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This is a Final draft version of a publication

published by Edward Elgar Publishing

in Calabrò, A. (ed.) A Research Agenda for Family Business A Way Ahead for the Field

DOI:

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Please cite the publication as follows:

Rautiainen, M., Konsti-Laakso, S., Pihkala, T. (2020). Innovation in family business groups: going beyond an R&D perspective. In: Calabrò, A. (ed.) A Research Agenda for Family Business A Way Ahead for the Field. pp. 231-246.

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INNOVATION IN FAMILY BUSINESS GROUPS: GOING BEYOND AN R&D PERSPECTIVE

MARITA RAUTIAINEN¹, SUVI KONSTI-LAAKSO, AND TIMO PIHKALA

Abstract

In this chapter, we focus on the innovation activities within an enterprising family business group. To understand these innovation activities, we take a perspective of innovation sourcing mechanisms and identify the ways, ranging from observation to mergers, in which the external knowledge sources were accessed. The main findings suggest that an enterprising family organizes its holdings in different groups, applying diverse approaches to innovation sourcing and preferring acquisitions over cooperation. The analysis further shows that the level of integration is very different in distinct groups. Moreover, the level of integration of new innovations is related to the internal structures and logics of the group itself. This study contributes to the family business literature by providing a better understanding of how an enterprising family uses external innovation sourcing.

Keywords

Innovation, business groups, R&D, family firms

Introduction

Innovation within a family business context has gained much interest in research (Pittino & Visintin, 2013; Nieto, Santamaria, & Fernandez, 2015; Feranita, Kotlar, & De Massis, 2017). The vast majority of family business innovation studies deals with the family businesses' R&D investments. More specifically, a key finding is that family firms invest less in R&D than nonfamily firms. It is argued that family-owned firms' R&D investments are particularly low if family ownership and control is high (Chrisman & Patel, 2012; Duran, Kammerlander, Van Essen, & Zellweger, 2016). The difference is suggested to stem from the owning families' conservatism. For instance, Pittino and Visintin (2013) compared product innovation strategies between family and nonfamily firms and stated that family firms are more likely to use conservative innovation strategies, and Brinkerink and Bammens (2017) suggest that family

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firms' preoccupation with extended preservation reduces R&D investments in their business. Finally, Nieto et al. (2015) compared family firms to nonfamily firms and stated that the former invest less in R&D due to higher risk aversion and resource constraints.

Recently, some family business innovation studies have shifted the perspective from innovation input to innovation activities. This discussion suggests that although family firms are investing less in R&D, they can innovate more compared to their nonfamily counterparts. For example, the study by De Massis, Di Minnin, and Frattini (2015) indicates that the majority of Europe's most innovative firms are family firms. It seems that the R&D perspective on innovation cannot explain the high outputs of family business innovation.

Nieto et al. (2015) pointed out that we know relatively little about how family businesses carry out innovation activities. They raised the question of whether family businesses could organize their innovation activities more lightly through external innovation sourcing. By keeping in-house innovation activities low, family businesses may profit from lower costs and still be able to benefit from new combinations of resources, ideas, and technologies (Nieto et al., 2015: 384). However, they suggest that family businesses may face difficulties in acquiring technological capabilities from external organizations, and that their absorptive capacity may be too low to benefit from external innovations. In a recent literature review, Feranita et al. (2017) emphasize that the study of external innovations in family businesses is still in its infancy. In this paper, we follow the ideas of Nieto et al. (2015) and Feranita et al. (2017) and focus on the innovation activities within an enterprising family business group.

As organizational structures, family business groups are, by definition, collections of separate ideas, resources, technologies, and businesses held by the same governing enterprising family. Family business groups have been found to develop through extensive acquisition strategies (Rautiainen & Pihkala, 2018) and, in this sense, family business groups are likely to go beyond collaboration and exercise acquisitions in their innovation activities.

To understand these innovation activities, we take a perspective of innovation sourcing mechanisms. The sourcing mechanisms refer to the ways and relationships through which the external sources are accessed, ranging from observation to mergers and acquisitions (Leonard, 1995). The main research question in our paper is "*how do enterprising families use innovation sourcing in a family business group?*" The empirical part of this study presents an analysis of the innovation activities and sourcing mechanisms in one family business group.

With this study, we seek to contribute to the family business literature by providing a better understanding of how an enterprising family uses innovation sourcing. Furthermore, we bring new information about the relationship between innovation sourcing and the development of family business groups. From this perspective, this article provides new empirical insights about family business innovation.

Drivers and Mechanisms of Innovation Sourcing

Innovation can be defined as a process through which firms identify new opportunities for change, turn them into reality, and capture their value (Tidd & Bessant, 2009). The prior mainstream discussion has focused on different innovation models, such as closed and open models (Chesbrough, 2006) as well as the roles of small- and medium sized enterprises (SMEs) and large corporations in networked innovation activities (Gray, 2006).

As a form of technology transfer, innovation sourcing has been identified as one of the ways in which firms execute their innovation activities (Chesbrough, 2006; West & Bogers, 2014). The exploitation of external innovation sources may thus have significant effects on a company's business models.

The drivers of innovation sourcing are based on two types of motivations: improved efficiency and access to innovations not held by the focal firm (West & Bogers, 2014). Technological collaboration is one widely used external source of innovation performance (Hoang & Rothaermel, 2005) that requires sharing core information related to the innovation process (Nieto et al., 2015). However, several researchers state that family firms are reluctant to share confidential information (Basly, 2007) and want to maintain control, which limits their associations with their partners (Le Breton-Miller & Miller, 2009). This reluctance to share information may lead to a preference of business acquisitions over innovation collaboration. This means that instead of internally developing innovations and related capabilities, raw ideas, technology and related Intellectual Property Rights (IPR), and market-ready ideas and products are bought outside the firm's boundaries (Nambisan & Sawhney, 2007).

Technology and related knowledge may be accessed through different relationships or mechanisms. Leonard (1995) presented different knowledge sourcing mechanisms as a continuum ranging from observation to mergers and acquisitions. This continuum expresses

the mutual commitment between parties. Leonard (1995) classified these relationships into four different categories, which represent what the company gains through each relationship.

- **Window** presents mechanisms such as R&D contracts, technology observations, and nonexclusive licensing, which provide the possibility to observe technologies but give a superficial level of related knowledge. These forms of relationships are contractual and do not usually affect ownership.
- **Access** enables deeper exploration of certain technology. For example, educational acquisition means that a certain technology capability or expertise is obtained by recruiting experts or acquiring a small company.
- **New product.** Joint ventures and other interfirm agreements have been described as the intermediate integration level between contracts in an open market and full ownership. Joint venture means that ownership is gained and usually requires an investment in equity.
- **New competence.** Acquisition of new competence is likely to occur only through joint ventures, company purchases, or mergers. A new capability requires that the technology is transferred in its full business context, with all the dimensions, windows, access, new products, and new competences represented.

Innovation sourcing in family business groups

The existence of a business group affiliation implies that the business group owners have responded to the emerged business opportunities and innovations. Rosa and Pihkala (2018) showed that family business groups can be formed as entrepreneurs add new businesses to their portfolios or as they react to opportunities and threats. This model for diversification is a way to lower the risks involved in single businesses. Furthermore, Rondi, De Massis, and Kotlar (2018) presented the adventurer posture for family business innovation. From this posture, family ownership would be a resource consisting of family business traditions and the learned model of growing through acquisitions (Rondi et al., 2018).

The business group may form an internal capital market (Belenzon & Berkowitz, 2010). As the sources of capital are in the group's own hands, this provides the family and operational management more possibilities for trial and error (Kogut & Zander, 1992). Furthermore, operating with its own capital, the enterprising family can benefit from their long-term

orientation to innovation. In that sense, staying innovative may be more important than succeeding in single innovations. The internal financing provides the decisionmakers with more degrees of freedom, as there are no external pressures for speeded reporting.

The question of the platform for future growth (Kogut & Zander, 1992) largely deals with the level of integration and/or diversification of the businesses within the business group. Belenzon and Berkowitz (2010) suggest that family business groups seem to be more specialized than widely held groups. They interpreted this finding as a sign of an unprofessional family CEO, whereas it could be seen as a sign of a systematic search for innovation synergies and integration within the business group. Mäkimattila, Rautiainen, and Pihkala (2016) point out that the compatibility of the different businesses within the family business portfolio is not evident, and because of the needs of the different businesses in the business system, the family business portfolios continuously search for balance. In this sense, the integration level between the businesses within the group should be considered more carefully. Some sourced innovations may be fully exploited in the various businesses in the family group, while others may be left unexploited and possibly even undeveloped.

Methodology

We analyze the innovation sourcing mechanisms in a family business group. To reveal the nature of the sourcing within a family business group, we use a single-case study methodology (Yin, 1994; Eisenhardt, 1989) focusing on the innovations activities of an enterprising family owning and developing its family business group.

We examine the relationship between innovation sourcing and business group development through an in-depth longitudinal case study of a family business group. The case was selected based on three different reasons that supported and revealed the nature and development of innovation sourcing in the family business group. First, the preliminary research revealed that the firm had grown to group form through acquisitions and joint ventures, which mostly occurred due to existing innovations in different fields. Second, the entrepreneur's motivation for founding the firms in the group was based on combining different innovations and/or improving new services. Third, the family firm is over fifty years old and, at the time of the study, the founder was involved in various activities in the family business. A big challenge in

longitudinal research design is to acquire accurate data over time. Through in-depth interviews, we increased the likelihood of the accuracy of the information received, that is, the founding of the firm and its early development until the present day.

Data collection and analysis

One of the authors interviewed the firm's founder and owners and collected data through archival records between 2016 and 2017. The substantial secondary data (i.e., company history books and newspaper articles) were collected to shed light on the historical context within which the firm was founded.

We analyzed the data in a three-stage process. In the first stage, the case study data was organized into an event-based order by chronologically ordering the emergence of different companies in the family business group (see table 1). In the second stage, we tracked the motivations and roles of the founder and key actors in the company's emergence by integrating the secondary data with data drawn from the interviews. We examined the family business group's evolution over time, paying particular attention to the nature of the innovation sourcing in the different companies. In the final stage, we matched the build theory frame and empirical data by mapping different companies in table 1 based on their innovation nature and related them to the literature on family business innovation research and to our research question. During this process, we shifted between the data and theory until we had gone through all the companies in the group.

Case description

The family business was started in 1965 when the founder established Peikko Ltd. The development of the family business into a family business group started in 1966–1968 as a result of start-ups, joint ventures, and business acquisitions and, by 1985, the family had three different group structures, each in a holding model containing several branches. In addition, there were individual companies that were separate from the group structures, as their role was more to preserve the family wealth. Table 1 shows a breakdown of the family business group and its innovation sourcing.

Table 1. Innovation sourcing in the family business group from 1965–2017

COMPANY	TIME	OPERATION	MAIN DRIVER	TYPE OF INNOVATION	TYPE OF SOURCED KNOWLEDGE	LEVEL OF INTEGRATION
Peikko Group Ltd.	1965	Start-up, the creation of a new business	Business opportunity recognition, innovation	Metal structure for construction		Basis for a business group
Makron Ltd.	1966–1999	Start-up, the creation of a new business, restructuring, exit	Business opportunity recognition, innovation	Research-based innovation, license bought, new product, unrelated	Access, new products, new technology	No integration, basis for a business group
Ansasrauta Ltd.	1968	Acquisition	Strengthening business operations in Peikko	Metal structure for construction	New products, new competence	Full merger in Peikko Group
Leiron Ltd.	1979–1982	Acquisition, exit	Strengthening business operations in Peikko	Piles and rock tips	New competence	Full use in Peikko Group
Proplast Ltd.	1984–1994	Start-up, innovation, exit	Friendship, shareholder, personal interest, investments	IPRs related to plastics	Access to IPR	Synergy with Pexep in Makron Group
Pexep Ltd.	1984–1994	Start-up, production company, exit	Friendship, shareholder, personal interest, investments	Plastic products	New product	Synergy with Proplast
Fixron Ltd.	1985–1996	Start-up, the creation of a new business, exit	Business opportunity recognition, new product in construction industry	Wooden constructions	New product	No integration, business sold to Makron
Nostera Ltd.	1985–1997	Acquisition, exit	Innovation, strengthen business operations in Makron	New health care technology solution, new	New product	No integration, positioned in Makron

				business field, unrelated		
Ventipress Ltd.	1985–1991	Investment in different industry, exit	Innovation, strengthen business operations in Makron	Health care technological product, new business field, unrelated	New product	No integration, positioned in Makron
Plytec Ltd.	1986–2001	Acquisition, name changed, exit	Innovation, strengthen business operations in Makron	Plywood boards, new business field, unrelated	New product, new competence	No integration, positioned in Makron
Scanveir Ltd.	1985	Acquisition, exit	Strengthen business operations in Makron	Magnetic cranes, trademarks acquired, widening product range	New product, new competence	Partial integration, positioned in Makron
Eimo Plc.	1985–2003	Acquisition, public listing, exit	Business opportunity recognition	Mobile phone shells, new business field	New product, new competence	No integration, basis for a business group
M.J. Paasikivi Ltd	1987–1997	Acquisition, exit	Strengthening business in Makron	Casting letters for gravestones, new business field	New product, new competence	No integration, positioned in Makron
Lahden Teräteos Ltd.	1987–1996	Acquisition, exit	Strengthening business operations in Makron	Log machines, developing new technology	Access, new product	Technology was applied in Makron
MJV-Sähkö Ltd.	1988–2004	Acquisition, exit	Strengthening business operations in Makron	Electronics assembly business, related	New product, new competence	Merger with the Makron electronics dept.
Protim Ltd.	1989–1993	Acquisition, exit	Strengthening business operations in Makron	Plywood products, new products, unrelated	Access, new product	No integration, positioned in Makron
Deltatek Ltd.	1989–2002	Start-up, merger	Developing business operations in Peikko	Metal structure for construction, a major innovation, related	New product	Full integration into Peikko
Felpimet Ltd.	1989	Acquisition, merger	Strengthening business operations in Eimo Plc.	Increasing tool capacity, investment in resources	Access, new product	Merger to Eimo
Tasoplast Ltd.	1989	Acquisition, merger to Eimo	Strengthening business operations in Eimo Plc.	Plastic products, investment in resources	Access, new product	Merger to Eimo

Fickert & Winterlind Ltd.	1993–1999	Acquisition, controlled bankruptcy	Advancement of internationalization, cluster development	Stone machines, investment in resources	Access, new product	No integration, positioned in Makron
Aliko Ltd.	1995–2002	Acquisition	Strengthening business operations in Makron	Plate cutters and disk breakers, new products	Access, new product	Partial integration, positioned in Makron
Triple S Plastic Plc.	2001	Acquisition, exit	Compatibility problems and the intention to become the world leader in its field in Eimo Plc.	New production method, new skills for mobile phone production	New product, new competence	Merger to Eimo
Cim Precision Ltd.	2001	Acquisition, exit	The intention to become the world leader in its field	New production method, new skills for mobile phone production	New product, new competence	Merger to Eimo
Wiser Ltd.	2005	Start-up, new business field, exit	Personal interest of the founder, cleantech industry	Patents and innovations, new product development	Access	No integration, kept separate
Lahti Levy Ltd.	2007	Start-up	Personal interest of the founder	Nail plates, new product development	New product	No integration, kept separate

Currently, the family business is in the second generation with eleven owners. The family business has gone through major shifts from a single business in 1965 to a three business group–structure, ending with a one business group–structure with the additional wealth-preserving companies. With over thirty subsidiaries in thirty-two different countries, the Peikko business group focuses on the global construction business and supplies a large selection of concrete connections and composite beams for both precast and cast-in-situ solutions for a wide variety of applications. The business group’s turnover is around \$200 million, and it employs more than 1,700 employees.

Results and discussion

In the following section, we examine the innovation sourcing in the three holding structures (Peikko Group, Makron, and Eimo Plc.) separately.

Peikko Group

The innovation sourcing in the Peikko Group is an exemplary case of a focused, full integration innovation strategy. The acquisitions have been focused on supporting the product development of the construction business.

“In 1968, we bought our first competitor, Ansastrauta Ltd., which made iron pieces for construction purposes. The company itself was not interesting, but their product was—we bought their business.” (The founder)

With their innovation sourcing, the Peikko Group followed a conservative strategy, keeping the internal R&D costs low and managing risks by buying whole companies rather than controlling them through cooperation. The acquired businesses provided new products, but the business and the market remained the same.

“We bought the Leiron Ltd. business because it was close to the Peikko business; it manufactured rock tips for piling.” (The founder)

Though these companies were not directly merged with the Peikko company, their products and business operations were fully integrated with the main business. The competences and skills in the Ansastrauta and Leiron companies became central parts of the Peikko company’s core business.

“Deltatek Ltd. was first owned by Makron Ltd. It was set up for new product development. We set up a research group, which innovated a new kind of composite beam for constructions; this was a very profitable business for us. When the product was ready for production, we merged the company to the Peikko Group, as it better suited its [Deltatek Ltd.’s] business.” (The founder)

The Deltatek company was moved within the family holdings into a new position in the Peikko Group, as its product development operations were close to Peikko’s and, through this rearrangement, the integration of the operations was easier to conduct. This business group has been very successful and is growing fast internationally.

Makron Group

The innovation sourcing conducted through the Makron company is very different than that in the Peikko Group. These acquisitions are diversifying, and there is little or no synergy between the innovations. The group acquired a set of standalone products that were not integrated into the other business lines.

“Makron owned three separate companies (Proplast, Pexep, Propex), which supported each other and were established around a particular product. Pexep manufactured and developed cross-linked polyethylene pipes, Proplast owned all the patents in this business, and the production was done in a factory owned by Propex.” (1984) (The founder)

“We set up Nostera Ltd. (1985) for new product development; one company made surgery tables for hospitals, and then the other company made dentist chairs. We combined those two methods and invented a new chair for hairdressers.” (The founder)

“Paasikivi Ltd. was producing casting letters for gravestones—interesting business; I knew the owner, and I bought the company in 1987 when he retired. No synergy with our main business, but the profit in this business was really good.” (The founder)

The abovementioned acquisitions seem to be driven more by opportunism than systematic innovation strategy. This may be the reason why these product innovations were not integrated into the main business. They also reflect the founder/entrepreneur’s ability to move beyond the business boundaries. The entrepreneur was rather independent in his decisions and could apply the trial-and-error approach in his innovation sourcing activities.

Some of the acquired businesses represent a partial integration—the products supported the main business and, sometimes, the innovative solutions had major impacts on the main business. The common denominator between these cases was that the products and technologies were somewhat unfinished. The products’ further development clearly shows the high level of the business group’s absorptive capability.

“Scanveir (1985) we bought because their products supported our business; it made suction cups and magnet cranes.” (The founder)

“Lahden Teräteos Ltd. (1987) produced blades for woodworking machines—nothing very special—but they had some brilliant solutions for lock construction. Their products were a little bit unfinished; we developed them further and, soon, Makron became a major log machinery manufacturer.” (The founder)

The partial integration approach enabled the family business group to fully benefit from the sourced innovation without sacrificing the acquired businesses’ characteristics. The family has already made an exit from two of these companies, with only the Aliko company staying in the business portfolio.

The family also started up new businesses within the Makron Group.

“Fixtron was established in 1985 because we were thinking that, as we have a concrete connection business, we should also have a wood connection business. New products were developed for the nail plate business.” (The founder)

“We established MJV-Sähkö in 1988 to maintain our electricity generation; at that time, the electrical side was difficult, with all the different systems and agreements. We merged our own electric department to this company.” (The founder)

Eimo Group

The Eimo Group represents yet another form of innovation sourcing. Specializing in plastics, Eimo became a key player in developing and producing shells for cellular phones in the 1990s. Eimo followed the cellular business’ fast growth and went public in 2000.

“Tasoplast Ltd., Felpimet Ltd., and Teräs-Nailon Ltd. were bought in to Eimo to get more capacity to support our business, and we bought competitors out of the market as well.”(1989) (The founder)

“When Eimo was listed, we thought we can be a bigger player, so we started to negotiate with the American company Triple Plastic Plc. because they made the same product as Eimo. We bought and merged it to Eimo.”(2001) (The founder)

The acquisitions were few, but they represented more of a market development than a product development approach. In that sense, business acquisitions for Eimo were not about innovation sourcing.

Conclusions and future research directions

In this study, we analyzed the innovation sourcing activities within a family business group. The paper's main findings are summarized as follows: First, the enterprising family seems to organize its holdings in different groups, applying diverse approaches to innovation sourcing. This finding suggests that enterprising families may be more flexible in using different innovation strategies in parallel in their business groups than has been previously known. In addition, it seems that the use of different approaches is rather systematic through the years and across different cases of innovation sourcing. The three business group–structure provides the family with the possibility for more light innovative activities (cf. Nieto et al., 2015). That is, should new acquisition opportunities emerge, the family already has a business group, where this acquisition could be placed, even without clear synergies in sight.

Second, in its innovation sourcing, the enterprising family seems to prefer acquisitions over cooperation. Gaining full control of an interesting innovation is an effective way to manage risks in business. Having partners in the acquired business or only a minority ownership could mean a lowered ability to exploit the innovation (Le Breton-Miller and Miller, 2005) and would require sharing confidential information (Basly, 2007). While acquisitions often require more financial resources than cooperation, further studies are needed to analyze the different innovation sourcing strategies' effects on business performance.

Third, the analysis shows that the level of integration and synergy is very diverse in different groups. Nieto et al (2015) suggested that family businesses may have difficulties in their absorptive capacity for dealing with innovations and, thus, integrating sourced innovations would not benefit them. However, our case suggests that the new innovations' integration level is not related to ownership but more to the internal structures and logics of the group itself. In this sense, our study supports Mäkimattila et al.'s (2016) findings that the business group system may have inherent needs for innovation organization. The presented case and findings trigger a set of new research questions. The future research questions are condensed in table 2.

Table 2: Future research directions

Research direction	Topic/Main theme	Research Question(s)
1	Decision-making in innovation strategy	What is the owners' role in guiding innovation strategies in family business groups?
2	Performance in innovation sourcing	What is the relationship between the innovation strategies and business performance in family business groups?
3	Synergy in innovation sourcing	What is the relationship between innovation sourcing and business group diversification?
4	Open innovation	How could family business group innovation be understood in the frame of open innovation?

Our findings represent a step forward in developing a more complete view of the innovation in family businesses and especially in family business groups. Furthermore, our study brings new information about the relationship between innovation sourcing and the development of family business groups. Because our findings are based on a single case study, and the context of the case is unique, the generalizations we make from our research must be treated with caution.

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