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Knowledge Accumulation in Family Firms

Evidence from Four Case Studies

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The aim of this article is to make a contribution to the understanding of how knowledge can be accumulated in family business. Four family firms from Switzerland and Italy are part of this research. Existing literature combined with the case studies analysed lead to the development of a model that outlines factors responsible for knowledge accumulation viewed as an 'enabler of longevity' in family business. The relationships depicted in the model can be read by researchers as hypotheses and suggestions for further research, and by managers as possible factors needed to accumulate knowledge in order to be successful across generations.

KEYWORDS: education; experience; knowledge accumulation

Introduction

Knowledge that is viewed as relevant and actionable information based on experience and education (Cabrera-Suarez et al., 2001; Nonaka and Takeuchi, 1995), is a significant source of competitive advantage. This enables an organization to be innovative and remain competitive in the market. Knowledge originates in the heads of individuals and builds on information that is transformed and developed through personal beliefs, values, education and experience (Grant, 1996a; Nonaka, 1991, 1994; Nonaka and Takeuchi, 1995; Polany, 1958, 1967).

The literature clearly distinguishes between 'pure knowledge' (i.e. explicit knowledge) regarding the information and understanding of fundamental principles acquired through education; and 'skills' (i.e. tacit knowledge), which is, instead, the ability to apply the accumulated pure knowledge through the experience gained. Hence, skill is the ability to carry out a particular task or activity, especially because it has been practised, whereas pure knowledge is the information behind that skill (Berman et al., 2002; Nonaka and Takeuchi, 1995). In this respect, Krogh and Roosa (1995: 63) underline that, 'a person may have acquired a good theoretical understanding of carpentry, but the building of a house requires yet another knowledge, namely the skill of moving a hammer'. Our research mostly emphasizes tacit

knowledge because of its centrality within an organization (see Cabrera-Suarez et al., 2001; Grant, 1996a).

In contrast to the strategic management literature, there is a lack of systematic research on the construct of knowledge in family business.¹ We focus our attention on this particular form of business organization characterized by multiple family members who participate at the same time the family and business life, hence influencing in both positive and negative ways knowledge accumulation (KA) (see Cabrera-Suarez et al., 2001; Chirico and Salvato, forthcoming; Zahra et al., 2007). For the purpose of our research, knowledge is defined here as pure knowledge and skill, which family members have gained and developed through education and experience within and outside the organization. Specifically, our study is aimed at investigating *how* knowledge can be accumulated, i.e. created, shared and transferred so as to enable a family organization to survive across generations. Towards this end, we analyse four family firms from Italy (Alfa and Beta) and Switzerland (Gamma and Delta).

The article is organized as follows. After introducing knowledge as an enabler of longevity in family business, the methodology of the qualitative research conducted is presented. This is followed by a section that reports factors influencing KA. In this section we also transcribe the most significant quotations from the family-business members interviewed. The article concludes with the main findings and contributions of the study. Implications for research and practice are shared in the concluding section.

Knowledge as an Enabler of Longevity in Family Business

The knowledge-based theory identifies knowledge as the most fundamental asset of the firm that all other resources depend on (Grant, 1996a; Spender, 1996). Consequently, knowledge needs to be accumulated to generate value over time. This is a major challenge faced by any firm in everyday business life – especially by family firms when the new generation has to take over the business from a previous one (Cabrera-Suarez et al., 2001; Kellermanns and Eddleston, 2004). Succession is described as ‘the lengthiest strategic process for family firms’ (Barach and Ganitsky, 1995: 131). It is considered to be a slow multistage process that involves an increasing participation of the successor and a decreasing involvement of the predecessor until the real transfer takes place (Cabrera-Suarez et al., 2001; Churchill and Hatten, 1987; Motwani et al., 2006). Succession is so central and crucial to the existence of the family firm that Ward (1987) defines a family business as a business that will be passed on from generation to generation. It is argued here that family firms can perform well over time when the new generation is integrated into the family business and the transfer of knowledge from the previous generation to the next takes place. At the same time the new generation has to add new knowledge and offer new perspectives for the sustainability of the family firm across generations. Certainly, knowledge also needs to be shared between family members belonging to the same generation (Cabrera-Suarez, et al., 2001; Handler, 1992; Kellermanns et al., 2004; Zahra et al., 2007).

However, while succession has attracted considerable attention in the family-business literature (e.g. Barach and Ganitsky, 1995; Motwani et al., 2006; Tatoglu et al., 2008), the process through which knowledge is created, shared and transferred across generations has not been extensively studied. Understanding how knowledge is accumulated is important given that some studies indicate that only a third of family businesses successfully make the transition from each generation to the next, while only 5% of family firms are still creating value beyond the third generation (*The Economist*, 2004; Miller and Le Breton-Miller, 2005). A survey in the UK shows that only 30% of family businesses reach the second generation; less than two-thirds of those survive through the second generation; and only 13% of family businesses survive through the third generation (Bridge et al., 2003).

Researchers argue that recurring causes of small business failure fall under the general category of 'business incompetence' caused by lack of knowledge (see for example Carter and Van Auken, 2006; Gibb and Webb, 1980). Dun and Bradstreet (1991) reported that the main cause of business failure in the USA is 'management incompetence of the business owner'. Likewise, Gibb and Webb (1980) concluded that the primary failure determinants of over 200 bankrupt firms were lack of knowledge and 'inattention' by the management. Carroll (1983) also confirmed in a 'summary of empirical research on organization mortality' that the main cause of failure falls under the general categories of managerial incompetence and lack of experience.

Therefore, the statistics showing the failure of family firms after the second generation may be partially explained by the lack of capacity or willingness of family members involved in the succession to create, share and transfer knowledge from generation to generation (Cabrera-Suarez, et al., 2001; Koironen and Chirico, 2006; Le Breton-Miller et al., 2004; Zahra et al., 2007). Cabrera-Suarez et al. (2001: 39) remark that, 'family firm's specific knowledge, as well as the ability to create and transfer it, are considered a key strategic asset that may be positively associated with higher level of performance'.

Hence, knowledge can be seen as an 'enabler of longevity', i.e. as contributing to the survival of the family organization. Given its recognized importance, this article seeks to fill the existing gap in the family-business literature – related to the study of KA (see Cabrera-Suarez, et al., 2001; Chirico and Salvato, forthcoming) – through the development of a family-business knowledge model based on existing literature and four family-business case studies.

Methods

Research Design

McCollom (1990) posits that qualitative research is particularly appropriate to the study of family business. The research design of our research is qualitative multiple-case, embedded study. Multiple cases permit a replication logic where each case is viewed as an independent experiment that either confirms or does not the theoretical background and the new emerging insights. A replication logic yields more precise and generalizable results compared to single case studies

(Brown and Eisenhardt, 1997; Eisenhardt, 1989; Yin, 2003). We relied on informants at two levels of the generational hierarchy to yield a more accurate analysis. Moreover, the study conducted was improved by using several levels of analysis, i.e. an embedded design, including family, business and industry (Yin, 2003).

For the reasons explained later, we analysed two small private Italian family firms from Apulia (Alfa SPA) and Tuscany (Beta SA) respectively, and two small private Swiss family firms from canton 'A'² (Gamma SA and Delta SA). First, the four companies had the potential of yielding interesting insights based on commonalities and differences emerging from comparison among them (see Table 1). Second, they all belong to the beverage industry; in particular, the Alfa family firm belongs to the spirits industry, and the Beta, Gamma and Delta family firms belong to the wine industry. In those manufacturing sectors, which are dominant businesses both in Italy and Switzerland, the family-business knowledge and traditions have been especially important through generations. Finally, in each generation, family members of at least two generations have been always involved. Hence, this dataset is ideal for our study. Names given to firms and some other information have been disguised for confidentiality reasons. Table 1 reports the case studies used in this article and Appendix 1 the family-business trees.

Data Collection

Data were collected through personal interviews, questionnaires, secondary sources (newspapers, articles from magazines, company internal documents, company slide presentations, company press releases, company websites and company balance sheets), conversations and observations in 2005 and 2006. Semi-structured interviews were conducted separately with two respondents from each firm, an active family member of the current generation – Generation 3 (G3) – and another one of the previous generation – Generation 2 (G2) – chosen on the basis of their central role within the organization. Interviews were conducted during several formal and informal meetings with an average length of three hours. During informal meetings, we also had the opportunity to talk extensively with several other family and non-family members. After each interview the research team discussed its impressions and observations taking notes to crystallize ideas (see Bryman and Bell, 2007). The interviews were audio-recorded and transcribed verbatim within six hours after the interviews. Following Bryman and Bell's (2007) suggestions for the internal reliability of a study – i.e. whether or not, when there is more than one observer, members of the research team agree about what they see and hear – interviews were listened to by two or three members of the research team in order to check for consistency of interpretation.

The interviews were conducted in two parts. In the first part, open-ended questions were asked without telling respondents about the constructs of interest in the study in order not to influence them (e.g. family firm's history, crucial and critical events). They had the opportunity to relate their stories of how knowledge has been accumulated over time. During this phase, probing questions were asked to obtain more details related to the stories discussed by respondents. In the second

part, structured questions were asked about the accumulation process of knowledge across generations and the role played by specific factors (e.g. family relationships, working outside the family business, academic and practical training courses and so forth) on the process as a whole (Bryman and Bell, 2007). After the interviews, telephone calls were made to confirm our understanding of the answers given by the respondents. We recognize that the anonymity for companies and respondents encouraged sincerity and openness.

Data Analysis

Four separate extensive case studies were built from the data gathered from primary and secondary sources. First of all, an electronic database was created to store the transcribed responses given by informants. Following this, interview data were integrated with information from secondary sources to provide further background and help triangulate the data. Using two respondents from each firm and secondary sources, a case study was built for each site. Following Bryman and Bell's (2007: 413) recommendations, this process 'used each source of data, and each informant, as a check against the others'. Specifically, the use of two respondents from each firm allowed a comparison of the answers given by them; and the use of secondary sources enabled further confirmation of the information obtained by respondents. For instance, existing literature positively relates KA to product development and value creation (see for example Tsai, 2001). Thus, having access to companies' internal documents and companies' balance sheets helped us to assess KA also through the firms' product development and value creation (see Table 1).

Case descriptions were written independently of each other, to maintain the rigour of the replication logic. Guided by a theoretical framework based on existing literature (see for example Nonaka and Takeuchi, 1995), the conceptual insights emerged from the case studies. Whenever an insight emerged, reference was made back to the theoretical framework – thereby reading more relevant related literature – and back to the new insights. Results were consistent with the initial theoretical framework and they also helped integration of it. Hence, data analysis was undertaken using a combination of deductive and inductive methods. The whole process took about six months to complete. The approach was undertaken with cognisance of a growing body of methodological literature on case study research and cross-case analysis in order to perform cross-case comparisons looking for similarities and differences (see for example Eisenhardt, 1989; Miles and Huberman, 1994; Perren and Ram, 2004).

Finally, to ensure that there was a good match between observations and the theoretical ideas developed (i.e. internal validity), two techniques were used: respondent validation and triangulation (credibility, see Bryman and Bell, 2007: 411). Accordingly, the research findings were submitted to the respondents to ensure that there was a good correspondence between findings and the perspectives and experiences of the research participants (i.e. respondent validation). Moreover, as mentioned before, multiple sources of evidence (primary and secondary sources) were triangulated so as to improve the quality of the study conducted (see Eisenhardt, 1989; Miles and Huberman, 1994; Stake, 1995; Yin, 2003).

Table 1. Case Studies

Family Business	History
ALFA SPA	1840 was a milestone in the history of the Alfa family. It was in 1840 that Giuseppe Alfa, as a herbalist, improved the recipe for a liqueur inherited from his ancestors, creating an Elixir that has remained unchanged to this day. He called it <i>Elisir San Marzano</i> , taken from the name of the family's hometown, San Marzano (Taranto, Apulia, Italy). At the end of the 19th century, Giuseppe Alfa's son, Antonio, took over the artisan activity and turned it into an industrial business by starting a new factory in San Marzano. Hence, in this study we conventionally consider Antonio's generation as the first one (G1) in the history of the Alfas. In 1950, Antonio Alfa's sons, Attilio, Giuseppe, Valeria and Pietro (G2), took over the business. In 1964, they established a larger and more efficient factory, moving from San Marzano to Taranto. In the 1970s the company was incorporated into a new company (from SNC to SPA) and skilled non-family members were employed. The family firm's capital was, and still is, entirely owned by the four Alfa brothers (G3). Their sons have been working since the 1970s in the family firm and legally took over the business in 1997. They all sit on the Board of Directors. In 2005, Alfa had 40 employees and annual revenues of 11 million Euros. New products related and not related to the core business have been constantly conceived (with positive effects on the net income) according to customers' demand. Alfa produces or commercializes several kinds of liqueurs and several related products such as Bon Alfa, Baba of Elisir San Marzano and Astrello chocolate (the company 'Astrello Maestri di Cioccolato S.p.A' was acquired in 2005). Alfa's main market is Italy, but company products are also exported to the USA, Germany, Ireland, Australia and Japan.
Founded: 1840	
Latest active generation: 3rd ^b	
Industry: Beverage-Spirits	
Country: Italy	
BETA SA	From 19xx the involvement in agriculture and viticulture has been the predominant activity of the Beta family. Carlo Beta (G1) was the first to introduce in Tuscany the specialized cultivation of grapes such as chardonnay, pinot blanc, gris and noir, cabernet and merlot. Carlo's sons (G2), ran the business when he took over. They focused the company entirely on wine and found the best vineyard sites in Tuscany. The latest generation of Beta (G3) has been gradually taking increasing responsibility since the late 1990s. The product-line extension and diversification remarkably increased from G2 to G3. Net income has increased considerably in G3. Beta products are also exported abroad.
Founded: 19xx ^b	
Latest active generation: 3rd	
Industry: Beverage-Wine	
Country: Italy	

GAMMA SA**Founded:** 1944**Latest active generation:** 3rd**Industry:** Beverage-Wine**Country:** Switzerland

In 1944, Carlo Gamma (G1) founded the wine firm 'Carlo Gamma' in Switzerland. Since his sudden death in 1969, the firm has been run by his son, Claudio (G2). In 1975, Claudio bought the share of his sister, Milena. Claudio is currently CEO and Chairman of the Board. 70% of the capital is owned by him and 30% by his mother, Bice Gamma, who carries out managerial tasks (debt management) on a part-time basis. In 1997, Milena Gamma started working for the family firm as a part-time employee, managing Gamma Aziende Agricole SA. The latest generation (G3) is represented by Milena's son, Mattia, who was put in charge of Lucchini Giovanni SA and Tenuta Vallombrosa in 2003. The family firm is staffed with forty employees in production, administration, sales and vineyards. It owns 30 hectares of vineyards from which high quality wines are obtained. Cellars are located in the village of Lamone near Lugano, whereas vineyards are located in Comano (Vigneto ai Brughii), in Lamone (Tenuta San Zeno), in Vico Morcote (Castello di Morcote), in Gudo (Tenuta Terre di Gudo), in Neggio (San Domenico), and in Castelrotto (Tenuta Vallombrosa). The firm also produces olive oil, grappa and honey (product-line extension and diversification). The group is made up of two companies: Gamma Aziende Agricole SA, which is in charge of the agricultural side and Gamma Carlo Eredi SA, which deals with the commercial distribution of the products through a wine shop and a commercial network across Switzerland. Net income has increased across generations. Gamma products are also exported to Germany, the United Kingdom, Sweden, Russia, and the USA.

DELTA SA**Founded:** 19xx^b**Latest active generation:** 3rd**Industry:** Beverage-Wine**Country:** Switzerland

Mario Delta and Antonio Y founded the wine firm Delta & Y in 19xx in Switzerland. Their activity was initially limited to purchasing wine from local producers, blending and re-selling it to restaurants and tourists. Mario died in 19xx and Antonio retired a year later. Mario's sons, Fabio, Luigi and Stefano Delta took over the business. The company is currently owned by the three brothers and by Fabio's son, Carlo. The third generation is represented by Fabio, Luigi and Stefano Delta's sons. New products are rarely developed. An in-depth analysis of the firm's balance sheet shows that the net income has decreased in the last years. The commercial distribution of products is carried out through a wine shop and a commercial network in Switzerland. Delta products are not exported.

Notes: ^aWe consider only the last three generations of the Alfa family firm starting from the point when the artisan activity turned into an industrial business; ^bSome information is not available for confidentiality reasons.

Factors Influencing Knowledge Accumulation in Family Business

Knowledge, especially tacit knowledge, is hard to transfer; it is fragile and subject to decay or loss if it is not shared and passed on from generation to generation, for example, in the form of apprenticeship and mentoring. Pure knowledge can be more easily shared and transferred within a family firm through courses, manuals, procedures and so on. Instead, skill is invisible and highly personal: it needs more complex and longer processes to be shared and transferred (observation, face-to-face interaction, extensive personal contacts between family members and so on). Nonaka and Takeuchi (1995) point out that knowledge is created and then expanded through social interactions between tacit and explicit knowledge and individual and collective knowledge. Individual knowledge becomes part of the collective wisdom of the firm – i.e. organizational knowledge embedded in routines and processes – once it is shared and transferred over time (Nonaka, 1991; Nonaka and Takeuchi, 1995).

In a family business context, successors need to acquire knowledge from the previous generation but also add new knowledge gained through education and personal experience within and outside the family firm (Cabrera-Suarez et al., 2001; Kellermanns and Eddleston, 2004). An interesting comment has been made by Valeria Alfa from the Alfa family firm: ‘our success depends on the “knowledge” gathered and handed down through the generations and acquired from outside.’

As explained in the data analysis section, the iterative process – that is, one in which there is a movement backwards and forwards between theory and case studies – suggested that knowledge is best created, shared and transferred when family members involved in the succession strongly value the following factors: family relationships working within the family business; commitment and psychological ownership to the family business; academic courses and practical training courses outside the family business; working outside the family business; employing/using non-family members.

The following sections in this article highlight the factors that may enhance KA across generations. The most significant answers given by the interviewees are illustrated through quotations in order to enable the reader to gain a clear understanding of the issues discussed.

Family Relationships Working within the Family Business

Working within the family business is important in order to acquire experience and develop skills day by day. People make mistakes and learn how to solve problems. Intense kinship ties facilitate face-to-face interactions – within the family and the business – and help generations to work together before and during the transition process. Hence, KA may start at home within the family and continue through a career within the business (see Chirico and Salvato, forthcoming; Gersick et al., 1997; Zahra et al., 2007). Coleman (1988) analyses social capital as creator of human capital and Kusunoki et al. (1998) posit that the dynamic interaction of knowledge, as processes of KA, depends largely on the social context within the organization.

Tagiuri and Davis (1996) argue that the emotional involvement, the lifelong common history and the use of a private language in family businesses enhance communication between family members. First, this allows them to exchange

knowledge – especially tacit knowledge – more efficiently and with greater privacy compared to non-family businesses (Cabrera-Suarez et al., 2001; Tagiuri and Davis, 1996). Indeed, shared understanding between actors facilitates the sharing and transfer of knowledge tacitly held in their minds, which is usually hard to exchange since it can ‘only be observed through its application and acquired through practice’ (Grant, 1996b: 111). In particular, strong relationships between two generations positively contribute to the stage ‘training and development of the successors’ described by Churchill and Hatten (1987) in their four-stage model of succession (Chrisman et al., 1998). Second, family social relations allow family members to develop idiosyncratic knowledge that remains within the family and the business across generations (Bjuggren and Sund, 2001; Kellermans and Eddleston, 2004).

In successful multigenerational family firms, previous and subsequent generations exchange ideas and encourage mutual learning. Goldberg (1996) demonstrated the importance of ‘appropriate experience working together’ in his study of 63 family business CEOs. Effective successors had many more years of experience working in the family business than did the less effective group of his study.

This view is consistent with the comments from interviewees reported in Table 2.

Hence, having face-to-face family interactions and more generations that work well together help family members to create, share and transfer their knowledge. Offspring have the opportunity to learn directly from the old generation in a ‘learning-by-doing process’ how to run the family firm, and, specifically, all the ‘tricks of the trade’ related to the business. Hence, such interaction between generations should begin when offspring are growing up in order to ensure sufficient knowledge accumulation and not when they are about to take over the firm (Chrisman et al., 1998; Motwani et al., 2006). In doing so, each succession adds considerable new experience to the family firm.

Furthermore, family firms are often depicted as being high in trust, which is an important issue for social interactions. The greater the level of trust, the greater the level of openness (i.e. free flow of truthful information between family-business members) and the better the opportunities especially for tacit knowledge to be created, shared and transferred over time (Dyer, 1986; LaChapelle and Barnes, 1998; Lehman, 1992; Mayer et al., 1995; Steier, 2001; Tagiuri and Davis, 1996).

Quotations from interviewees provide insights regarding ‘trust’ are indicated in Table 3.

Commitment to the Family Business

A lack of commitment to the family business may negatively affect the knowledge accumulation process within the organization (see for example Barach and Ganitsky, 1995; Le Breton-Miller et al., 2004; Nonaka and Takeuchi, 1995; Sharma et al., 2001, 2003). Commitment is ‘a frame of mind ... that compels an individual towards a course of action of relevance to one or more targets’ (Sharma and Irving, 2005: 14). In organizational terms, it encompasses: personal belief and support of organizational goals and visions; willingness to contribute to the organization; and, desire for good relations with the organization (Carlock and Ward, 2001).

Table 2. Family Relationships Working within the Family Business

Family Business	Quotations from Interviewees
Alfa SPA	<p>Giuseppina Alfa (G3; Alfa S.p.A., Apulia, Italy): 'I have learned almost everything working within our family business, acquiring knowledge from the previous generation and developing and sharing it with the present generation. 'Overall Knowledge' has been acquired through experience working together across generations and within the same generation. My cousins and I worked for about 25–30 years in the family firm with the previous generation until 1997. We started with simple tasks, very boring sometimes but important in enabling us to understand better from the bottom up how to run the business and how to make it work. Every generation brings something more which creates value in the business. Our overall level of knowledge has increased through generations. We have grown up in the family firm as persons, managers and now owners. The second generation was able to teach us directly and indirectly all the tricks of the trade in production, administration and distribution. Our parents also taught us how to communicate and cooperate with each other and solve problems.'</p> <p>Valeria Alfa (G2; Alfa S.p.A., Apulia, Italy): 'The previous generation used to invite us to the meetings of the Board of Directors to teach us how to run the business. We govern our business with the same behavioural ethics of honesty and respect learned from the previous generation.'</p>
Beta SA	<p>Daniela Beta (G3; Beta SA, Tuscany, Italy): 'I have developed and acquired knowledge since I entered in 19xx. I have learnt a lot from the previous generation (including how to keep good family relationships within and outside the business) working close to them. I am also giving them back new knowledge and new approaches of how to do business in a market which changes quickly.'</p> <p>Filippo Beta (G2; Beta SA, Tuscany, Italy): 'Working closely within the organization and living within the family allowed us to develop strong relations between us. I personally view social interactions as enablers of knowledge accumulation which has increased across generations. We often talk about the importance of social capital and we built up our company with this sentence in mind: the more we talk, the more we know ... forever.'</p>
Gamma SA	<p>Mattia Gamma (G3; Gamma SA, Switzerland): 'I am acquiring and adding new knowledge working in the family firm day by day, in a learning-by-doing process. My uncle, Claudio is helping me a lot to achieve this goal and I know I am also giving him back my knowledge in business administration.'</p> <p>Claudio Gamma (G2; Gamma SA, Switzerland): 'The firm was small and not well developed in G1. I remember how I started working and now I know where I am. A lot of work has been done to achieve such results. I learned from my mistakes how to produce wine of high quality ... My nephew, Mattia is giving me great help. He is a very knowledgeable person who works hard for the business. We are learning a lot from each other and increasing the value of our company. Intense family relationships are essential to build, share and transfer knowledge in the long run.'</p>
Delta SA	<p>Carlo Delta (G3; Delta SA, Switzerland): 'My father had been working with my grandfather for 15 years learning all the 'tricks of the trade' from him ... I joined the business when I was 22 years old ... I have learned and I am still learning a lot from my father. The basis of my knowledge was learned at school but, of course working in the family firm allowed me to learn day by day how the business works and how to make it work better.'</p> <p>Stefano Delta (G2; Delta SA, Switzerland): 'Working efficiently together within the organization has always been our great power through knowledge sharing across generations. I am afraid that today the third generation is not well organized anymore. Conflicts arise too often.'</p>

Table 3. Trust Between Family Members

Family Business	Quotations from Interviewees
Alfa SPA	Giuseppina Alfa (G3): <i>The previous generation knew that relations among cousins are not easy sometimes. This is why they gave us some rules and we just respect them in order to avoid problems between us. We respect and trust each other (G3) thanks to the effort put in by the previous generation. Trust was, and still is, essential to work well together.</i>
Beta SA	Filippo Beta (G2): <i>We have always acted as a community. Trust among us is very high, that's why collaboration works very well. We do not fight but we discuss with each other, so that we manage to soothe disagreements.</i>
Gamma SA	Claudio Gamma (G2): <i>Trust is considered an important value enabler of cooperation and collaboration. We trust each other and work for the success of the firm.</i>
Delta SA	Carlo Delta (G3): <i>My father and my uncles (G2) were able to build a solid firm which has been growing since the 1960s. Trust was a key factor for their success. Nowadays, the business is divided into three parts: administration, production, and distribution. Each member of the third generation works with his father in a specific area of business. Our relations (i.e. between Carlo and his cousins) are not very good.</i> <i>Researchers' note:</i> Contrary to the Alfa, Beta and Gamma family firm, in the Delta family firm it seems that relations between family members (in particular, between Carlo and his cousins, G3) – needed for KA – are not strong. They do not trust each other so much: conflicts arise too often.

A family's effective commitment to the business concern refers to the extent to which family members desire the prosperity of the business and its perpetuation within the family (Sharma et al., 2001; Sharma and Irving, 2005). This may strongly have an impact on their behaviour so as to be willing to go above and beyond the call of responsibility and exert extra efforts on behalf of the family and the business to find a way to make KA possible. Thomas (2001) argues that not every family member can have the same degree of commitment and interest in the family business over time. Hence, although family members are depicted as being very emotionally committed to the family business, a family's commitment tends to decrease after the second or third generation when business problems usually arise (Astrachan et al., 2002; Tagiuri and Davis, 1996).

Excerpts from interviews regarding family commitment to the business are given in Table 4 (see in particular Carlo and Stefano Delta's speech).

Psychological Ownership of the Family Business

Pierce et al. (2001, 2003) refer to psychological ownership as a cognitive-affective condition that generates a psychological state of possessive feelings for an object that may also exist without legal ownership (Dittmar, 1992; Furby, 1980). The above concept has been applied in a family business context as the family members' possessive emotional feelings and attachment over the family organization with a strong sense of identity, belonging, responsibility and control over it (see Koiranen, 2006, 2007). Examples of psychological ownership are family members' strength

Table 4. Commitment to the Family Business

Family Business	Quotations from Interviewees
Alfa SPA	Giuseppina Alfa (G3): 'Commitment has always been very high. We work for the wealth of our business within the family.' Valeria Alfa (G2): 'There is an easy flow of knowledge within and between generations as it was in the past. The reason is that our family was and still is very committed to the business ... and it is happy within it.'
Beta SA	Daniela Beta (G3): 'I am very committed to the family business, I have been working within our organization since I was a child. The previous generation has shown me how important our business is and how many sacrifices are needed to keep it alive'. Filippo Beta (G2): 'We have been always very focused on our business and the third generation behaves the same. We communicate and exchange ideas with each other very easily because we are all very committed to the business and most importantly to keep it as a family business.'
Gamma SA	Mattia Gamma (G3): 'I need to work and learn more and more to make our business even bigger than it is today.' Claudio Gamma (G2): 'As for me ... the business is my life. I am very committed to it, as well as, my nephew, Mattia (G3).'
Delta SA	Carlo Delta (G3): 'Commitment to the business is one of the first things that family members must have. When I retire, I will need a successor (my cousin[s]) very committed to the business. I feel part of G2 and I do my best to share and transfer all my know-how to my cousins (G3) even though sometimes it is not easy because young people are more disorganised, less concentrated, and have a lot of interests.' Stefano Delta (G2): 'It appears to me that the third generation, except for Carlo, is not so committed to the business as we are.'

of identifying themselves with the family business, a sense of belonging to the family business and a strong feeling of responsibility and control over the family business. In particular, investing a lot of energy, time, money, and emotions in the family business is part of family members' identity and culture that increases their feeling of possession over the organization. The business becomes an extension of themselves with all family members acting in concert to sustain the continuity of the organization through the accumulation of knowledge across generations. The hope is that future generations will feel the same strong emotional attachment to the family business, which will make the creation, sharing and transfer process of knowledge easier (Reagans and McEvily, 2003).

Comments from interviewees regarding the psychological ownership of the business are as shown in Table 5.

Academic Courses and Practical Training Courses Outside the Family Business

Academic and practical training courses are a form of learning activity by which people, in this case the members of the family firm, can re-experience what others previously learned and have the opportunity to create new knowledge by combining their existing tacit knowledge with the knowledge of others (Nonaka and Takeuchi, 1995).

Table 5. Psychological Ownership of the Family Business

Family Business	Quotations from Interviewees
Alfa SPA	<p>Giuseppina Alfa (G3): 'The business has always been a big part of family members' life. I remember my father and uncles who used to spend 15 hours a day in the firm. Their life was the Alfa family firm. Nowadays, we still work hard and we are very emotionally attached to the family firm (product-line-extension, diversification, acquisition of Astrelino, etc.) but we also have time to enjoy our life. In addition, we are more specialized in our area and we are able to better control the business.'</p> <p>Valeria Alfa (G2): 'The business is an extension of ourselves. We are the business and the business is part of us. For this reason, we put all our efforts into transferring all our knowledge to the third generation.'</p>
Beta SA	<p>Daniela Beta (G3): 'The company life has been the main family members' interest across generations. I began visiting the company when I was around 12 years old ... entering the company was something gradual and natural.'</p> <p>Filippo Beta (G2): 'I feel personally responsible for my organization and I transmitted the same values to my sons and to my nephew. We and the business are the same things and we work hard for our and its success through knowledge accumulation across generations.'</p>
Gamma SA	<p>Mattia Gamma (G3): 'I feel responsible for the family firm and I work hard for its success.'</p> <p>Claudio Gamma (G2): 'I have been working all my life in the family firm, thereby acquiring and adding new knowledge – since 1968. I identify myself with the family firm. I feel part of it and a strong responsibility to it ... I follow the production of wine from the land to the label in order to guarantee the final product consumed by the customer.'</p>
Delta SA	<p>Carlo Delta (G3): 'I have been working for more than 30 years in the family firm. I do not have anything else than my business and I have given all my life to the business, I made a lot of sacrifices for it ... I feel this is my own place. I am glad when I go on holidays but I miss my place. It was the same in the second generation, with my father and uncles, and in the first generation with my grandfather. My father is 81 years old and he is still active in the business. The same is true of my uncles. I do not know about the future ... when I retire and my father and my uncles die ... "we will see" if the Delta firm will go on. Moreover, I am not married, I do not have children, and my cousins and their sons are not interested in the firm ... maybe the business will shut down after this generation.'</p> <p>Stefano Delta (G2): 'Our main interest has always been the wine business. This is the only thing we are able to do. We identify ourselves with the business. Carlo is a good example. Unfortunately, I cannot say the same about the third generation.'</p> <p>Researchers' note: Contrary to the Alfa, Beta and Gamma family firm, in the Delta family firm it appears that family members of G3 are not emotionally attached to the business (in particular, Carlo Delta's cousins). This negatively affects KA.</p>

Particularly, 'academic courses and practical training courses outside the family business' in schools, universities, firms, institutions, and so on, allow people to acquire 'pure knowledge' and develop 'skills' that, once brought into the family firm,

must be shared with and transferred to the other members of the firm. Conversely, ‘practical training courses within the family business’ allow people to acquire, share and transfer knowledge across generations (Barach and Ganitsky, 1995; Dyer, 1986; Goldberg, 1996; Le Breton-Miller et al., 2004; Ward, 1987). In small to medium-sized family businesses, practical training courses within a family firm can be simply translated into ‘activities of working together’ (Le Breton-Miller et al., 2004) by which members of the firm create, share and transfer knowledge – especially tacit knowledge – day by day often unconsciously (e.g. apprenticeship). For this reason, practical training courses within the family firm will be included in the box ‘family relationships working within the family business’ in Figure 1. Internal apprenticeship can be viewed as an excellent training in traditional industries that do not operate in environments of rapid change. Outside training is, instead, essential when the market changes very quickly.

Quotations from interviewees reflecting the importance of academic and practical training courses for KA in family business are reported in Table 6.

Table 6. Academic Courses and Practical Training Courses Outside the Family Business

<i>Family Business</i>	<i>Quotations from Interviewees</i>
Alfa SA Beta SA Gamma SA Delta SA	<i>Researchers’ note:</i> The managers of the family firms interviewed recognize that the basis of their knowledge has been developed at school. Dyer (1986, p. 27) believes that ‘the college or technical degree is the first hurdle that potential successors must overcome’. For instance, Valeria Alfa, Giuseppina Alfa and Filippo Beta have followed several specializations in Business Economics and Oenology. Daniela Beta has a degree in Economics and Communication and a Master in Business Administration. Claudio Gamma has a Diploma in Economics (Lugano) and a Diploma in Oenology (Lausanne). He has also followed several courses in continuing education at the University of Bordeaux (1989/90 - 2000). Carlo Delta has a Diploma in Economics (School of Geneva: École Supérieure de Commerce) and a Diploma in Viticulture and Enology (School of Lausanne: École Supérieure de viticulture et oéologie).
Alfa SPA	Giuseppina Alfa (G3): ‘Knowledge is also acquired through training courses within and outside the firm (in production, management, and so on) provided for family and non-family members, for managers and shop-floor workers.’
Beta SA	Filippo Beta (G2): ‘We have acquired our basic knowledge at school but training courses have been crucial to develop specific abilities, for instance in management and product-making. For instance, Daniela Beta followed three specific training courses in the last five years. Two courses in management and marketing and another one in product-making.’
Gamma SA	Claudio Gamma (G2): ‘My nephew (Mattia) did several internships in wine firms and will do another one abroad soon. Moreover, Mattia will attend a School of Oenology for two years (2007/2008) in order to improve his competencies and add new value to the family firm.’
Delta SA	Carlo Delta (G3): ‘We do not have training courses at the moment, even though I admit that they are important and especially needed in our firm since we operate in a dynamic market.’

Working Outside the Family Business

Working outside the family firm gives a more detached perspective over how to run and how to introduce changes and innovation in the business. Once acquired, knowledge needs to be shared and transferred over time. Brockhaus (2004) reported that many consultants recommend spending at least three to five years in another business. Experience outside the family firm helps the successor to develop a knowledge-base and a sense of identity. It prepares them for a wider range of problems that can occur later in the family business (Barach et al., 1988; Barach and Ganitsky, 1995; Correll, 1989; Le Breton-Miller et al., 2004). Ward (1987) argued that working outside the family firm is crucial because it gives offspring experience in developing new strategies, adding formal management systems and building new management teams in the business. He concludes that, 'gaining experience outside the business is one of the strongest recommendations that can be made for successors. In all our interviews, no one who worked outside the family business regretted doing so' (Ward, 1987: 60).

This view is consistent with the findings reported in Table 7.

Table 7. Working Outside the Family Business

Family Business	Quotations from Interviewees
Alfa SPA	<p>Giuseppina Alfa (G3): 'We have learned and we are still learning a lot from outside working experience. For instance, my nephew, Roberto, worked for other companies in order to acquire more experience before joining the Alfa family firm.'</p> <p>Valeria Alfa (G2): 'I remember my father who used to say that within the family you can learn a lot but it is never enough. You need to learn things also from outside so as to make your family even more knowledgeable.'</p>
Beta SA	<p>Daniela Beta (G3): 'I have worked in three different companies before entering in the family business. I have learnt things that I could not easily learn within our family organization. Sometimes, the family business over protects its 'children' and this is not always a good thing.'</p> <p>Filippo Beta (G2): 'We believe that working outside the family firm opens up new horizons and new ways of doing business. We always promote and encourage the new generation to have working experience outside the family business, especially before joining our business.'</p>
Gamma SA	<p>Mattia Gamma (G3): 'I have worked in several other firms before joining the family business. My uncle advised me to do this and today I can just thank him. It was great advice.'</p> <p>Claudio Gamma (G2): 'I worked for six months in a wine firm in Germany and for six months in a wine firm in Switzerland before starting the business. Such experiences have also taught me how to run my business.'</p>
Delta SA	<p>Carlo Delta (G3): 'If you want to learn something more, you have to leave home for a while. You need to go outside, have a different view of your business and of how to do business. I worked for nine months in a wine firm in South Africa and six months in a wine firm in Germany. Unfortunately, my cousins (G3) do not have work experiences outside the family firm.'</p> <p>Stefano Delta (G2): 'The dynamic market in which we compete forces us to acquire new knowledge from outside. Working outside the family business for a specific period is a good option to achieve this goal.'</p>

Employing/Using Non-family Members

Knowledge can be also acquired by employing/using non-family members who work for, or have relations with, the family firm. Hence, a family organization has to behave as an 'open system' that finds, exploits and organizes external resources not available within the family business in order to increase its opportunity advantages (Kaye, 1999; Lansberg, 1988; Le Breton-Miller et al., 2004; Westhead, 2003). Employing/using external members is a way of increasing the flexibility of the family firm (Malone, 1989; Ward, 1987).

This view is demonstrated in the findings reported in Table 8.

Discussion

From a practical point of view, this study – through the review of the literature and the case studies analysed – highlights the importance of some factors whose combination enables a family organization to accumulate knowledge across generations.

Some excerpts from interviews that highlight the role played by specific factors on KA are here indicated: – 'Intense family relationships are essential to build, share and transfer knowledge in the long run' (Claudio Gamma, G2; Table 2: Family Relationships Working within the Family Business); – 'There is an easy flow of knowledge within and between generations as it was in the past. The reason is that our family was and still is very committed to the business ... and it is happy within it' (Valeria Alfa, G2; Table 4: Commitment to the Family Business); – 'The business is an extension of ourselves. We are the business and the business is part of us. For this reason, we put all our efforts into transferring all our knowledge to the third generation' (Valeria Alfa, G2; Table 5: Psychological Ownership of the Family Business); – 'We have acquired our basic knowledge at school but training courses have been crucial to develop specific abilities, for instance in management and product-making' (Filippo Beta, G2; Table 6: Academic Courses and Practical Training Courses Outside the Family Business); – 'If you want to learn something more, you have to leave home for a while. You need to go outside, have a different view of your business and of how to do business' (Carlo Delta, G3; Table 7: Working Outside the Family Business); – 'I have personally learned a lot from external experts hired within our organization. They are a valuable contribution to our success' (Daniela Beta, G3; Table 8: Employing/using Non-family Members).

In particular, the Alfa and Beta family firms are in the third generation and they are both growing well (see Table 1). Family relationships and trust are still very high as well as commitment to and psychological ownership of the family business (see Tables 2–5). As noted by Giuseppina Alfa, 'the second generation did a great job of building and maintaining a positive and friendly environment within the family and the business. There is (and was) an easy flow of information within and between generations'. Daniela Beta also recalls the suggestions given by the previous generation about how to interact to each other to guarantee the family business's success. In addition, both the Alfa and Beta family firms also pay great attention to training courses, working outside the family firm and employing/using external family members (see Table 6–8). Indeed, respondents highlight the increase of knowledge across generations.

Table 8. Employing/using Non-family Members

Family Business	Quotations from Interviewees
Alfa SPA	<p>Giuseppina Alfa (G3): 'We have learned a lot from external experts who joined our business. I have personally acquired knowledge working with the new sales manager employed in the 1970s (Mr Franco Rovida, from the company Ramazzotti). Today, the sales director and managing director are non-family members. They are really an important asset ... Knowledge in creating blends of liqueurs (product-line-extension and diversification) and in management improved with the third generation and with the new, skilled non-family members employed in the 1970s. Our family firm also resorts to, and benefits from, consultants. The family firm has always been open to acquiring skills from outside, but never more than today.'</p> <p>Valeria Alfa (G2): 'Some entrepreneurs from the South of Italy think they know everything; but it is not possible. External assistance is needed. We continually invest money in acquiring knowledge from outside. Research was and still is important. The best place in which research can develop is the university. We have good relations with some universities and we draw advantage from their studies and surveys into our sector, into what we produce. For instance, we are cooperating with a Professor on the creation of new products.'</p>
Beta SA	<p>Daniela Beta (G3): 'I have personally learned a lot from external experts hired within our organization. They are a valuable contribution to our success.'</p> <p>Filippo Beta (G2): 'The previous generation taught us that it is not possible to develop all the relevant knowledge within an organization. My father was convinced that capable people are the key for sustainable success ... he hired young and brilliant professionals to bring in new energy and ideas. We do the same today.'</p>
Gamma SA	<p>Mattia Gamma (G3): 'Strong relations are established with research centres, universities (a professor of the University of Bordeaux follows the tasting of wines every two years. Research has been conducted in order to learn how to produce high-quality young wine and white wine from red grapes) and specialists in management (e.g. an Italian specialist of sales and marketing every week helps us to increase sales. We are acquiring new competences in management through this kind of cooperation. The cost was about 30,000 Swiss francs).'</p> <p>Claudio Gamma (G2): 'Knowledge is also acquired from outside the family. We have an engineer who is responsible for the vineyards and an expert oenologist who is responsible for the cellar.'</p>
Delta SA	<p>Carlo Delta (G3): 'More external help would be helpful for our organization.'</p> <p>Stefano Delta (G2): 'Today, we rely more on internal human resources.'</p> <p>Researchers' note: Contrary to the Alfa, Beta and Gamma family firm, in the Delta family firm although the importance of training courses is recognized, as are working outside the family business and employing/using non-family members for KA, these factors are not taken into great consideration.</p>

The Gamma family firm is in the third generation and it, too, is growing well (see Table 1). All factors influencing the creation, sharing and transfer process of knowledge are very high, as can be interpreted through the comments recorded in this paper (see Tables 2–8). Power is centralized under Claudio Gamma who appears to be good at directing and controlling the family firm and at distributing

rights and responsibilities to family members. According to Claudio Gamma's comments, knowledge has been increasing in the third generation. For instance, Claudio Gamma recognizes that his nephew, Mattia, is acquiring and adding new knowledge by working in the family firm day by day, in a learning-by-doing process. Mattia seems to be very committed to the family firm and works hard for it. He did several internships in wine firms and will attend a School of Oenology for two years in order to improve his competencies and add new value to the family firm.

In contrast with Astrachan et al. (2002), the Alfa, Beta and Gamma family firms are still very committed and proactive for the wealth of the family business although they have passed the second generation. For instance, Giuseppina Alfa underlines that 'the history of Alfa entrepreneurs is continuing. After the second generation family businesses usually start to maintain what they already have. We did the opposite by starting the product line-extension and the diversification of our products (which are both knowledge-based), and by acquiring a new company, the Astrello Maestri di Cioccolato, S.p.A'.

Finally, the Delta family firm is in the third generation and problems are growing mainly because of the low degree of commitment and psychological ownership of third generation family members, and the weak relationships between them (in particular, between Carlo Delta and his cousins, G3; see Tables 2–5). In addition, although the Delta family firm is aware of the importance of training courses, working outside the family business and employing/using non-family members for KA, these factors are not taken into great consideration (see Tables 6–8).

Carlo Delta, who considers himself part of the second rather than the third generation, remarks that, 'most of the knowledge is in the hands of the second generation'. He also adds that 'I am committed to the wine business; I have acquired new knowledge in business and wine making ... I have participated in different conferences related to the wine market in the last twenty years ... It is important to know how the grapes grow and how to take the best from them in wine making'. However, Carlo, as well as Stefano Delta, does not believe that his cousins (G3) are emotionally attached to the family business (see Tables 4 and 5). He underlines: 'My cousins do not own the business but simply work for it.' The ownership of the family firm is, indeed, in the hands of the second generation including Carlo Delta. Further, each member of the third generation works with his father in a specific area of the business. It appears that trust and relations between Carlo and his cousins are not strong (see Tables 2 and 3) and, as a result, the sharing and transfer process of knowledge is not easy to realize.

The future appears to be very uncertain and knowledge is likely to be lost with Carlo Delta's retirement. Indeed, Carlo Delta seems to be quite sceptical about the continuity of the family firm after his retirement. He underlines that he usually does his best to share and transfer his know-how to his cousins (G3). But he also admits that this is not an easy task to accomplish because his cousins are not committed enough to the family business. He concludes that: 'I am not married, I do not have children, and my cousins and their sons are not interested in the firm ... maybe the business will shut down after this generation.' Stefano Delta seems to have the same preoccupations about the future of the company.

Additionally, we noted that while few family members belong to G3 in the Alfa, Beta and Gamma family firms, seven family members belong to G3 in the Delta family firm (see Appendix 1). Consistent with existing literature, potential relationship conflicts (Kellermanns and Eddleston, 2004) between family members may easily arise especially when a lot of family members work in the business (see Motwani et al., 2006). In other words, relationships between individuals are difficult and may become even more complicated when a lot of members are involved. Hence, the high number of family members belonging to G3 in the Delta family firm may have facilitated the emergence of relationship conflicts between them, thereby weakening their family relationships and their emotional attachment to the business.

Conflicts make family members unhappy with the family group in which they work, thereby tending not to take advantages from the joint utilization of their knowledge (see Kellermanns and Eddleston, 2004). In this respect, Eisenhardt and Zbaracki (1992) note that emotional disagreements between organizational members prevent KA over time. The comments reported in this article (e.g. Stefano Delta remarks that in G3 'conflicts arise too often', see Table 2) show that conflicts between Carlo Delta and his cousins (G3) – most likely driven by Carlo's power and his long presence within the firm compared to his cousins – have generated tension, irritation and resentment between them, thereby negatively affecting KA. Additionally, contrary to the Alfa, Beta and Gamma family firms, the second generation of the Delta family firm has not been able to soothe disagreements and teach the third generations how to cooperate with each other to solve problems.

Conclusions

The purpose of the present research was to make a contribution to the understanding of how knowledge can be accumulated in family business. Towards this end, we relied on a case study approach which, 'has been shown to be a worthwhile method that is gaining increasing acceptance' (Perren and Ram, 2004: 94).

An analysis of the existing literature, the words of the respondents and the secondary sources in this research, lead to the development of the family-business knowledge model as depicted in Figure 1. It summarizes the concepts and relationships presented in this research. KA is viewed as an 'enabler of longevity' in family business in which learning emerges through an evolutionary process that begins in the family and continues within and outside the business. Accordingly, the family involvement makes KA distinctive in this type of organization. At the bottom of the model are the *emotional factors* that positively influence the accumulation process of knowledge within the organization: family relationships working within the family business – fuelled by trust between family members – and commitment and psychological ownership to the family business. At the top of the model lie the *openness factors* that positively influence the acquisition of knowledge from outside the organization: academic courses and practical training courses outside the family business; working outside the family business; and employing/using non-family members.

To sum up, the four case studies highlight the importance of specific factors whose combination enhances knowledge across generations even though it does not imply that all of them are essential or have the same amount of importance. For instance, Valeria Alfa says: 'Learning-by-doing is (and was) more important than academic courses in our company.' The cases show that those family firms open to the external environment and, most importantly, characterized by intense family relationships and high levels of family members' emotional attachment to the business, are more likely to accumulate knowledge and survive across generations.

Limitations

Although an important first step in relating KA to a family-business context, we recognize that our study inevitably has some limitations. First of all, although we have chosen our respondents on the basis of their central role within the organization and we did our best to triangulate interview data with secondary sources, part of our results may be biased by respondents' subjective perception and retrospective rationalization.

Second, the study did not take into consideration the possible reluctance of the previous generation to accept new knowledge and management approaches (Lansberg, 1988) and the possible reluctance of the new generation to recognize the previous work and knowledge brought by the previous generation (Kellermanns and Eddleston, 2004; Westhead, 2003). Successful multigenerational family firms are those in which the previous and following generation communicate to each other, exchange ideas, offer feedback and support mutual learning.

Finally, this article is based on case studies and thus, the model represented in figure 1 cannot be generalized to all family businesses, although its external validity can be improved by introducing other case studies to the research. Through our convenience sample (see Bryman and Bell, 2007), the intent was to focus the attention of family-business researchers and practitioners on the knowledge issue, which appears to be of great importance to family firms.

Contributions

Despite these limitations, some preliminary contributions to the literature clearly emerge. First of all, our research is an endeavour directed to studying how knowledge can be accumulated in family business over time. While the construct of knowledge has received considerable research attention in the strategic management literature (e.g. Berman et al., 2002; Nonaka, 1994), and to a lesser extent SMEs (Hutchinson and Quintas, 2008), surprisingly little has have been devoted to the study of knowledge in family firms (e.g. Cabrera-Suarez et al., 2001; Chirico and Salvato, forthcoming). Consequently, specifying factors that affect KA allowed us to expand existing research on family business and offer new insights for future research. In particular, our study underlines the importance of intense family relationships for KA. In this respect, Sharma (2004: 13) remarks that 'a supportive relationship characterised by mutual respect enables the smooth transition of knowledge' across generations.

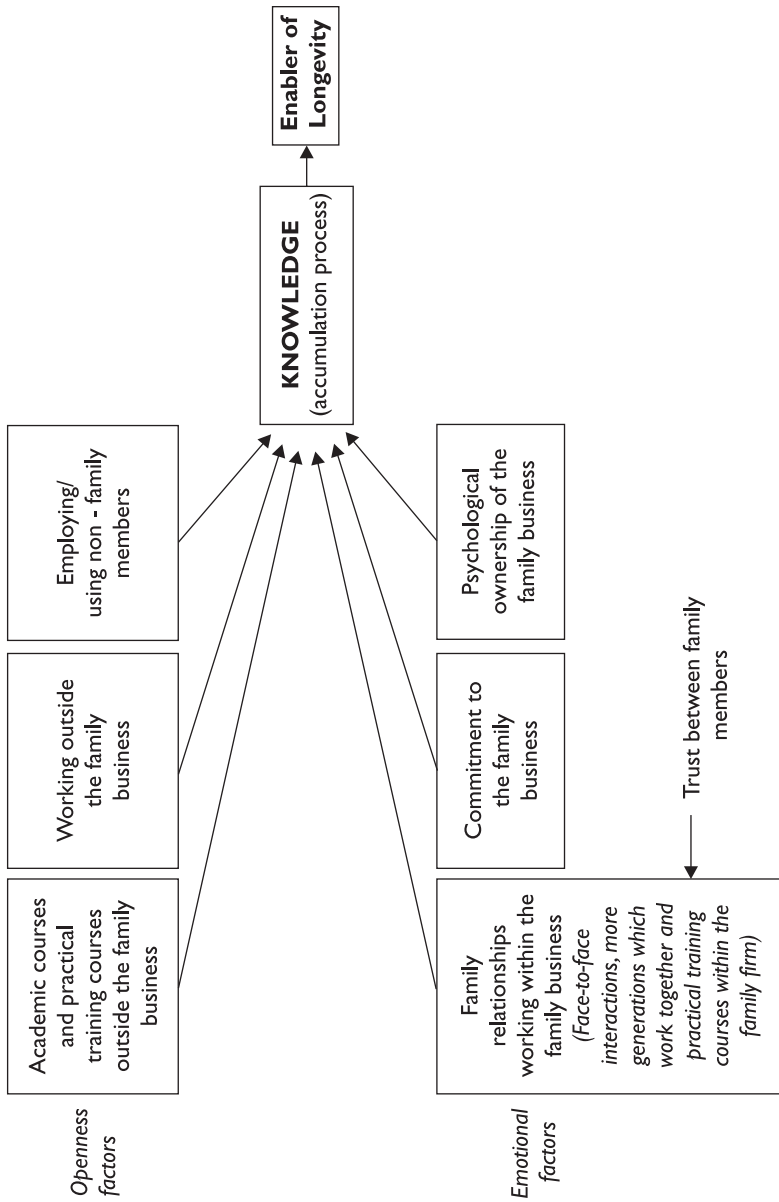


Figure 1. The Family-business Knowledge Model

However, the literature on the topic is fragmented both in the strategic management and family-business literature, as it deals with different components of KA. This article sought to pull together some of the existing literature and primary data.

Research Implications

This article may be regarded as a point of departure for guiding and pushing forward further theoretical and empirical research. Empirical studies are clearly needed to test, on a large representative sample, the model in Figure 1 so as to measure the effect and weight of each factor on the accumulation process of knowledge as well as their effect on trans-generational value creation. Non-family firms might be also analysed so as to compare if, definitively, the model presented is exclusive to family firms or not.

We strongly invite others to propose ways in which our model may be advanced to better account for research findings. For instance, future studies could focus on the importance of different forms of knowledge – e.g. knowledge in product-making, management, governance – and how KA changes on the basis of the market in which a firm operates (Westhead, 2003). Interrelationships among the six factors influencing KA in Figure 1 may be also worth being explored.

Additionally, KA is likely to be influenced by more than the six factors researched in this study. Accordingly, other relevant dimensions – such as relationship conflicts or entrepreneurial orientation – could be also included in the study. In particular, the phenomenon of nepotism hampering a family firm's opportunity to employ outsiders' knowledge may be also taken into account.

Additional studies may be also directed at investigating the role of the family-business culture on KA (Dyer, 1986). This can confirm or not the general assumption that an organization's ability to implement and achieve the best benefits from KA depends in part on how well it creates and maintains a culture that minimizes resistance behaviour and encourages acceptance and support during the accumulation process of knowledge. In particular, future research could investigate the impact of different national cultures on the mechanisms illustrated in our model (see O'Regan and Ghobadian, 2006).

Finally, further research can also focus on the specific aspect of knowledge creation or sharing or transfer and build a more detailed model accordingly.

Implications for Practice

Our results may have practical implications for family business management. First, it is essential to understand that effective KA is important for the family business's survival across generations. To achieve this goal, family members have to support open and collaborative exchanges of information, free from bureaucratic constraints. Accordingly, social relations that are essential for KA need to be 'multifaceted so that there is always room for revision or negation' and 'participants in the dialogue should be able to express their own ideas freely and candidly' (Nonaka, 1994: 25). Genuine family relations create a sense of belonging to the business in which the business is a part of the individual and the individual is a part of the business. Thus, all members act in concert to sustain the continuity of the family organization through KA.

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Notes

1. A family business is here defined as a company in which a family controls the largest block of shares, has one or more of its members in key management positions, and members of more than one generation actively involved within the business (see Miller and Le Breton-Miller, 2005; Westhead and Cowling, 1998; Zahra et al., 2007).
2. Some information is not available for confidentiality reasons.

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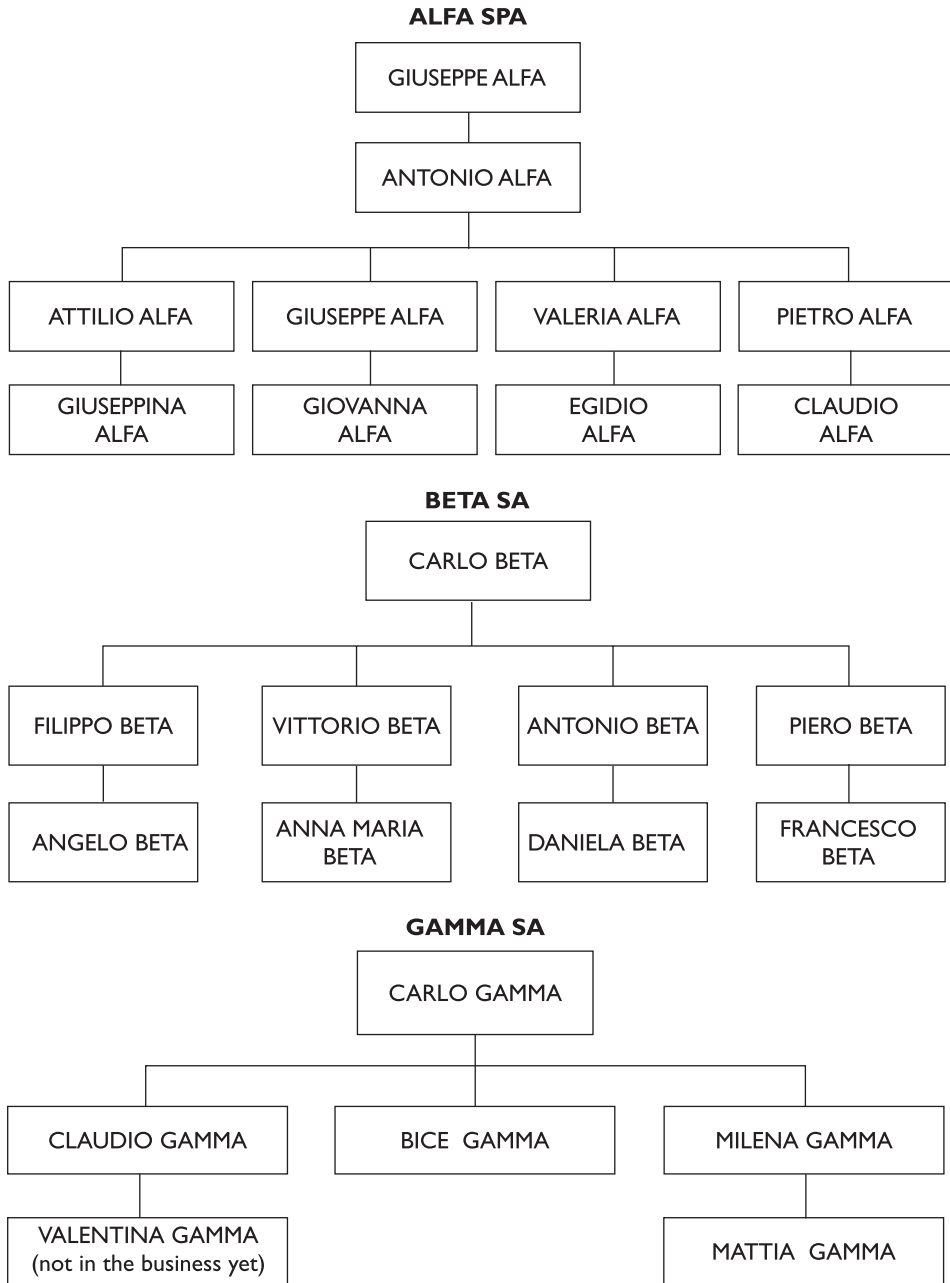
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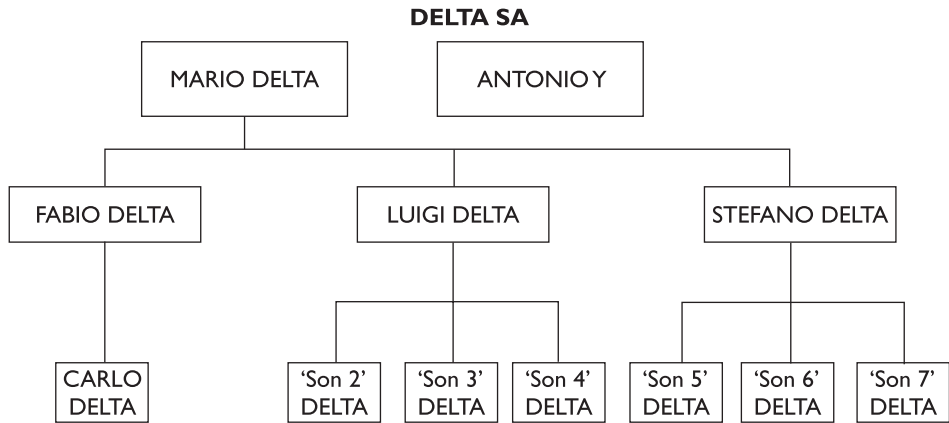
Appendix 1

Family-business Trees



(Appendix 1 continued)

(Appendix 1 continued)



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Cumul des connaissances dans les entreprises familiales

Évidence de quatre études de cas

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Le but que se propose le présent article est d'aider à mieux faire comprendre comment il est possible d'accumuler les connaissances au sein d'une entreprise familiale. Quatre entreprises familiales, de Suisse et d'Italie, ont accepté de participer à cette étude. La documentation existante, renforcée par l'analyse de ces études de cas, a abouti à la mise en place d'un modèle de connaissances mettant en valeur les facteurs responsables du cumul des connaissances que l'on considère comme un "catalyseur de longévité" dans une entreprise familiale. Les chercheurs peuvent interpréter les relations décrites dans ce modèle comme des hypothèses et des suggestions ouvertes à des études futures, et les dirigeants d'entreprise – quant à eux – comme des éléments indispensables au cumul des connaissances pour maintenir la réussite de l'entreprise sur plusieurs générations.

Mots clés: Éducation – Expérience – Cumul des connaissances

Acumulación de conocimientos en las empresas familiares

Pruebas de cuatro estudios de casos prácticos

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El objetivo del presente artículo es hacer una aportación al entendimiento de cómo se pueden acumular conocimientos en una empresa familiar. En esta investigación tomaron parte cuatro empresas familiares suizas e italianas. La documentación existente combinada con los estudios de casos analizados llevó al desarrollo de un modelo de conocimientos que traza los factores responsables de la acumulación de conocimientos que son considerados como un 'instrumental de longevidad' en la empresa familiar. Las relaciones descritas en el modelo pueden ser interpretadas por los investigadores como hipótesis y sugerencias para nuevas investigaciones y por los directores como posibles factores para acumular los conocimientos necesarios para mantener el éxito entre generaciones.

Palabras clave: Educación; experiencia; acumulación de conocimientos.

Wissenskumulierung in Familienunternehmen

Nachweise aus vier Fallstudien

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Das Ziel der vorliegenden Studie ist, einen Beitrag zum Verständnis über die Möglichkeiten der Wissenskumulation in Familienunternehmen zu leisten. Vier Familienbetriebe in der Schweiz und Italien waren Teil dieser Untersuchung. Existierende Literatur und die analysierten Fallstudien führten zur Entwicklung eines Wissensmodells, das die für die Wissenskumulation verantwortlichen Faktoren darstellt, die als ein „Wegbereiter für Langlebigkeit“ in Familienunternehmen fungieren. Die Beziehungen, die in diesem

Modell dargestellt werden, können von Forschern als Hypothesen und Vorschläge für weitere Untersuchungen gelesen werden, und von Managern als mögliche benötigte Faktoren für die Wissensakkumulation, um über Generationen hinweg erfolgreich zu bleiben.

Schlüsselwörter: Bildung; Erfahrung; Wissensakkumulation

家庭企业的知识积累：来自四个案例的实证

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本课题的目的是对了解家庭企业知识是怎样被积累的这一研究领域里做出贡献。四个瑞士和意大利家庭企业参与了该研究课题。基于现有文献和案例分析，作者建立了一个家庭企业知识积累模型。该模型概述家庭企业中知识积累的因素：‘长寿助成者’。对于研究人员来说，模型所描述的关系可被看作假设和对未来研究的建议。对企业管理人员来说，这些关系可被看作是累积知识必需的可能因素，以便家庭企业代代成功。

关键词: 教育；经验；知识积累