An exploratory investigation on NPD in Small Family Businesses from Northern Italy

L. Cassia\(^1\), A. De Massis\(^1\), E. Pizzurno\(^2\)*

\(^1\)University of Bergamo, viale Marconi 5, 24044 Dalmine (BG), ITALY
\(^2\)Università Carlo Cattaneo – LIUC, Corso Matteotti 22, 21053 Castellanza (VA), ITALY
*Corresponding Author: e-mail: epizzurno@liuc.it; Tel +39-0331-572.233, Fax. +39.0331.483.447

Abstract

The purpose of this exploratory study is to provide an understanding of the role of the family in the new product development (NPD) process of small family businesses (SFBs). The impact of the family on the business and innovation activities happens through a combination of social interaction, networks, family business corporate identity, family goals, dynamics, values, culture and heritage that act on the company in several forms of behaviour, actions, decisions and plans, as suggested by Kansikas. Through a conceptual analysis and four case studies the research attempts to conceptualise the impact of the family on SFBs’ NPD processes. The objective is to empirically analyse small firms’ family pressure in the context of the NPD operations. Theory has been explored in three areas; the first one regards the specific features of family firms and the impact of the ‘family’ on the business, the second one the activities composing the NPD process, and the third one the NPD and innovation in the specific context of family businesses. The gathered empirical data are analysed by exploring and comparing the understanding of theoretical concepts with qualitative data from the small family firms’ innovation processes.

Keywords: family business, new product development, innovation, entrepreneurship

1. Introduction

This paper provides an investigation on New Product Development in small family businesses (SFBs). One of the most discussed issues in family business research is that there is no commonly accepted definition of what is meant by the term ‘family business’ (Chua et al., 1999; Westhead and Cowling, 1998; Lansberg, 1988). In this study we follow Chua, Chrisman and Sharma (1999) in defining a family business as “a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families.” This definition is consistent with the fact that the term family business is typically used to define organizations in which the behaviour of actors and the nature of relationships within them are influenced by the family vision that is oriented to trans-generational pursuance and controlled by a familial dominant coalition.

The firms that fit this definition play a crucial role in all the economies of the world (Neubauer and Lank, 1998; Aronoff and Ward, 1995). Studies in several countries suggest that family firms have a major impact on the growth and employment generation of the national economies (Morck et al., 2000; Neubauer and Lank, 1998; Poutziouris et al., 1997; Gallo, 1995) and a percentage between 65 percent and 90 percent of firms in the world can be considered family businesses (Caselli and Gennaioli, 2003; Family Firm Institute, 2003; Shanker and Astrachan, 1996). The importance of family businesses is particularly visible in: (i) Europe, where they constitute a substantial part of the existing companies (nearly 85%) and play a pivotal role in the strength and dynamism of the European economy (European Commission, 2008); and (ii) Italy, where they are 93% of the national firms and 98% of the workforce in manufacturing companies fewer than 50 employees (European Commission, 2008).

However, although the family firm is the dominant and most important form of organizational enterprise today, the scientific literature shows a very limited number of investigations (Craig and Moores, 2006; Litz and Kleysen, 2001) about the managerial...
The resource-based view (RBV) (Habbershon, 1991; Welsch, 1991). These differences lie in two primitive “family features” that characterize relationships and non-family enterprises in the way they operate and are governed (Dunn, 1996; Stoy Hayward, 1992; Donckels and Frohlich, 1999; Barney, 1991). Family firms that survive through multiple generations require renewal through innovation (Hoy, 2006). Developing, producing and marketing proprietary products, and achieving growth through such products were found to be important goals for family firms (Tagiuri and Davis, 1992).

We must question which are the specificities of small family firms in conducting NPD activities and how the family variable may impact on the NPD process. New product development is often risky in financial and non-financial terms and especially smaller family firms have been cautious in managing the NPD process. The impact of the family on the business and innovation activities happens through a combination of social interaction, networks, family business corporate identity, family goals, dynamics, values, culture and heritage that act on the company in several forms of behaviour, acts, decisions and plans (Kansikas, 2010).

To address this gap in the literature, this study attempts to provide an exploratory investigation on new product development within small family firms from Northern Italy, exploring their NPD processes and pointing out specific family-related factors affecting NPD activities conducted by family firms. It allows making a step forward towards the understanding of how “familiness” influences NPD in small family firms.

To test this, a multiple case-study (Strauss and Corbin, 1998; Yin, 2003; Handler, 1989) in Northern Italy has been conducted, and the NPD process as well as its related managerial implications has been in-depth analysed in four SFBs.

The objective of the study can be framed around three main research questions:

- How do SFBs conduct NPD activities?
- How does the family impact on the NPD process in SFBs? Is the ‘family’ a constraining or enabling factor for NPD?
- Which are the family-related enabling factors and the family-related constraining factors for NPD?

The paper is organized into five main sections. The following section is dedicated to the review of the literature on: (i) the impact of the ‘familiness’ on the business; (ii) the main activities in the NPD process; and (iii) NPD and innovation in the specific domain of family businesses. Section 3 describes the research methodology. In Section 4 the empirical study is illustrated and the emergent empirical findings are shown. Finally, in Section 5, we draw some conclusions on the results of our investigation, discuss the main limitations of our study and propose future research directions.

2. Literature review

The review of the literature has been framed around three distinct subsections. The first one analyses the specific characteristics of family firms and deals with the relationships between the family variable and the management of the business. The second subsection analyses the activities that qualify the NPD process within the stream of research on NPD. In the third subsection the literature on NPD and innovation in the context of family firms is reviewed, focusing on the few contributions specifically related to family businesses.

2.1 The ‘familiness’ and the business: in a family business the special intersection between the family subsystem, the business subsystem, and the individual organizational members, generate a bundle of distinctive resources and capabilities (Chua et al., 1999; Olson et al., 2003; Zahra et al., 2004). The outcome of these intersections is typically identified as ‘familiness’ (Habbershon et al., 2003), a variable that can differentiate and characterize the firm, resulting in a competitive advantage, as suggested by the resource-based view (RBV) (Habbershon et al., 2003; Simon and Hitt, 2003; Priem and Butler, 2001; Habbershon and Williams, 1999; Barney, 1991).

These unique characteristics of family firms are confirmed by a few empirical studies showing the differences between family and non-family enterprises in the way they operate and are governed (Dunn, 1996; Stoy Hayward, 1992; Donckels and Frohlich, 1991; Welsch, 1991). The explanation of these differences lies in two primitive “family features” that characterize relationships and drive behaviour in family businesses: family goals and values (Fukuyama, 1995; Davis and Tagiuri, 1989; Dyer, 1986). The goals of a family are generally to develop, support and take care of family members, and are not merely related to obtaining high performances in terms of profits, efficiency and other economic measures (Dyer, 2003). Research on family firms indicates that the family can create sometimes emotional decisions (Stewart, 2003) made by feelings rather than business logic, and family goals and needs often are key influential issues in decisions regarding business strategy, innovation, financial strategy and management.

and organizational practices related to innovation management and new product development in the specific and prevalent domain of family business.

This is a consequence of the fact that the mainstream management literature up to now has not usually taken into consideration the family as a variable and most of the studies have been focused exclusively on non-family enterprises (Miller and Le-Breton Miller, 2007; Dyer, 2003; Schulze et al., 2001).
practices (Mishra and McConaughy, 1999; Kahan and Henderson, 1992; Ward, 1988). Zahra et al. (2004) also underline the significant impact of the family culture on the entrepreneurial activities of a company such as decision-making and resource allocation.

A typical value that is considered to significantly influence the dynamics of family firms is altruism (Dyer, 2003; Shulze et al., 2001). As argued by Shulze et al. (2001), altruism induces family members to be considerate of one another, promote and sustain the family bond; and this in turn promotes loyalty and commitment to the family firm’s long-run prosperity. However, when the value of altruism is infringed in families, it may conduct to antipathy and jealousy, originating conflicts in the firm (Hilburt-Davis and Dyer, 2003; Lundberg, 1994).

In summary, family goals and values characterize relationships and drive behaviours in family firms. The ‘familiness’ is therefore a variable that influences behaviour at the individual, group and organizational levels of analysis, resulting in a significant impact on the overall management of the business (Dyer, 2003). It is reasonable to expect that the family will, indeed, influence the way the NPD process is managed in family firms.

2.2 Main activities in NPD: although the phases of NPD are different in relation to the business sector and the actual context, it is possible to identify some general outlines of NPD process. An early definition by Cooper (1979a) proposed a systematic view of NPD process, suggesting a multi-phase NPD approach: 1) primary market assessment and technical approval, 2) technical concept definition, 3) product development, 4) product testing, 5) pilot production, and 6) commercialization.

Nowadays the phases of development of new products are widely established in the literature, both in general terms (see, for example, in this regard the contributions of Cooper and Kleinschmidt, 1986; Urban and Hauser, 1993; Lempres, 2003; Bonabeau et al., 2008) and for more specific areas and contexts (Haden et al. 2004; Droge et al. 2000; Sun and Wing, 2005; Ilori et al., 2000, Varela and Benito, 2005; De Toni et al., 1999). In recent decades, many researchers and consultants have sought to identify best practices to create increasingly sophisticated models that effectively illustrate the NPD process (Booz, Allen & Hamilton Inc., 1982; Cooper, 1994; Yazdani, 1999; McDermott and Handfield, 2000, Ulrich and Eppinger, 2000, Trott 2008). These models typically describe the process from idea generation (and/or the need) to launch, through activities such as concept design, selection of ideas, business analysis, development, testing and validation and marketing. The variety of activities of NPD concerns several disciplines and generate a multiple perspective from which to analyse the development of a new product (Trott, 2008). However, there is a substantial coincidence of classifications of NPD stages, as illustrated below – beyond the use of different terminologies – while it is possible to note a greater emphasis and details in the steps that are more in the interests of the author. In the following part of this section some of these different perspectives on the NPD process are presented with a twofold aim: (1) to underline the variety of perspectives of the NPD process and (2) to support our framework of analysis of NPD process within family businesses.

One of the more cited contributions is the one by Booz, Allen & Hamilton (1982), a managerial perspective, that outline a process composed of six sequential steps:

- Exploration,
- Screening,
- Business Analysis,
- Development,
- Testing,
- Commercialisation.

This analysis has to be considered still actual, in fact it is currently mentioned (as in Rundquist and Chibba, 2004; Trott, 2008, etc.).

An engineering perspective of NPD is offered in the book of Ulrich and Eppinger (2000):

- Planning (assessment of available technologies and corporate market and business objectives);
- Concept development (identification of target market and needs, generation of some alternative product concepts);
- System-level design (definition of product architecture, decomposition of product into subsystem and components);
- Detail design (complete specification of the product and the process plans for its fabrication and assembly, including geometry, materials and tolerances, design of tooling and design of process flow);
- Testing and refinement (construction and evaluation of multiple prototypes of the product);
- Production ramp-up (implementation of production process).

According to Verganti (1997), a design perspective, the NPD process consists of four phases: (i) development of the concept, (ii) product design, (iii) design of the production process and (iv) launch. These stages correspond to the main outputs of the NPD process:

- Concept, the basic idea of the product. It indicates target customers, needs, product attributes (in terms of performance, features and properties) and personality (in terms of "messages" that the product implicitly communicates to the customer);
- Product-service, that is the physical good and associated services (design - architectural adaptation, technologies and components, make or buy design, detailed specifications of components, prototyping and testing of component quality and optimisation);
are searching for greater efficiency and effectiveness of their NPD programs (among others: O’Marah, 2005; Chapman and available literature asserting that the current challenge to increasing growth, profit and sustainability for family firms is to achieve generation.

attention, support and funding are needed in order to embed innovation as a core competence, especially for the younger appear to place substantial importance on innovation strategy and practice". In fact, family firms are associated with more flexible structures and decision-making processes and are less likely to use formal monitoring and control mechanisms than are nonfamily firms (Daly et al., 1992; Geeraerts, 1984), and firms with a more flexible structure will arguably have higher rates of innovation than other firms (Özsomer et al., 1997). At the same time, studies specifically dedicated to small family firms, demonstrate as, in family businesses closely held and with power and decision-making concentrated in the owner/manager (Dyer and Handler, 1994), the innovativeness is thus of the owner/manager rather than the innovativeness of the company (Verhees and Meuleberg, 2004). A recent contribution (Block, 2010) underlines the agency problems in the management of innovation of family firms: if family ownership - with non-family managers - decreases the level of R&D intensity, ownership by lone founders has a positive effect on R&D intensity and productivity.

So, what emerges is a conflicting relationship between family businesses and innovation, which is related to their long-term orientation (that allows dedicating resources to innovation) and conservative figure (given by tradition, organizational culture, avoiding the risk to destroy family wealth, etc.) (Zahra et al., 2004; Cucculelli, 2010). This is consistent with the emerging available literature asserting that the current challenge to increasing growth, profit and sustainability for family firms is to achieve the proper balance between the “traditions” of the family’s business and its innovation capacity. Issues related to the development of new products are commonly considered as the most important innovation activities for the performances of the companies (Urban and Hauser, 1993; Ernst, 2002; Swink, 2002) that allow businesses to obtain, when successfully carried out, an important competitive advantage (Cormican and O’Sullivan, 2004). This can explain why companies are searching for greater efficiency and effectiveness of their NPD programs (among others: O’Marah, 2005; Chapman and Hyland, 2004; Di Benedetto et al. 2003; Swink, 2002; Nijssen and Frambach, 2000).

However, the management of NPD process has only approximately been studied in the context of family firms (Craig and Moores, 2006, Kansikas 2010). In spite of this scarce attention, the relevance of NPD in family firms is suggested – sometimes indirectly – by several contributions that seem, also, to imply a different management of NPD if compared to non-family companies:

• the model of SFBs innovativeness proposed by Hausman (2005) asserts that possible outputs of the family firms’ innovation process are only two: (i) innovative products and services and (ii) adoption of innovative products, practices or ideas;

• Stewart (2003) underlines the importance of kinship within a family firm asserting the it can be a challenge for the new product development as it can create emotional decisions and neglectful business logic and sometimes, even, problems with nepotism such as favouring relatives when making decisions for the family business;

• also Sharma and Manikutty (2005), discussing decision-making process within small family firms, prove as small families are more efficient and dynamic in decision-making. A relevant impact is on the new product development process: it can be more sudden and faster in smaller family firms than in larger ones. The same authors state that small family firms have challenges with regards to funding and investing in product development.

According to this landscape, innovation management and capability of family firms appears as not sufficiently discussed and investigated; in addition, studies about NPD process in the specific context of family business are quite completely missing.

Some useful insights can be derived from the growing stream of literature related to new ventures, which shows similar financial and human resource constraints as small family firms. Unfortunately, in the existing researches on new ventures the family variable is often lacking (as in Song et al., 2008) - with all consequences this implies - as well as a consolidated tradition and continuity typical of established family businesses (as reported in paragraph 2.1) because less than half of new ventures survive
more than two years (Song et al., 2010b). With these premises, the new product development in new ventures is managed in a limited resources context (Smallbone et al. 2002; Hall 2002) with:

- strategic alliances and partnerships (Li and Atuahene-Gima, 2001; Rothaermel and Deeds, 2004; Song and Di Benedetto, 2008; Stam and Wennberg, 2009);
- public supports and incentives (Li and Atuahene-Gima, 2001; Stam and Wennberg, 2009).

Moreover, from the available literature, emerge as positive facts: the presence of a clear leadership (Ensley et al., 2006) and a high efficient NPD process (Stam and Wennberg, 2009). More generally, the NPD process in new ventures is qualified also by (Li and Atuahene-Gima, 2001; Giglierano, 2002; Huang et al., 2002; Rothaermel and Deeds, 2004; Stam and Wennberg, 2009; Song et al., 2008; Song et al., 2010a; Song et al., 2010b):

- more iterations than in established companies;
- the lack of formal screening stage; idea generation has taken place when the idea for the new business is germinated and been evaluated as a whole business opportunity;
- much more precise analysis and planning, than in established firms. Nevertheless, lack of information and data as: (i) access to market data, (ii) resources for market research and (iii) access to existing customers, reduces the accuracy.
- earlier search for pioneer customers (due to financial reasons). After, the product and offering are adapted to acquire other customers.

Our expectation is to retrieve some of these features in small family companies.

3. Research methodology

The research method adopted in this work is based on a multiple case study. Despite the widely acknowledge limitations of this approach, especially in terms of reliability and validity (Ginsberg and Abrahamson, 1991; Yin, 2003), the case study method has the ability to capture the full complexity of the studied phenomenon, including its ‘softer’ aspects. This is consistent with our research questions:

- How do SFBs conduct NPD activities?
- How does the family impact on the NPD process in SFBs? Is the ‘family’ a constraining or/and enabling factor for NPD?
- Which are the family-related enabling factors and the family-related constraining factors for NPD?

Given the research questions and the aim of our empirical study to in-depth explore the impact of the family on the NPD process of the companies, the aforementioned advantage of the case study method was a critical factor in selecting the research approach (Eisenhardt, 1989).

<table>
<thead>
<tr>
<th>Family Firm</th>
<th>Revenue (Mln €)</th>
<th>No. of employees</th>
<th>Location</th>
<th>Generation</th>
<th>Interviewees</th>
<th>Professional role</th>
<th>Age range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2,5</td>
<td>20</td>
<td>Bergamo province</td>
<td>3rd</td>
<td>Father CEO</td>
<td>41-60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mother</td>
<td>Mother Manager at the office</td>
<td>41-60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Son</td>
<td>Technical manager</td>
<td>25-40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Non-family</td>
<td>Production manager</td>
<td>25-40</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>9</td>
<td>35</td>
<td>Milano province</td>
<td>2nd</td>
<td>Son CEO and Chief commercial officer</td>
<td>25-40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Father</td>
<td>Chief Production Officer</td>
<td>41-60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Non-family</td>
<td>R&amp;D manager</td>
<td>25-40</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2,7</td>
<td>22</td>
<td>Varese province</td>
<td>3rd</td>
<td>Father CEO and Chief Production Officer</td>
<td>41-60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Daughter</td>
<td>Middle Accounting manager</td>
<td>25-40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Non-family</td>
<td>R&amp;D manager</td>
<td>41-60</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>1,3</td>
<td>12</td>
<td>Pavia province</td>
<td>4th</td>
<td>Grandfather CEO</td>
<td>61-80</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Father</td>
<td>Chief commercial officer</td>
<td>41-60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Son</td>
<td>Technical manager</td>
<td>25-40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Non-family</td>
<td>R&amp;D manager</td>
<td>41-60</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Family firms interviewed and demography of the interviewees
Information was collected between September 2009 and February 2010 through personal in-depth interviews with the management of the four companies, both family members and external managers, taking part in the NPD (Table 1); then, a structured cross-case analysis was carried out, through which data and information collected have been elaborated, categorised and compared in order to point out the influences of the variable “family” on the NPD process, so as to draw a reliable and synthetic picture of the sample analysed. All companies are small (according to the definition in the Recommendation of European Commission 2003/361/EC) and located in the northern part of Italy (Lombardy region). The unit of analysis was the NPD process within each firm.

The interviews have been taped and transcribed directly from the tapes; they were then integrated with secondary source data, such as available company documents and family information. These sources were used to verify the interview data and ensure objectivity in the data collection process. The use of multiple sources of data allowed the triangulation of evidences (Yin, 2003). Finally, the main evidence and emerging findings have been discussed with some of the people interviewed, in order to verify their validity. The multiple interviewees for each family firm allowed us to gain a holistic view of the family business members work in new product development processes. We addressed potential problems of retrospective biases of the primary data collected (Golden, 1992; Schwenk, 1984) by critically comparing responses from multiple respondents and by directing respondents to describe actual behaviour and actions. Given the limited number of case-studies and the qualitative research methodology, only “analytic” (and not statistical) generalization of the studied phenomenon will be possible (Yin, 2003; Becker, 1990), i.e. it will be possible to extend the results only to those cases that analytically present characteristics in the relevant variables similar to the ones of the studied case.

In selecting the cases, we started contacting 10 family firms to determine if they met the requirements of Northern Italy location, small size of the company, involvement in NPD and innovation, and willingness to participate in the study. Following the long tradition of case studies in family business research (Sharma and Irving, 2005; Handler, 1989), we selected for our investigation 4 exemplary firms (2 cases of successful NPD experiences and 2 of unsuccessful ones) that promised to provide rich and detailed description of the investigated phenomenon from multiple respondents. The decision to include in the analysed sample 2 successful NPD process cases and 2 unsuccessful ones was driven by our purpose to investigate the family-related enabling and constraining factors for NPD, and our implicit assumption about a possible relationship between family-related enabling factors and the success of NPD on the one hand, and family-related constraining factors and the ‘unsuccess’ of NPD on the other. The analysis of both successful and unsuccessful NPD cases is therefore likely to facilitate the identification of family-related enabling and constraining factors for NPD.

In order to classify the NPD process of the studied family firms as a successful or unsuccessful case, we adopted the “performance map” developed by Cooper and Kleinschmidt in 2007. So, ten key performance metrics were gauged into the family businesses that met the selection requirements:

- **Success rate**: The proportion of development projects that became commercial successes.
- **Percentage of sales by new products**: The percentage of the business unit’s sales accounted for by new products introduced within the last three years.
- **Profitability relative to spending**: How profitable the business unit’s total new product efforts were, relative to the amount spent on them.
- **Technical success rating**: How successful the total effort was from a technical/technological perspective.
- **Sales impact**: How strong an impact the total new product effort had on the business unit’s top line or sales revenues.
- **Profit impact**: How strong an impact the effort had on the business unit’s bottom line or annual profits.
- **Meeting sales objectives**: The extent to which the total new product effort met the business unit’s sales objectives for new products.
- **Meeting profit objectives**: The extent to which it met the business unit’s profit objectives.
- **Profitability versus competitors**: How profitable the total new product effort was relative to competitors.
- **Overall success**: All things considered, how successful the business unit’s total new product efforts were when compared to competitors.

Those ten performance merits were measured; eight of these were captured on 1–5 Likert-type scales, again with anchor phrases two were directly measured as percentages (success rates and percentage sales by new products). These measures allowed us to recognise, among the studied companies, successful and unsuccessful NPD processes.

### 4. The empirical study

Overall, the sample of studied companies fared quite well in terms of the performance associated to the new products developed. However, on the basis of the “performance map” (Cooper and Kleinschmidt, 2007), we argue that enterprises A and B gained satisfactory results from the studied NPD processes, while firms C and D did not. Cases A and B are therefore considered as examples of successful NPD processes, while B and C as unsuccessful ones.
Case A
The company: A, a small family-run company, produces machinery, plant and equipment for extrusion and plastics, thermoplastics and ceramics. Competitors produce similar solutions but with simpler technologies and lower prices. The firm can produce these advanced machineries thanks to the collaborations with many other companies, often suppliers, which allow this small company to design and produce high-tech solutions. Furthermore, A believes that the organizational capacity is an important competitive factor as the brand, well-known as symbol of innovation and reliability all over the world. So, A significantly invests the technological leadership in its area and to influence, through product specifications, the structure and rules of its industry.

The NPD process: The first two phases (idea generation and testing) are accomplished internally while designing, production and marketing are carried out outside the firm. A team - that involves all the functions of the company – is responsible for all innovation activities. Staff in charge of NPD, through a matrix organisation, is efficient, aiming at excellence and continuous improvement. R&D, production, marketing and IT give the major contributions to technological innovation. The staff is well trained and has enough time to generate new ideas. New ideas are rewarded with economic or social incentives. Partnerships are essential to integrate internal skills to stimulate creativity and share the risks and costs.

Family-related factors impacting on NPD: The long-term and “intergenerational” orientation of the family business leader plays a pivotal role in fostering the family entrepreneur to strongly invest in innovation and NPD. “I am not interested in short-term returns. I want that my business will be sustainable across generations and this is the reason why we are strongly investing in long-term activities such as R&D and new product development” (interview to the father). The members of the family business are characterized by shared family values and tend to be highly motivated, and this positively affects the commitment and proactive participation of all the people involved in the NPD process, especially in the early phases of idea generation. “In our company we have a unanimous consideration of our family values and each individual is strongly motivated to express his/her own thoughts and propose his/her ideas for new products in an informal and “familiar” climate” (interview to the son). The family firm tends to raise high its visibility and family name with customers, suppliers, staff and, in broader terms, the whole community and this seems to lead the family business members to pay particular attention to the quality of the new products developed and consequently to the quality of execution in all the different phases of NPD. A good level of agreement among family members regarding the NPD projects is ensured through the many communication initiatives within the family. Furthermore, the concentrated ownership of the family business leader seems to cause reduced agency costs and closer monitoring, and this appears to grant a strong strategic focus of NPD projects. Finally, the conflicts between family and non-family members and the fear of the family entrepreneur to “open” the ownership of the family firm to external investors emerge as factors having a constraining effect on the NPD process.

Case B
The company: B is a company operating in the production of semi-finished plastics and rubber used in several applications. Operations started in 1952 with the production of compound plasticized granules for electrical wiring. The production process is highly automated. Although B internally developed a large variety of incremental innovations on the production process, ensuring greater efficiency, the management believes that product innovations are the most important. Furthermore, as usual in SMEs, product innovations and process improvements are continuous and difficult to separate from the ordinary. Recently, product innovation has evolved along two main line projects: B has developed two alternative raw materials to overcome a monopoly supply market. Secondly, a new product has been developed in joint-venture with a client.

The NPD process: The idea generation is based on market needs and customer requirements and it is the most relevant phase for the success of the product; C pays great attention to market needs as a source of new ideas and opportunities. The project cycle culminates in the qualification and certification of the product. The idea generation is performed completely inside, while the other phases are carried out with several collaborations. The responsibility of the internal innovation process is given to a team of people involving in particular representatives of the R&D, design, production and marketing functions. The family guarantees the best resources to meet three objectives: waste reduction, especially for the customers, costs reduction and compliance with the planned development timing. The NPD process requires the presence of sub-contractors and external collaboration; although C collaborates with third parties (to expand skills and to reduce costs and time-to-market) the NIH (Not Invented Here) syndrome is perceptible, especially by family members. The results of these collaborations are generally positive; the few failures are caused by problems of low skills and quality of partners and the costs and timing higher than those planned for the project.

Family-related factors impacting on NPD: Also in this case the long term view and the attention of the family dominant coalition to ensure the longevity of the business reflects in a long-term vision of NPD processes and consequently in significant investments in innovation activities. “My entrepreneurial dream is that of expanding the business and transferring it to the future generations. As a consequence, our family provides a long-term thrust and support in innovation activities” (interview to the father). The intention of the family firm to continuously establish the family reputation with key stakeholders seems to influence the market orientation and the quality of NPD projects. “We consider very important to maintain the good reputation of our family in the community and so we undertake many efforts to carefully understand the needs and the feedback from our community, and to develop high quality new products that are very appreciated” (interview to the father). The high level of communication between family members, made possible also through a formalized system of “family councils”, contributes to create and diffuse consensus
among the employees, which seems to positively influence the NPD process. “We share all the relevant information about the firm and the family among family members, so when we develop a new product usually all family members are aligned and directed towards the same objective” (interview to the son). Furthermore, the high motivation and “cohesiveness” of the family business workforce also in this firm appears to have a beneficial effect of the early phases of idea generations and on the overall commitment of the people involved in the NPD process. “All the members of our family are very motivated and committed, and this commitment is transferred also to non-family employees. This contributes to establish an innovation-friendly climate that fosters the generation of new ideas about possible new products” (interview to the father). The only emerged family-related factor negatively impacting on the NPD process is the presence of conflicts between family and non-family members.

Case C

The company: Company C was founded in 1923 and it operates in the aeronautical sector. Today it produces components, equipment and systems for military, civil and commercial aircrafts. The relationships with competitors are very good, because everyone is focused mainly in a specific market niche and no one tends to have opportunistic behaviours. Company C produces, in fact, small series, which rarely exceeds one hundred units per year per product. In recent years the importance of environmental compatibility has significantly grown.

The NPD process: The innovation is often activated for the intuition of family members, thanks to sound skills in their field, frequently generate ideas for new products that can replace the raw materials for existing applications or new applications achieved with the available raw materials. After idea generation by family members, an internal team manages all the subsequent phases (except for some very specific technical procedures). In the whole process, formal and explicit division of tasks and roles are missing. In fact, the entire process is done in a lean and flexible way, in parallel with the normal activities, involving different functions. Contributions by production and procurement functions are considered as critical success factors. The company’s family members supervise every NPD stage.

Family-related factors impacting on NPD: The family firm appears to be rather “inward looking” and seems to be characterized by a low propensity to leverage on sources of innovation that are external to the organization, even if they may be of critical importance for the NPD process, especially in a SFB. “We prefer to keep in house the “secrets” of our family and manage by ourselves all the innovation activities” (interview to the father). “We don’t believe in the so called “open innovation” and prefer to manage all the phases of the new product development process internally” (interview to the non-family member). The frequent conflicts between family and non-family members have traditionally had a negative influence on the execution and progression of NPD projects. “Many of the problems we had with the new product development process were related to the many conflicts arisen because of the different ways of treating family and non-family members” (interview to the non-family member). Another factor constraining the NPD process is the aversion to risk of the family entrepreneur, which in many circumstances hindered the accumulation of adequate resources to successfully execute the NPD process. The low levels of professionalization and objectivity in the management and organizational practices within the family firm have also had a negative influence on all the project management activities associated to the development of new products. “We are a family firm and quite often, in order to preserve family relationships, I must take decisions that may not be easily comprehended by non-family members. They ask for more objectivity and rationality in decision making processes and some of the management problems we experienced in many NPD projects have been caused by this aspect” (interview to the father). A final factor emerging as negatively influencing the NPD process is the attitude of closure of the family entrepreneur towards the entry of the external members into the ownership of the family firm. This seems to have constrained the budget of many past NPD projects, preventing an adequate allocation of resources to NPD. “Some venture capitalists proposed to buy some shares of our firm in order to provide us with the financial resources necessary to complete the development of an innovative system for military aircrafts. Although we strongly needed that funding to complete the NPD process, my dad preferred to refuse the offer and keep the firm in the hands of our family” (interview to the daughter). The long-term vision of the family entrepreneur is reflected in a long-term vision of NPD projects and emerges as a factor positively influencing the NPD process.

Case D

The company: company D was established in 1909 for the production of men’s socks. Over the years it developed a second business: the commercialisation of high-level yarns. Recently, in 2005, there was an acquisition of a stocking company, which transferred to C new customers and new technologies. The company is positioned in the market of high-quality products due to materials and technologies adopted. Customers are stylists (20% of sales) and retailers (80%). The company’s strategic goal is to continue to maintain its current competitive position, attempting to increase the penetration into foreign markets.

The NPD process: D has pursued an innovation process based mainly on the product and the continuous search for valuable materials. Innovation activities are primarily governed by daily activities and the sudden customers’ needs company faces. The NPD process is continuous and developed in a cyclical way, with frequent iterations among the stages (especially those activities from idea generation to design) to quickly adapt the products to the new market trends. All phases of NPD process are developed internally, with available resources, and it is not formally structured: an assigned responsible for R&D, specific NPD project or innovation activities is missing. However, each NPD project is followed by a small team that takes into account all issues related
to R&D, production and marketing. Flexibility and technical planning are certainly critical success factors, while the sales force represents the main limitation for the company. 

Family-related factors impacting on NPD: The firm does not resort to technological collaborations to execute any phase of the NPD process. “We are a family company and we must preserve a certain degree of independence from the external environment. Potential technological partners are more a threat than a real opportunity for the company and for our family” (interview to the grandfather). Also in this case the conflicts between family and non-family members emerged as an important obstruction to NPD. “All the key roles in innovation management are played by family members. This often generates frustration and complaints among non-family members and hinders the emerging of new ideas from non-family members” (interview to the non-family member). The propensity of the family business leader to be cautious in his investment policy in order to avoid to expose his family to excessive levels of risk is another factor that seems to negatively impact on the NPD process. The lack of professional and objective practices to manage the different HR aspects within the family firm (e.g., incentive systems, management control systems) turns into a low capacity of coordination and management of the overall NPD process and seems therefore to hinder the NPD. “The lack of well-defined and formalized practices to manage the teams and individuals within our family firm has led to difficulties in coordinating and managing the NPD process since the NPD group is usually managed without a clear organizational structure” (interview to the son). Also in this case the emerged intention of the incumbent to expand his “entrepreneurial dream” from generation to generation leads to a long-term vision of NPD projects and can be considered as a factor positively influencing the NPD.

5. Results of the study and final remarks

The main findings of the empirical study are summarized in Table 2.

| Table 2. Family-related enabling and constraining factors for NPD in the case firms |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|                                  | Cases of successful NPD process | Cases of unsuccessful NPD process |
| Firm A                          | Firm B                          | Firm C                          | Firm D                          |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Family-related enabling factors for NPD | Long-term orientation and ambition of the incumbent to expand the “entrepreneurial dream” through generations | X                              | X                              | X                              |
|                                  | Shared family values, high motivation, cohesiveness and commitment of the employees | X                              | X                              |
|                                  | Desire to raise the family name and reputation with key stakeholders and the business community | X                              | X                              |
|                                  | High level of communication and sharing of information among family members (possible also through family councils) | X                              | X                              |
|                                  | Low agency costs (thanks to the typical concentrated ownership of small family owners) and consequent closer monitoring | X                              |
| “Closure” attitude towards the external environment and less propensity to leverage on assets outside the organization | X                              | X                              |
| Conflicts deriving from the mixture of blood and professional relationships (e.g. conflicts between family and non-family members) | X                              | X                              | X                              | X                              |
| Aversion to risk of the family entrepreneur and propensity to be cautious in order to avoid to expose his family to high levels of risk | X                              | X                              |
| Low levels of professionalization and objectivity in the management and organizational practices and routines | X                              | X                              |
| Fear and low propensity of the family entrepreneur to “open” the ownership to external investors | X                              | X                              |

In general terms, the four case studies allowed us to identify specific family-related enabling and constraining factors for the NPD process, and a marked difference related to these factors emerged between the studied firms: those firms whose NPD process was identified as successful show a prevalence of enabling factors, while the firms whose NPD process was unsuccessful display a...
majority of constraining factors. Family firms with shared family values, a high desire to raise the family name and reputation, high level of communication among family members, and low agency costs are likely to experience more successful NPD processes, while those firms that display a higher “closure” attitude towards the external environment, a higher aversion to risk, and less professional management, appear to be disadvantaged with respect to the NPD.

However, a number of the proposed factors do not appear to discriminate successful from unsuccessful NPD processes. As a matter of facts, the long time orientation and the ambition to expand the “entrepreneurial dream” through generations is common to all the studied family firms, and therefore it does not apparently affect the success of the NPD process. Possibly, this factor only partially can support the success of the NPD process, because it describes the firm’s willingness toward intraorganizational family-based relatedness (Litz, 1995), but to become effectively determinant for NPD success it must be joint to other discriminating factors that refer to the firm’s ability to realize the purpose, such as shared family values, high motivation, cohesiveness and high level of communication.

Also two constraining factors are common to both successful and unsuccessful cases. Conflicts are widespread along family firms (Beckhard & Dyer, 1983; Levinson, 1971), and recent studies prove that while relationship conflicts have always a negative impact of the family firms’ performance, work-related conflicts, specifically cognitive and process conflict, can be beneficial (Eddleston & Kellermanns, 2007). Thus, further studies may extend our explorative analysis differentiating between different typologies of conflicts and studying the effects of each type of conflict on the success on NPD processes. Another factor that is common to the successful and unsuccessful cases is the low propensity of the family entrepreneur to “open” the ownership to external investors; a possible interpretation is that this factor negatively influences the risk attitude of the firms (Zahra, 2005), but at the same time it can provide the firms with a strong control over the business that, in turn, can contribute to an effective leadership and to expedited innovation processes (Shepherd & Haynie, 2009). Thus, future research is needed to explore the effects of concentrated ownership on the innovative attitude of family firms, considering direct and indirect relationships between concentrated ownership and NPD success as well as the presence of possible moderating factors.

This exploratory study has allowed to make a step forward in the understanding of the role of the family in the NPD process of small family businesses (SFBs). The contributions to the literature are many. First, it has provided insights on how SFBs conduct their NPD activities. Then, it has provided an initial conceptualisation of the impact of the family on SFBs’ innovation processes, allowing the identification of a preliminary set of the family-related factors that appear as enabling and constraining the NPD process.

We sought therefore to fill a gap in the literature and extend prior research on NPD in family business by offering some exploratory results on the possible impacts the family variable may have on the NPD process of SFBs. Our research provides important implications for both practice and theory. The NPD process in SFBs is characterized by particular and considerable challenges and risks (Kansikas, 2010). A better understanding of how the family represents both strengths and weaknesses for NPD should enable family business practitioners to better address them and promises to improve how SFBs manage and organize the development of new products.

The set of family-related factors that emerge from our study as enabling and constraining the NPD process in SFBs provides empirical justification and guidance for the design of more comprehensive researches. We therefore consider the further investigation of NPD in the dominant context of family business a very important issue.

However, attention must be paid in the interpretation of the study’s findings, especially in any attempt to generalize them to a broader population. Although the findings from this qualitative study are suggestive, they require significant follow-up work to establish their range, reliability and validity. The limited number of studied firms in the sample and the qualitative research methodology allow only “analytic generalization” (Yin, 2003; Becker, 1990). Future research could be aimed at further investigating this research topic on a wider empirical base, using either qualitative or quantitative methods. Qualitative studies would be useful since the family-related factors potentially affecting the NPD process are many and complex (Yin, 2003; Eisenhardt, 1989). However, in order to investigate the relationships between family-related factors and specific aspects of a very complex phenomenon such as the NPD process, large-scale quantitative studies are also necessary. They would increase the statistical reliability and objectivity of the study’s findings.

Furthermore, our case studies are all located in the Lombardy region, but the family business values, managerial behaviours, operations, and organizational attitudes may extensively vary across different geographical regions (Sharma and Rao, 2000). Our findings may therefore not completely apply to geographical areas that considerably differ from Northern Italy, and future cross-region researches are encouraged. Moreover, our investigation was specifically focused on small family firms. Further empirical researches involving also medium and big family businesses may allow to clarify whether and how the dimension of family firms impacts on their NPD activities.

Finally, an interesting research direction for future scholars is to shift the focus of the analysis on the managerial factors affecting the success of NPD, by providing the answer to the following research questions (i) What is the relationship between the presence of the family variable within a business enterprise and the managerial factors affecting the success of NPD activities? (ii) How the managerial factors affecting the NPD process are faced in family businesses? (iii) Which are the main differences (e.g., strengths and/or weaknesses) in dealing with the managerial factors affecting the NPD process between family firms and non-family enterprises?
References


**Biographical notes**

Lucio Cassia is Full Professor of Strategic Management and Entrepreneurship at the Faculty of Engineering of the University of Bergamo and Director of CYFE - Center for Young and Family Enterprise of the same University. He has been Research Fellow at ST-Microelectronics, head of R&D Dept. at ISMES, and Founder and CEO of hi-tech electronics and IT companies. He is member of the Board of Directors of the University of Bergamo and is currently leading research and teaching activities on entrepreneurship, and business strategy. On these topics he is author of several books and international publications.

Alfredo De Massis, PhD, is currently Assistant Professor in the area of Family Business at the Faculty of Engineering of the University of Bergamo and Deputy Director of CYFE - Center for Young and Family Enterprise of the same University. He is also member of the Faculties of other universities and leads research and management consulting activities for SCS Consulting. He has been Financial Analyst in the Italian Stock Exchange and consultant in the Strategy service line of Accenture. He is currently conducting research and teaching activities on family business and entrepreneurship and is author of three books and several scientific publications.

Emanuele Pizzurno, PhD, is currently Assistant Professor in the management area at the Faculty of Engineering of the University Carlo Cattaneo - LIUC where he developed most of his academic activities. He is also research fellow and professor at the Scuola Mattei - Eni Corporate University and at the Department of Management Engineering at Politecnico di Milano. The major research and teaching topics concern innovation and technology management and the organization of R&D; he has also long studied environmental strategies and management. On these issues, he is the author of several scientific publications.

Received December 2010
Accepted December 2010
Final acceptance in revised form January 2011
But the family knew the business faced critical strategic challenges. The rise of shopping malls was weakening the small Brazilian retailers who made up Rosset’s primary distribution channel. Chinese imports were beginning to pose serious competition. The advent of digital fabric printing would undercut Rosset’s core manufacturing strength unless the company adopted the technology itself.