 2012). All of these patterns were observed in the lower-performing NPD programs. However, in higher performing NPD programs project leadership and championing were separated. The assignment of championing roles to family members appears to be a superior design choice in that it allows NPD programs to benefit from their authority and political power (Carney, 2005), as well as to leverage the flexible accountability norms that are typically associated with family governance (Gedajlovic et al., 2004; Schulze et al., 2001) in order to deal with the uncertain and long-term nature of the NPD process. At the same time, the assignment of project leadership responsibilities to external managers helped overcome the lack of skilled professional managers in family SMEs (Gedajlovic & Carney, 2010). This approach was a good fit with the family form of governance, and thus led to superior performance.

Insert Table 6b about here

Design of NPD incentives

The use of monetary incentives is a key mechanism for ensuring that NPD team members and project leaders are committed to project goals and accountable for project performance (Griffin, 1997; Page, 1993). However, our study indicated that in family SMEs the use of monetary rewards was associated with lower performance, whereas the use of intrinsic incentives, defined as non-monetary incentives that reward positive innovation results with increased individual status and reputation, was associated with higher performance. This adds further insights into the motivation literature (Amabile, 1983; 1993), showing that intrinsic motivation can actually play a very important role in affecting performance, particularly for complex tasks involving creativity. Our findings also show that such motivation can be undermined by extrinsic rewards that lead people to feel externally controlled in their work.

Family governance at work in NPD incentives. Our analysis illustrated how the characteristics of family governance reduce the utility of providing monetary incentives to project leaders and team members by creating unnecessary costs and corroding the relational contracts existing among agents in these firms.

In higher-performing NPD programs, teams and project leaders appeared highly committed to NPD project goals although no monetary incentives were implemented. To illustrate, at CastCo neither project leaders nor team members were provided monetary incentives tied to innovation performance, which were seen as “Not necessary, since managers usually receive bonuses in relation to overall firm performance” (CastCo, NPD Program Supervisor). Family managers were often found to use their privileged position to foster employees’ attachment to the company and their acceptance of family values, which in turn led team members to display high commitment to NPD project goals:

“Our employees share the values of our family, and are fully committed to reaching our company’s goals.” (CastCo, senior manager)

Another reason why higher-performing firms were reluctant to implement extrinsic incentive schemes for NPD project participants was that doing so would require that these mechanisms be extended to all family members to avoid frictions (Chua, Chrisman, & Bergiel, 2009). But this was seen as redundant and inefficient. In a similar vein and more to the point, extrinsic incentives tied to innovation programs created conflicts either because such incentives were not available to all employees or because they created dysfunctional rivalries between members of different NPD teams. For example, at MountCo monetary incentives were initially instituted and then abolished because the CEO noted the negative consequences they had on relationships within the organization.

"Project managers were well incentivized to be quick in developing new products, but I was worried that they were too much in competition with each other…good and collaborative relationship among my people are much more important" (MountCo, CEO).

Monetary reward mechanisms specifically tied to an NPD program reduced the performance of those programs in the family-governed firms that used them. Our analysis emphasized how the concentration of decision-making power in the hands of family managers creates an informal working environment, where relational contracts tend to accompany or even replace transactional contracts among organizational members. These aspects were positively emphasized in higher-performing cases as sources of significant advantages for NPD in terms of team member commitment to project goals and ability to manage informal knowledge flows. Unfortunately, monetary incentives tended to destroy the foundations of such contracts in lower-performing NPD programs. In this regard, our analysis suggested that monetary rewards provoked opportunistic behaviors among team members as well as relational conflicts between team members and other employees.

"In theory these systems can work, but they may be more suitable to more depersonalized companies, where directors cannot see everything … I know everyone personally here, and my offspring are my eyes and ears at all times, so I see no reason for giving further incentives to anyone." (BikeCo, CEO);

"Everybody wanted to participate in those projects, and many of those who were excluded took it badly … they started asking for salary increases, or complaining about excessive workloads ... That was something new to me, it was like a revenge … on the other hand, those who joined innovation teams were isolated, they were all long-time colleagues, even friends, and suddenly a wall was raised between them" (SecureCo, production manager not involved in NPD projects)

What is more, the analysis of higher-performing NPD programs revealed just how intrinsic incentives to project leaders, such as nominating them as "family ambassadors" or giving them opportunities for increasing their public visibility and linking their name to that of the company, can be effective in reinforcing the relational contracts between managers and family members, as well as motivating agents toward the accomplishment of project goals. For example, a project manager at PoolCo recognized the value of the intrinsic rewards he received at the completion of an NPD project:

> "After the first project, they [the CEO and the Head of Production] were really satisfied, and gave me a salary increase of 10% without a request on my part ... Well, that was unexpected and welcome … The second project was a success too, and they again offered a 5% salary increase … I declined the offer and instead asked them to use that budget to hire a new project manager to be placed alongside me … that made me feel important, and facilitated my work." (PoolCo, project manager 1).

Theory elaboration. As summarized in Table 6c, the evidence suggests that extrinsic incentives linked to NPD project performance are redundant, ineffective, and can harm both the informal working environment and the relationships among employees in family SMEs. More specifically, extrinsic incentives of that type are found to threaten the authority exerted by family owner-managers (Carney, 2005; Gedajlovic et al., 2004), replacing the relational contracts they develop with nonfamily employees with transactional ones (Verbeke & Kano, 2012). What is more, these monetary rewards aggravated the rivalry and envy existing between the employees involved in NPD projects and those excluded, and this in turn reduced goal commitment and collaboration during NPD. Conversely, intrinsic incentive schemes seemed to boost the performance of NPD programs. Not only were they costless, and thus more consistent with the family firms' motivation toward efficiency and parsimony (e.g., Gedajlovic et al., 2004) but these mechanisms seemed to reinforce rather than damage the relational contracts between the family and nonfamily employees working in NPD. This is important since such relationships are both integral to the family form of governance and fragile, owing to the differences in status among family and nonfamily members. Furthermore, intrinsic rewards helped maintain high commitment to NPD goals without the negative spillovers among nonfamily personnel who were not chosen to participate in the NPD projects.

Insert Table 6c about here

DISCUSSION AND CONCLUSIONS

This study has drawn on the family business and product development literatures to extend existing theory on innovation in family firms by showing how family SMEs can organize high-performing NPD programs. Family governance entails characteristics such as centralized authority structures, incentives for parsimony, and asymmetrical accountability norms (Carney, 2005; Gedajlovic et al., 2004, 2012). Our analysis suggests that, in order to achieve high NPD program performance, family SMEs must design their NPD programs to match the distinctive features of their governance system. The design principles that emerged from our study diverge in important ways from conventional wisdom regarding NPD design. Overall, these results contribute new insights into effective innovation management in family firms, and shed light on some meaningful intervening mechanisms that link family firms' efforts in product development and their innovation performance.

Theoretical extensions and contributions

The results of our analysis provided a convergent set of insights. As illustrated in Tables 6a, 6b and 6c, the centralized authority structures, motivation toward parsimony and asymmetrical accountability norms that characterize the family approach to governance (Carney, 2005; Gedajlovic et al., 2004, 2012) can engender either positive or negative outcomes during the process of product development, depending on how NPD programs are designed.

With regard to the composition of NPD teams and the implementation of incentive systems for team members, our results considerably diverge from prior research on product development in that the design of dedicated cross-functional NPD teams (Bhuiyan et al., 2004; Brown & Eisenhardt, 1995; Clark & Fujimoto, 1991; Keller, 2001), and the provision of extrinsic incentives for team members (Ernst, 2002; Schilling & Hill, 1998) were found to be associated with lower, rather than higher, NPD performance. More specifically, our findings suggest that these approaches to NPD design are inconsistent with the governance attributes of family SMEs and, as a result, accentuate their structural weaknesses. Family SMEs that use conventional NPD designs are unable to muster adequate levels of human or financial resources and face severe conflicts between innovation activities and organizational routines, aspects that have been emphasized in the literature as inherent weaknesses of family governance (Gedajlovic & Carney, 2010; Gedajlovic et al., 2012; Verbeke & Kano, 2012). However, product innovation can be achieved in family SMEs when NPD programs are designed in a way that is conducive to their governance attributes, such as retaining the relational ties of team members with their home departments while they work part-time on the innovation projects, and providing intrinsic rather than extrinsic incentives. The companies we studied that adopted such approaches experienced advantages, such as leveraging the strong interpersonal bonds and the tacit knowledge that previous research has often emphasized as key strengths of the family form of governance (Gedajlovic & Carney, 2010).

In other aspects of NPD program design, especially those related to the identification and deployment of leadership roles in NPD projects, our results did not contradict prior product development literature, but instead add important insights that extend our understanding of how leadership issues determine NPD program performance in family SMEs. Prior literature has attributed several responsibilities to project leaders, including developing a vision (Lewis et al., 2002; Sarin & McDermott, 2003), managing the program (Lewis et al., 2002), and championing (Ancona & Caldwell, 1992). Our findings confirmed the importance of these tasks, but suggest that in family SMEs a single project leader can seldom handle all of them, because those who excel in managerial and technical skills are not likely to possess the required authority or social capital for conducting championing activities, and vice-versa. In fact, the family SMEs in our sample that obtained the best results adapted their NPD program design to take into account the specific challenges engendered by family governance. More specifically, this meant separating the leadership and championing roles, and assigning the former to external (nonfamily) professionals and the latter to family managers. By doing so, the more successful firms in our sample were able to compensate for the skill deficiencies that often accompany the governance approach of family firms (Gedajlovic & Carney, 2010), while leveraging the political clout and positive reputation of family members.

To sum up, our study contributes to the literature in the following ways. First, our results shed light on the distinctive challenges and dilemmas posed for innovation activities in family owned and managed firms, and specifically point to the importance of attaining a good fit between the design of NPD programs and the governance of a firm in order to achieve superior performance in product innovation. Prior NPD research has either embraced universal models of designing NPD programs that do not take into account differences in governance attributes (Brown & Eisenhardt, 1995; Cooper & Kleinschmidt, 1995; Ernst, 2002) or proposed contingency models focusing on the interactions between NPD design and the technological environment in which it takes place (Cardinal et al., 2011; Tatikonda & Montoya-Weiss, 2001). By emphasizing the role of firm governance in SMEs and by explaining how the family governance systems interacts with the design of NPD programs in producing meaningful consequences for NPD performance, our study complements this body of work adding important insights into the challenges and opportunities for innovation in family SMEs.

Second, our study extends prior research on family governance and its attributes, a literature that provides ample discussion of the key governance attributes of family firms

(Carney, 2005; Gedajlovic & Carney, 2010; Gedajlovic et al., 2004) but has not explicitly examined how these attributes influence key organizational activities such as new product development. Specifically, our study has illustrated the role the family form of governance plays in the design and performance of product innovation. By doing so, we complement macro-perspectives such as agency theory (Fama & Jensen, 1983; Herrero, 2011), that provide only a partial view of firm governance largely based on simple dyadic principal-agent relationships (Carney & Gedajlovic, 2003; Connelly, Hoskisson, Tihanyi et al., 2010; Gedajlovic et al., 2004). Instead, we offer a more complete view of how family governance works in practice by focusing on the design of NPD programs and illustrating how interactions between and among principals and agents affect key organizational processes such as product innovation.

Finally, our study contributes insights into unique success factors for product innovation in family SMEs that extend, and sometimes even contradict, classic approaches for organizing NPD (Brown & Eisenhardt, 1995; Cooper & Kleinschmidt, 1995; Ernst, 2002). Most prior work has been conducted on large-scale, professionally-managed organizations, or within simulated environments. By considering NPD in firms where family governance plays a significant role in shaping organizational structures, strategies, and outcomes (Gedajlovic et al., 2004; Chrisman et al., 2012), our study points to an alternative model of success that includes organization of NPD teams on a part-time basis while maintaining existing departmental structures, separation of leadership and championing roles, and application of intrinsic incentives in place of extrinsic incentives to foster teamwork and stronger goal alignment. Overall, these NPD design features seem to lead to higher innovation performance in family SMEs.

Implications and limitations

The results of this study have important implications for research on product innovation in family firms. First, we provide theoretical arguments and evidence suggesting that family governance represents a context leading to unique challenges in product innovation programs. Future research is needed to determine if our propositions hold for family firms in general, especially those in different environmental contexts. Furthermore, it would be useful to determine whether the governance attributes examined in this study hold for other modes of innovation and entrepreneurship (e.g., licensing, technology outsourcing, corporate venturing). Second, this study suggests that governance is an important element to be accounted for in future product innovation research. In this article, we focus in particular on family governance, but future research should study how other forms of governance interact with product innovation design, for example among small firms and new ventures, to explain the link between NPD design and innovation performance in these firms.

The study also has implications for management practice. In particular, our analysis suggests that the owners and managers of family SMEs should not presuppose the universal applicability of the prescriptions that product innovation management handbooks propose. Instead, they should carefully analyze how the particularities of their firm's governance affect the management of product innovation programs and how those programs should be structured to best capitalize upon the distinctive characteristics of their firms. In this study we have identified the potential value of the departmental organization of NPD teams whereby team members continue to work in their departments while working part-time on the innovation projects; , the division of project leadership and championing among nonfamily and family managers, respectively; and the use of intrinsic rather than extrinsic incentives. Such approaches to NPD design appear to be a better fit for the governance attributes that are common found in family

SMEs. However, there are undoubtedly other factors that could vary depending upon a firm's specific governance structure, such as when new products should be developed in existing departments or in new corporate ventures.

Naturally, the article has several limitations. First, owing to the nature of the research design, our results cannot be generalized without further empirical studies on the determinants of product innovation performance in family SMEs. Our conclusions are derived from evidence found in family SMEs. Future research is needed to examine the boundary conditions of our theory, especially to what extent the mechanisms and outcomes observed in our study can be generalizable in the context of smaller family enterprises that do not have a formal departmental structure in place or large family-influenced companies. Moreover, future research is needed to assess to what extent our findings can be applied to other contexts, such as entrepreneurial teams, that possess similar governance attributes to family firms on some dimensions and vary in other respects. Nevertheless, the insights we have provided into the processes and mechanisms that link family governance to product innovation performance are worthy of further testing.

Second, we focused on the performance of the entire NPD program and on endogenous factors that influence its effectiveness. Future research could also study project-level factors and exogenous antecedents of product innovation performance in family-governed firms.

Finally, we studied organizational activities underlying the development of new products without attempting to differentiate the nature of the innovations, which appeared to be largely of the continuous, incremental, and exploitative variety. Indeed, it is possible that our results are partly driven by the fact that the family SMEs in our sample did not engage in the full range of innovative activities often found in larger firms where the conventional wisdom about NPD design was developed (Rosenbusch et al., 2011). Future research is needed to extend our findings by exploring how NPD designs in family firms vary when different types of innovations, such as discontinuous (König et al., 2013), radical (Nieto et al., 2013) and explorative (Patel & Chrisman, 2014) are concerned.

APPENDIX. Abbreviated Interview Guide.

Information on the firm's background. Foundation, firm information (size, businesses, industry, geographical location, products and services commercialized, main financial figures).

Family involvement. Ownership, generation, family members involved in management and employment. CEOs' perception that the firm is a family business.

NPD program background. Period of analysis, main goals, budget and projects (number, examples).

NPD program performance. Consistent with the pre-established long-term goals, sales trends, market share and profitability during the period of analysis, perceptions of performance as compared to competitors, senior management perception of innovative performance.

NPD program design. Assessment of various design aspects, following the classification of NPD design factors in Brown and Eisenhardt (1995), including NPD teams, leadership, and incentives. Examples of questions: Who was included in NPD teams? Did you systematically appoint leaders for NPD projects? How did you choose project leaders? Did you implement incentive systems? For whom? What kind of incentives?). For each of these aspects: please discuss how was the NPD program designed, also providing examples of single NPD projects; why was this design option chosen? By whom? Please discuss the advantages and disadvantages this design engendered for product development activities, including factual examples.

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Table 1. Description of case data.

Firm information					Family governance				Informants	
Case[a]	Founding date	No. of employees[b]	Turnover (Euros)	Industry segment	Ownership (no. of family owners)	Family generation in charge	No. of family managers	No. of family employees	No. of informants interviewed[c]	No. of interviews by informant type[d]
Higher-performing NPD programs										
CastCo	1910	340	68 M€	Foundry	100% (9)	4th	4	4	8	SM: 3 NPD: 5 (FM: 3)
MountCo	1935	160	33 M€	Sporting goods	100% (2)	3rd & 4th	4	3	8	SM: 2 NPD: 6 (FM: 5)
PoolCo	1993	40	15 M€	Fiberglass	70% (2)	1st & 2nd	3	2	5	SM: 2 NPD: 3 (FM: 3)
Lower-performing NPD programs										
FabricCo	1987	390	79 M€	Medical textile	85% (3)	2nd & 3rd	4	2	9	SM: 4 NPD: 5 (FM: 5)
SecureCo	1989	95	22 M€	Electronics	100% (5)	1st & 2nd	5	1	7	SM: 2 NPD: 5 (FM: 3)
BikeCo	1955	45	8 M€	Bikes	100% (2)	2nd	2	2	6	SM: 1 NPD: 5 (FM: 3)

[a] The real names of the companies have been disguised for confidentiality reasons.

[b] Calculated as full-time equivalent employees.

[c] Some informants were interviewed more than once, with forty-nine interviews being conducted.

[d] SM: senior manager. NPD: within-NPD-program informant (e.g., project leader, team member). The value reported in brackets (FM) is the number of family members across the two informant types.

Table 2. Summary of case data on companies and respective NPD programs.

	Company[a]		NPD Program			
Case	**Products**	**Initial Market position**	**Analysis period**	**Background**	**Primary goals**	**Budget and projects**
CastCo	Large castings for the mechanical industry	Limited to Italy	2001 2008	Severe downturn in the domestic market; new CEO appointed in 2001	Expand the product portfolio to enter the North-European market; adapt products to serve existing buyers who are moving to South-Eastern Asia	1.5 M€/year 73 NPD projects
MountCo	Mountain sports equipment	8 retail shops in Italy and 3 across Europe	2001 2009	Emerging trend to reduce the weight of mountain sports equipment; need to introduce a new lightweight collection	New collections of innovative clothes; gain market share in the professional segment; remain attractive to the amateur market	1.3 M€/year 24 NPD projects
PoolCo	Fiberglass swimming pools	5M€ revenues from the local market	2003 2007	Several years of continuing growth; 30% of equity sold to a client in the real estate industry	Introduce a new set of products for the real-estate industry; double revenues with new products; increase firm profitability through higher margins from new products	3 M€ 13 NPD projects
FabricCo	Cloth bands	Business-to-business, Italian market	2003 2007	In 2003 a five-year strategic plan was ratified to enter the consumer market	Introduce new products with innovative functionalities for the consumer market; integrate chemical treatments to the cloths; gain 10% market share in the consumer market	4 M€ 6 NPD projects.
SecureCo	Design, assembly and installation of security systems	Only few corporate clients	2004 2009	Interest in the emerging electronic systems market for domestic applications (home automation)	Introduce a new range of home automation products; gain 5% market share in Italy by 2009; obtain 50% of turnover from the new segment	1 M€/year 15 NPD projects
BikeCo	One bicycle available in three models	7 M€ revenues	2005 2010	Willingness to differentiate the company's offerings	Double the firm's revenues with new product sales; improve the firm's profitability (a specific profit margin target was not defined)	5 M€ 6 NPD projects

[a] Data refer to the beginning of the NPD program.

Table 3. Performance summary of higher- and lower-performing NPD programs.

Case	NPD program effectiveness: Senior management satisfaction[a]	NPD program effectiveness: Goal achievement[b]	Organizational outcomes: CAGR from new products[c]	Organizational outcomes: Change in market share[d]	Organizational outcomes: Change in operating margin[d]
Higher-performing NPD programs					
CastCo	High	39 new products commercialized 13 new clients in North-Europe 4 clients served in South-Eastern Asia	11%	N.A.	12.50%
MountCo	High	New range of clothing, over 15 products 23 patents, 3 trade-marks Franchised professional shops	20%	20%	20%
PoolCo	High	11 new products Quintupled revenues Improved dividends	33%	15%	20%
Lower-performing NPD programs					
FabricCo	Low	2 new products for the consumer market 15% of sales from new products Insignificant market share gained	1%	0%	0%
SecureCo	Low	3 new home security systems Limited market share in the new business Stable revenues	0%	2%	3%
BikeCo	Low	Limited sales growth Profitability decreased	0%	0%	-5%

[a] Preliminary information collected during the sample selection process.

[b] Relative to aspirations expressed by senior management.

[c] Compound annual growth rate referred to sales, in each NPD program's period of analysis.

[d] Referred to the NPD program's period of analysis.

Table 4. NPD Program design in the sampled companies.

	NPD program design		
Case	**Team composition**	**Leadership**	**Incentives**
CastCo	NPD projects moved across departments; 7 employees commonly involved; part-time commitment of team members	Two project managers hired as project leaders on a full-time basis; championing activities regularly conducted by an external partner; Chairman, CEO, and another senior manager often engaged in internal lobbying for resources	The CEO's brother (senior manager) responsible for the innovation program; other senior managers partially supervised operations; no extrinsic incentives for NPD; intrinsic incentives to NPD project leaders
MountCo	Project teams typically overlapping with the R&D department; chosen employees from other departments temporary engaged	Project leaders officially nominated for each project; one senior manager, two managers recruited from other sportswear companies; championing and promoting activities mainly conducted by the Head of Marketing	The CEO served as overall program manager; no incentives established for team members; compensation of project leaders initially linked to NPD performance, but abolished in 2004
PoolCo	NPD projects developed across the existing organization; employees assigned to projects based on specific task requirements	Dedicated project leaders appointed; the Head of Production filled that role three times; replaced by a new project leader hired in 2005; championing and promoting activities reserved to family members	The CEO and the Head of Production supervised the NPD program; team member salaries not linked to NPD performance; no formal incentive systems for project leaders; nonmonetary awards for successful project leaders
FabricCo	People dedicated on a full-time basis; teams usually composed of the R&D employees and additional people from the design and marketing offices, and production	Two junior managers chosen as project leaders; championing activities mainly conducted by the Head of R&D	The Head of Production was the main supervisor; a venture capitalist also involved; NPD team members always provided with monetary incentives linked to the results of their NPD projects; program leaders compensation not liked to innovation performance
SecureCo	Task-force fully dedicated to each project; NPD project teams usually consisted of 5 people; varying composition with high functional diversity	Each project had a dedicated project leader, selected from among three senior managers; the project leaders spontaneously took care of championing activities	The Head of the Design Office was assigned responsibility for the program; monetary incentive system for NPD team members; no specific incentives for project leaders
BikeCo	All NPD project teams composed of 4 employees from the production department and one product designer; dedicated office; full-time involvement of team members until new product commercialization	Each NPD project was assigned to a project leader; a product designer appointed four times, two projects assigned to the Head of Production; the Head of Production proposed himself for conducting championing activities	The CEO directly supervised the innovation program; no formal system of incentives, but ad-hoc monetary awards promised for each NPD project; no incentives to NPD project leaders

Table 5. Summary of divergences in NPD program design between higher- and lower-performing NPD programs.

	NPD teams		Leadership and championing				Incentives	
Case	**Team organization**	**Team members' commitment**	**Appointment of project leaders**	**Family membership of project leaders**	**Appointment of project champions**	**Family membership of project champions**	**Incentives to team members**	**Incentives to project leaders**
Higher-performing NPD programs								
CastCo	Departmental	Part-time	Externally recruited	No	Official	Yes	No	Intrinsic
MountCo	Departmental	Part-time	Externally recruited	No	Official	Yes	No	No
PoolCo	Cross-functional	Part-time	Externally recruited	No	Official	Yes	No	Intrinsic
Lower-performing NPD programs								
FabricCo	Cross-functional	Dedicated	Internally appointed	Yes	Spontaneous	No	Extrinsic	No
SecureCo	Cross-functional	Dedicated	Internally appointed	Yes	Spontaneous	No	Extrinsic	No
BikeCo	Cross-functional	Dedicated	Internally appointed	Yes	Spontaneous	No	Extrinsic	No

Table 6a. Emerging insights: Mechanisms underlying family governance in NPD teams design.

Family governance attributes	Centralized authority structures	Motivation toward parsimony	Asymmetrical accountability norms
Traditional dimensions of NPD team design	Cross-functional teams of dedicated human resources which have functional interaction on a full-time basis during the course of a project enable closer collaboration among diverse team members and superior external communication (Clark & Fujimoto, 1991; Keller, 2001; Van der Vegt & Janssen, 2003)		
Dysfunctional family governance mechanisms	• Team members selection based on particularistic criteria • Family managers dispose freely of team members	• Excessive costs	• Rivalry and resentment of department colleagues • Low availability of external information
Illustrative quotes	*"I wonder whether we could obtain the same results by spending less and devolving people to projects on a part-time basis."* (SecureCo, program supervisor). *"What did they expect? He [a new employee] was continuously knocking at our door - How can I do this? Where can I find that? - That was annoying … and how could I say no? He [the family member heading the informant's original department] is the one who decides about my future here!"* (BikeCo, production employee).		
Theory extensions emerging from the study	**NPD programs in family SMEs that design NPD teams by relying on the existing departments of the firm which contribute to NPD projects by devoting part of the time of their human resources outperform those that design NPD teams by relying on dedicated, cross-functional teams.**		
Constructive family governance mechanisms	• Family managers facilitate information flows • Family members facilitate coordination across departments	• Less costly, extra-resources available when needed	• Department employees aid teams • High availability of external information
Illustrative quotes	*"Even if team members do not work in the same function, usually most of them have close relationships and have the opportunity to talk and contact each other very often."* (CastCo, Head of the Design Office) *"We [family members] are often seen as 'factotums', people who know everything and everyone … we were often able to engage new employees to face specific needs … this helped teams to address promptly 'big issues', and always move the project forward."* (MountCo, designer).		

Table 6b. Emerging insights: Mechanisms underlying family governance in NPD leadership design.

Family governance attributes	Centralized authority structures	Motivation toward parsimony	Asymmetrical accountability norms
Traditional dimensions of NPD leadership design	A single project leader provides management skills, shapes the new product concept, lobbies for critical resources and supports from top management (Ancona & Caldwell, 1992; Barczak & Wilemon, 1992; Clark & Fujimoto, 1991; Ernst, 2002; Howell & Higgins, 1990; Somech, 2006)		
Dysfunctional family governance mechanisms	• Leadership role assigned to family members • Insufficient leadership skills • Ineffective promotion of NPD projects	• n/a	• Excessive freedom of project leaders • Nonfamily champions use their acquired salience for personal motives
Illustrative quotes	*"I wonder whether they are the right people for that position … Sometimes they didn't even know where to begin from, no idea about key steps in project management … new products could be developed better and faster under the leadership of a senior manager, or, at least, someone with some experience about product development."* (FabricCo, Head of Production). *"I don't have all those skills … I felt uncomfortable in this position."* (SecureCo, Production Head).		
Theory extensions emerging from the study	**NPD programs in family SMEs that separate project championing from project leadership, assigning the former to family members and the latter to externally recruited professionals, outperform programs that appoint project leaders from within and allow product champions to emerge spontaneously.**		
Constructive family governance mechanisms	• Outsiders compensate skill deficiencies • Family members leverage their authority and political clout for supporting NPD projects	• n/a	• Project leadership evaluation based on objective, professional criteria • Family champions ensure goal alignment
Illustrative quotes	*"We needed someone from outside, who can be accountable of the entire project, and whose career is related to her ability to develop innovative ideas into new products."* (CastCo, Chairman). *"Everybody knows she [the CEO's daughter] is committed to maintaining her family's and her firm's name in high esteem … she is happy when the firm does well and angry when something goes wrong … people listen to her because she works for the good of all of us."* (MountCo, CEO).		

Note: The study findings do not indicate mechanisms linking NPD leadership design to motivations toward parsimony

Table 6c. Emerging insights: Mechanisms underlying family governance in NPD incentives design.

Family governance attributes	**Centralized authority structures**	**Motivation toward parsimony**	**Asymmetrical accountability norms**
Traditional dimensions of NPD incentives design	The use of extrinsic incentives in the form of monetary rewards is a key mechanism for ensuring that NPD team members and project leaders are committed to project goals and accountable for project performance (Griffin, 1997; Page, 1993).		
Dysfunctional family governance mechanisms	• Family authority is weakened • Transactional logics replace relational contracts	• Excessive and irregular personnel costs	• Excessive competition between team members and other employees • Relational conflicts across teams and functions
Illustrative quotes	*"Now I see how variable compensation can be dangerous, because we don't use them in other departments … a bonus, when merited, makes an employee happy, but variable pay makes him greedy … I want people to work for passion, not for money."* (BikeCo, Chairman). *"Team members became too isolated from the remaining organization, many of them have lost the link with us [the family], their actions became only driven by money … their department colleagues, in turn, were often not collaborative, it was clear that something was broken between teams and others… when we gave people criteria, they worked up to them and lost sight of the big picture."* (FabricCo, CEO).		
Theory extensions emerging from the study	**NPD programs in family SMEs that use intrinsic incentive schemes outperform those that use extrinsic incentive schemes.**		
Constructive family governance mechanisms	• Team members and project leaders augment their sense of belonging to the family and to the company	• Avoid unnecessary personnel costs	• Relational contracts are reinforced
Illustrative quotes	*"A non-monetary reward may be very effective, since the best managers have the opportunity to improve their professional and social status by associating their name with their innovation projects' output, and also with our [the family's] name … they increase their belonging to the company, and this can be used as a means of personal fulfillment … this kind of rewards build trust and respect, they are much more effective [than monetary incentives] in creating a long-term relationship."* (CastCo, Chairman). *"We are already spending a lot of money in innovation, and the recruitment of two external managers is at the limit of our possibilities […] employees are aware that a success in NPD would represent new opportunities for all of them, I think that a good salary is sufficient to guarantee a high level of motivation."* (PoolCo, CEO).		