Knowledge integration in family firms: Understanding the nexus between familiness and organizational effectiveness

Abstract

Whilst knowledge integration has been deemed as relevant for the development and survival of family firms, prior studies suggest that the lack of skills to combine and transfer incumbent family members' knowledge within the family may hinder family firms' organizational effectiveness. Knowledge integration, in this context, might depend on family involvement in ownership, management and governance, and family essence, considering the emotional and relational aspects of the influence the family exerts onto the business. Relying on knowledge-based view and dynamic capabilities perspectives, we propose a model suggesting that knowledge integration intervenes in the relationship between familiness and organizational effectiveness. Our hypotheses are tested on a sample of 102 private Spanish family businesses. The results reveal that familiness is beneficial for knowledge integration, enhancing family firms' organizational effectiveness. Our study provides practical implications for family business owners and managers, and opportunities for further research.

Keywords. Family business, knowledge integration, familiness, dynamic capabilities, organizational effectiveness

Introduction

Family firms integrate knowledge to survive and thrive across generations; yet we still know little about how such integration influences organizational effectiveness. Knowledge, that is, relevant and actionable information (Leonard and Sensiper, 1998) based on experience and education (Chirico, 2008), is generated in the interactions with others and with the immediate environment (Pittino et al., 2018). In family firms, knowledge is generated through a process where family and business dynamics are intertwined (Su and Daspit, 2022), becoming socially complex and hard to imitate (Del Giudice, 2011; Ge and Campopiano, 2021; Hadjielias et al., 2021). Yet, family firms also depend on new knowledge and the ability to integrate it within the organization to sustain dynamic capabilities (Chirico and Salvato, 2008). Knowledge integration, which involves active work to overcome the obstacles associated with the presence of diverse sets of knowledge in organizations (Barley et al., 2018), ensures continuous improvement of organizational processes (Chua et al., 2018). Knowledge integration affects organizational effectiveness, that is, the extent to which firms develop permanent activities and organizational processes to gain and maintain a sustainable competitive advantage (Patel and Fiet, 2011; Zheng et al., 2010). Nevertheless, there is a limited number of studies on knowledge management of family firms, in particular when it relates to how knowledge is integrated (Su and Daspit, 2022).

Recent studies suggest that one approach to begin unpacking knowledge integration relates to familiness (e.g., Su and Daspit, 2022). Familiness represents 'the unique bundle of resources a particular firm has because of the systems interaction between the family, its individual members, and the business' (Habbershon and Williams, 1999, p. 11). Familiness has been discussed in terms of family involvement and essence, which affect entrepreneurial and strategic decisions (Cano-Rubio et al., 2021; Daspit et al., 2019; Glyptis et al., 2021; Jocic et al., 2021; Pearson et al., 2008). Whilst family involvement influences how family relationships and participation affects the way a firm operates (De Massis et al., 2012), its essence represents the set of family values, emotions and the emotional commitment of family members with the firm (Verbeke and Kano, 2012). Both family involvement and essence may affect the effectiveness of a firm (Chua et al., 2012). Yet, we still know little about how familiness influences the way diverse forms of knowledge can be synthetized into a common shared view, which can influence organizational effectiveness (Cabrera-Suarez et al., 2018; Del Giudice et al., 2011). Thus, we aim at addressing the following research questions: *How does familiness influence the quest for competitive advantage of family firms?* And more specifically, *How does knowledge integration affect organizational effectiveness of family firms?*

This study integrates the knowledge-based view and dynamic capabilities approach (Cabrera-Suarez et al., 2018), and theorise that family involvement and essence help orchestrate the resources (e.g., relational, emotional, physical, organisational) available in the family business (Chirico et al., 2011), which can determine organizational effectiveness. Moreover, we propose that knowledge integration plays a vital role as a key mechanism in the relationship between familiness and organizational effectiveness. Thus, we highlight that the integration of expertise and dedicated knowledge of family members as shareholders and executives can allow a family firm to adjust its skills to environmental changes (Chirico and Salvato, 2008, 2016; Pittino et al., 2018; Zahra et al., 2007; Zollo and Winter, 2002), and promote organizational effectiveness, e.g., promote client-based problem-solving and define decision-making protocols (Teece, 2007).

To address our research question, we test our hypotheses on a sample of 102 private Spanish family firms using structural equation modeling (PLS-SEM). Our findings reveal that relationships and affective commitment of family members play a significant role in explaining organizational effectiveness. Thus, we find evidence that closeness and communication of family members, i.e., how familiness influences the firm, contribute to our understanding about the role of knowledge integration in explaining organizational effectiveness (Cabrera-Suarez et al., 2018).

Our study offers three main contributions. First, our findings extend our understanding of familiness in recent conversations about family influences on firms (Cano-Rubio et al., 2021; Daspit et al., 2019; Frank et al., 2017; Habbershon and Williams, 1999; Jocic et al., 2021), considering the effect of both family involvement and essence on knowledge integration and, in turn, organizational effectiveness. Second, we contribute to the knowledge management debate in family firms (Arzubiaga, De Massis, Kammerlander and Hoy, 2022; Ge and Campopiano, 2022; Su and Daspit, 2022), highlighting how knowledge integration is a key mechanism in the relationship between familiness and organizational effectiveness (Chirico, 2008; Daspit et al., 2019; Pittino et al., 2018). Finally, we offer insights on the complementarity of a knowledge-based view intertwined with a dynamic capabilities approach (Cabrera-Suárez et al., 2018; Cano-Rubio et al., 2021). Taken together, we suggest that familiness endows the family firm with resources and capabilities needed to integrate knowledge relevant for organisational effectiveness.

The remainder of the study continues as follows, first a focus on a literature review in terms of knowledge integration, then a focus on the context and method of the study, followed by the analysis and findings. We conclude with a discussion and implications for theory and practice prior to suggesting avenues for future research

Knowledge integration in family firms

Knowledge is the basis of firm sustainable competitive advantage due to its idiosyncratic characteristics and the difficulties associated with its transfer and replication (Grant, 1991). Knowledge management allows organizational routines to be developed, thus engendering, extending or changing firm resources (Helfat et al., 2007), and fostering the creation and development of dynamic capabilities (Zollo and Winter, 2002). Knowledge integration, regarded as a collective stage of the knowledge management process that consists of the recombination of individual specialized knowledge (Chirico and Salvato, 2008), is a consequence of repeated interactions between individuals and can therefore be accomplished more efficiently when individuals share a collective or common identity (Kogut and Zander, 1992). It allows firms to leverage opportunities in the environment and make them fruitful and viable initiatives for the firm (Eisenhardt and Martin, 2000).

Knowledge management is a critical factor for family business (Su and Daspit, 2022), especially considering their long-term orientation to hand the business over to future generations (Ge and Campopiano, 2022). The management of knowledge and, in particular, knowledge integration can provide incumbent and future generations with an advantage in business competition (Howorth and Robinson, 2020). In general management, knowledge integration is deemed a critical step of the broader knowledge management process (Barley et al., 2018), which is idiosyncratic in family businesses. In family firms, prior studies suggest that family members may significantly influence knowledge integration in positive and negative ways (Del Giudice et al., 2011; Hadjielias et al., 2021). In family firms, knowledge is mostly intended to be passed through intergenerational interaction and succession (Cabrera-Suárez et al., 2018) and to remain within the family in business over time (Chirico and Salvato, 2016). Family members' common history and language and their close personal bonds promote communication and group work, leading to knowledge transference, combination, and integration (Zahra et al., 2007). Su and Daspit (2022) suggest a series of guidelines for future research related to knowledge management in family businesses associated to background, outcomes and moderators. Chirico and Salvato (2008) argue that knowledge integration in family firms is made of three aspects: Internal social capital, affective commitment, and relationship conflicts.

First, internal social capital is represented by a common vision, rules, and mutual trust shared by family members (Carr et al., 2011); it promotes information exchange among family members and the recombination of their expertise and specific knowledge (Chirico and Salvato, 2008). Second, affective commitment, considered as a mental model that unites an individual to a relevant strategy implemented to meet an objective (Sharma and Irving, 2005), reflects the will of family members to share and integrate their knowledge in the firm (Allen and Meyer, 1990). Finally, relationship conflicts occur when interpersonal incompatibilities take place among the members of a group. In family firms, such conflicts are typically associated to stress, moodiness, and annoyance among family members (Eddleston and Kellermanns, 2007), obstructing knowledge integration (Jehn, 1997). In the next section, we argue for a direct relationship between familiness knowledge integration.

Familiness and knowledge integration

Given the idiosyncratic nature of knowledge integration in family firms, we advance that knowledge integration is affected by the emotional bonds and the interactions of family members in diverse firm contexts (Chirico, 2008; Chirico and Salvato, 2008). We advance that the level of familiness, in term of both involvement and essence, can affect knowledge integration (Basco, 2013). Whilst the involvement approach revolves around the level of family members' presence in the firm's ownership, governance and management, the essence approach – which focuses on the willingness of the family to leverage its influence in the firm to meet specific goals (Chrisman et al., 2012) – underlines the quality of family involvement, taking into account all the intangible family features, such as family's values and culture (Chrisman et al., 2005). Thus, we rely on both family involvement and essence approaches to offer a comprehensive depiction of the diversity of family businesses with respect to knowledge integration (Chrisman et al., 2012).

The close social relationships between family members and the firm are fundamental in the transmission of the family resources and the firm's idiosyncratic behaviors. Ample evidence shows the role of familiness in firm outcomes and behaviors, such as innovation (Daspit et al., 2019; Jocic et al., 2021), growth (Glyptis et al., 2021), or internationalization (Cano-Rubio et al., 2021). The work by Cano-Rubio et al (2021) suggests that familiness influences the strategy of a family business to internationalize. Glyptis, Hadjielias, Christofi, Kvasova, and Vrontis (2021), in addition, suggest that dynamic capabilities evolve in relation to familiness, thus facilitating business growth.

These outcomes are due to social relationships that develop through a history of interactions and mutual trust among family members (Sirmon and Hitt, 2003). Family ties create an idiosyncratic environment for knowledge integration, which can produce either positive or negative results within the firm (Zahra et al., 2007; Hadjielias et al., 2021). Indeed, the strong emotional ties shared by family members are commonly translated into an enduring commitment to the family business: the repeated and continued interactions among family members in the family and with the firm builds a setting that stimulates the integration of knowledge in the firm (Chirico and Salvato, 2008).

Family members who participate in the firm often share a common understanding of the culture of the firm (Discua Cruz et al., 2012). As such, they create a shared vision that non-family firms find hard to imitate (Spielmann et al., 2021). The family's history, common language, shared values, emotional connections and psychological ownership enhance communication among family members in business (Tagiuri and Davis, 1996) and create a mental model shared by family members that allows knowledge integration to develop in a quick and effective way (Pittino et al., 2018; Salvato and Melin, 2008). In light of the foregoing, we advance the first hypothesis as follows:

H1: Familiness positively affects knowledge integration in family firms.

Knowledge integration and organizational effectiveness

Knowledge management is a primary process in the development of firm effectiveness (Gold et al., 2001; Zheng et al., 2010). We define organizational effectiveness as a firm's ability to make decisions that create better results relative to its competitors (Zheng et al., 2010). Hence, along the knowledge management process, knowledge integration is a critical mechanism to enhance a firm's capabilities and create value over time. According to Gold et al. (2001), knowledge integration gives firms the skills to innovate, share efforts, commercialize new products, cope with market changes, and maintain the capacity to anticipate unexpected changes; in other words, knowledge integration promotes organizational effectiveness (Zheng et al., 2010). This relationship between knowledge integration and organizational effectiveness resonates prior literature on knowledge management, which suggests that knowledge integration is a cornerstone mechanism for dynamic capabilities building (Eisenhardt and Martin, 2000). Integrating knowledge helps firms recognize and reconfigure their resources and operational routines (Cepeda and Vera, 2005) and make adaptive adjustments.

In family firms, knowledge integration promotes greater efficiency in the detection and exploitation of opportunities (Chirico and Salvato, 2008; Grant, 1996), thus allowing firms to develop capabilities that are better adapt to environmental changes (Chirico and Salvato, 2008; Pittino et al., 2018; Zahra et al., 2007; Zollo and Winter, 2002). Recent studies highlight that family business members aim to integrate knowledge that encompasses both family and business dynamics as well as shared experiences over time (Spielmann et al., 2021). Thus, the integration of both firm- and family-specific knowledge among family members is crucial to explain family firm outcomes. The idiosyncratic integration of knowledge would impact the generation of unique family capabilities which, from the dynamic capabilities perspective, configure a continuous adaptation and can be a relevant source of sustainable competitive advantage. Such integration would favor organizational effectiveness. In this way, family capabilities are used in the configuration of client solutions, the adaptation of a business plan, the definition of protocols in decision-making, the selection of corporate limits to manage complementary platforms and control, and the creation of loyalty and commitment in the firm (Teece, 2007). Prior research shows that these capabilities are evidence of a firm's organizational effectiveness (Zheng et al., 2010). Thus, in light of the foregoing, we contend that knowledge integration has a positive effect on the organizational effectiveness of family firms. Therefore, we state our next hypothesis as follows:

H2: Knowledge integration positively influences organizational effectiveness of family firms.

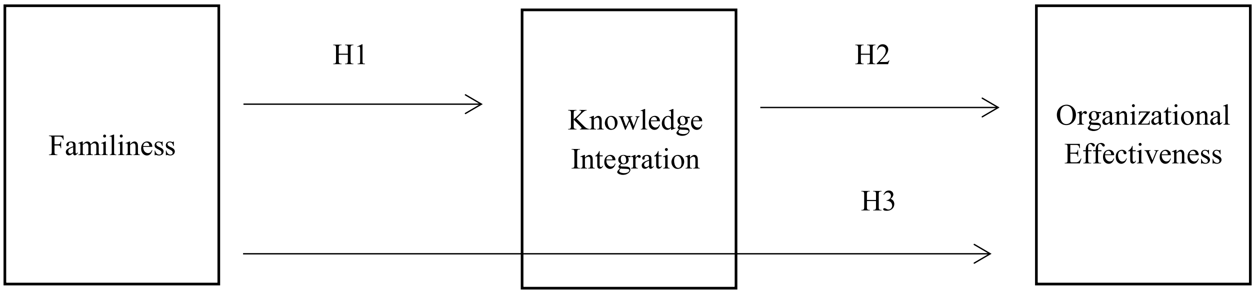
Finally, we build on previous research, which suggests that knowledge management plays a crucial role as an intervening mechanism through which the organizational context influences organizational effectiveness (Lee et al., 2012; Zheng et al., 2010). Accordingly, our study advances that, in family firms, knowledge integration serves as the mechanism through which 'familiness', entailed as both family involvement and family essence (Chrisman et al., 2005), translates into organizational effectiveness.

We suspect that such influence affects family firm's effectiveness in developing and implementing activities and processes to capture novel market and technological opportunities, and thus achieve a sustainable competitive advantage (Arzubiaga et al., 2022; Patel and Fiet, 2011). We suggest that integrating knowledge contributes to our understanding of the effect of familiness nuances (Campopiano et al., 2020) on firm's organizational effectiveness. In other words, in family firms, knowledge integration strongly depends on familiness and, in turn, allows the business to gain and maintain a competitive advantage among rivals. Based on the previous discussion our final hypothesis is as follows:

H3: Knowledge integration mediates the positive relationship between familiness and organizational effectiveness in family firms.

In Figure 1 we summarize our theoretical model.

Figure 1. Theoretical model



Method

Data collection and sample

In order to answer our research questions, this study relies on a quantitative methodology, which is relevant to understand relationships among variables by means of pre-defined scales (Pearson et al., 2014). We test our model on a database provided by *Actualidad Económica*, a Spanish journal of business information. This journal publishes yearly sales information of large private firms in Spain. We used the 2012 list of the 5,000 largest private firms in Spain. The Spanish environment is selected for two reasons. First, we consider the extensive contribution of family firms in the Spanish economy, where almost the 90% of firms are family firms, contributing more than 65% of the GDP and 66,7% of job positions (Instituto de Empresa Familiar, 2015). Second, we acknowledge that family businesses are highly recognized at the institutional level, especially for private, not listed organizations (Cabrera-Suárez and Martín-Santana, 2015). The analyzed sample includes medium and large private family firms. We used two specific criteria to determine the companies included in the sample. First, we excluded publicly listed family business because of their diffuse ownership structure. In addition, publicly listed family firms often have a formal governance structure, and are thus characterized by loosen family influence (Basco and Pérez Rodríguez, 2009). These criteria were consistent with the purpose of the study, i.e., the relationship between familiness and organizational effectiveness, mediated by knowledge integration.

Second, there is a broad debate on the definition of family business in the literature (Cruz and Nordqvist, 2012). This study relies on specific criteria to select family firms (Astrachan et al., 2002). In line with extant literature suggesting that family firms showcase a high degree of cohesion and willingness to make the business viable for future generations (Basco and Pérez Rodríguez, 2011), we adopt two operational criteria: first, family members have to be involved in the ownership of the business as well as in the management and/or board of directors; second, the family needs to show intentions for transgenerational control (Chrisman et al., 2012). We search for these criteria ex post, filtering out the collected data (Claver et al., 2009), compiling a final sample of 1,656 firms.

Since not all information needed to test the proposed model were available in the dataset, we designed a survey to be distributed among the selected family firms. The survey instrument includes questions rooted in existing literature and validated dimensions to proxy the variables of our study (Chrisman et al., 2012). The delivery and collection of the questionnaires were carried out between May and September 2013. We received 135 questionnaires, with a response rate of 8.15%, which is in line with previous studies in the family business field (Barros-Contreras et al., 2020; Zellweger et al., 2012). Out of 125 valid questionnaires that we received, 23 were excluded because the businesses are identified as non-family (17) or publicly listed family (6) firms, resulting in 102 usable observations. All these questionnaires refer to private family firms according to the first sampling criterion, and 99% meet the family firm definition, as per our second criterion. In particular, with respect to this study's definition of family firms: 95% of the sampled firms have family members involved in management, 98% are involved in the boards of directors, and 93% disclose that the future CEO would be a family member. Information about age and size distribution, sector and generational involvement are provided in Table 1.

Table 1. Main characteristics of the sample

Age	N	% of total	Employees Size	N	% of total
<10	5	4.9	<50	12	11.8
10-25	24	23.5	50-100	10	9.8
26-50	34	33.4	101-250	26	25.5
51-75	24	23.5	251-500	25	24.5
>75	15	14.7	>500	30	29.4
TOTAL	102	100.0	TOTAL	102	100.00
Industry			**Number of Generations (Ownership)**		
Manufacturing	59	57.8	One	68	66.7
Service	43	42.2	Two	31	30.4
TOTAL	102	100.0	Three	3	2.9
			TOTAL	102	100.0
Number of Generations (Management Board)			**Number of Generations (Board of Directors)**		
One	75	73.5	One	59	57.8
Two	26	25.5	Two	41	40.2
Three	1	1.0	Three	2	2.0
TOTAL	102	100.0	TOTAL	102	100.0

To control for non-answer bias, the sample was split into three groups according to the chronological order in which they answered the questionnaire. We compared the first group with the last group testing their differences, assuming that the third group, including businesses that answered last, is similar to those that never answered. We performed an assessment of variance, which did not reveal any significant statistical differences between the first and last group (at 0.01 significance level). Hence, we found strong support of the lack of non-answer bias in our sample.

We acknowledge that a possible limitation may relate to common method bias, due to the subjective evaluation of the main informants (Doty and Glick, 1998). To address such limitation, we applied Harman's individual factor test. The results show that there is not a single factor that registered a significant percentage of the variance; therefore, we conclude that common method bias is not a concern. In addition, to avoid concerns related to construct validity due to the reliance on one main informant, this study follows Podsakoff et al. (2003)'s advice to include in the survey simple questions, and to clearly divide the dependent variable from the independent ones. The test strongly supports the quality of the sampled observations.

Variables and measurement

Familiness. A family firm is defined in accordance with the criteria of family influence in ownership, governance and management boards of a firm, as well as with the importance of values, cohesion and desire to pass the business over to next family generations (Basco and Pérez Rodríguez, 2011). We used the F-PEC scale (Holt et al., 2010; Klein et al., 2005) to measure both the involvement and the essence of the family in the business.

Family involvement can be measured by family power and experience. This study measures power as the percentage of ownership in the hands of the family and the percentage of family members directly or indirectly involved in the governance and/or management board. Family involvement in ownership is determined by asking respondents to specify the percentage of the firm's shares that belongs to family members. Family involvement in governance and management is measured with two items of the F-PEC power subscale: (i) percentage of direct and/or indirect involvement of family members in board of governance, and (ii) percentage of direct and/or indirect involvement of family members in top management.

The experience dimension is measured in terms of number of generations participating in the current ownership, governance, and management of the firm. We relied on three items of experience as included in the F-PEC scale: (i) number of generations that own the firm, (ii) number of generations that are active in the firm's governance, and (iii) number of generations are active in top management meetings. These variables are among the most used as proxies of family involvement (Astrachan et al., 2002; Chrisman et al., 2012). The items on the F-PEC experience subscale are weighted to take into consideration that most of the transfer of experience occurs from the first generation to the second and continues with decreasing influence to subsequent generations.

Finally, for family essence this study uses a variation of the F-PEC subscale of culture. The representative elements of the subscale include: whether family members (i) feel loyal towards the family firm; (ii) agree with the objectives, plans, and policies of the family firm; (iii) share the same values of the firm; (iv) are concerned about the future of the firm; and (v) are prone to spend their effort with the intention of helping the firm to succeed (Chrisman et al., 2012). The five items are measured using Likert scales anchored to 1 (never/totally disagree)-5 (always/totally agree).

Knowledge integration. The measurement of knowledge integration uses three factors as suggested by Chirico and Salvato (2008): internal social capital, affective commitment, and relationship conflicts.

The first element is measured using the scale proposed by Carr et al. (2011) and Herrero and Hughes (2019). The items identify family members in the firm who (i) keep honest conversation between the members; (ii) do not keep corporate information to themselves; (iii) are willing to share information with other family members; (iv) leverage family relationships to share knowledge and information; (v) show great integrity in their relationships; (vi) have trust in others; (vii) take into consideration the feelings of others in decision-making; (viii) feel engaged with the objectives of the firm; (ix) share the mission and vision of the firm; (x) see themselves as partners in making major business decisions; and (xi) share their thoughts about the future of the firm.

Affective commitment is measured using the scale advanced by Allen and Meyer (1990). The scale includes items measuring the extent to which family members (i) perceive that their job is challenging and exciting; (ii) are aware of the expected tasks and responsibilities; (iii) perceive that their ideas are heard; (iv) perceive that the firm performs what it intends to do; (v) have a sense of equity in the way they are compensated for the required effort; and (vi) join the decision-making process, considering the job policies and norms of the firm.

Relationship conflicts are measured with a scale suggested by Jehn (1995) and Eddleston and Kellermanns (2007). The scale encompasses items to assess the extent to which family members in the firm (i) have private issues and concerns; (ii) have apparent behavioural conflicts; (iii) perceived stress or tension in relationships with others; (iv) are often in disagreement with CEO's perspectives; (v) are frequently in conflict about different proposals discussed in the firm; (vi) have conflicts about the work tasks that each family member performes in the firm; and (vii) hold diverse opinions about the firm.

The items of all three knowledge-related variables are measured using Likert scales anchored to 1 (totally disagree)-5 (totally agree). The measurement of the knowledge integration construct is configured using all items from these three constructs. A factor analysis is performed to analyze and reduce data. This analysis identifies the main components of the knowledge integration construct. The factor analysis confirms the three components of the construct by introducing each component as item of the knowledge integration construct. In addition, the items of each knowledge integration construct are averaged to create an individual measurement of each construct. The results obtained by using both procedures are consistent.

Organizational effectiveness. Previous research has tried to test and understand to what extent family involvement affects business outcomes (Chua et al., 2018). In the attempt to improve the understanding of the sources of behavior and performance among family firms (Chua et al., 2012), we look at organizational effectiveness as an expression of the degree to which a firm develops permanent activities, processes and routines that allow to outcompete others in the market.

The variable of organizational effectiveness is created according to the micro-foundations advanced by Teece (2007). The items included in our measure grasp the organizational effectiveness construct through the permanent refinement of activities and processes derived from firm knowledge. Hence, the variable includes items related to the permanent refinement of (i) organizational initiatives of research and development; (ii) initiatives that detect changes in the customers' needs; (iii) processes that take advantage of technological development; (iv) processes of business model adaptation; (v) task rotation initiatives, regular meetings at different management levels, informative blogs/bulletins, and arrangement of multi-functional equipment; and (vi) resource adaptation processes to leverage new opportunities. These items are measured using Likert scales anchored to 1 (total disagreement)-5 (totally agree).

Control variables. We use a set of control variables, which are usually adopted in family business studies: company age, size, and industrial sector (Chrisman et al., 2004). The control variable for firm age is measured by the number of years since the firm was instituted. The family can become more involved in the firm over time, potentially influencing the affective commitment and desire of family members to share their expertise and knowledge. Size is measured in terms of number of employees.

Prior works suggest that family firms perform better in certain industries compared to others (Pollak, 1985), which can affect their predisposition to share and integrate knowledge. The main industries of the sample are manufacture (57.8%) and services (42.2%). According to age, the largest portion of the sample is firms between 26 and 75 years old (56.9%), followed by the firms less than 25 years old (28.4%). Firms with 50 and 250 (more than 250) employees make up the 35.3% (52.9%) of the sample.

Results

According to Hair et al. (2017), we relied on PLS-SEM to validate our proposed model (Ringle et al., 2005). The PLS-SEM is increasingly adopted in management administration, strategy, and marketing (Sattler et al., 2010) as well as family firm (Hair et al., 2020).

The literature highlights the efficacy of the PLS-SEM as a technique to investigate family firm phenomena (Binz et al., 2014). The characteristics of the model make the PLS-SEM especially suited for this research for several reasons. First, this technique can include latent variables with both reflective and formative indicators (Henseler et al., 2009). Second, the PLS-SEM stems on assumptions of normality in the data (Chin, 1998) making it a useful tool for studies in small samples (Kyu Kim et al., 2011). Finally, it is more suitable for early stages of theory development as it allows for both exploratory and confirmatory research (Byrd et al., 2006), fundamentally complex research, and studies with dearth of theoretical knowledge (Wold, 1982). These specific features of PLS-SEM make it a relevant technique in family firm research (Binz et al., 2014). In this research, we rely on the Smart PLS 2.0 M3 software program (Ringle et al., 2005).

To run regressions with PLS-SEM, the sample has to comply with the requirements of the most complex multiple regression (Barclay et al., 1995). In addition, because the largest formative construct in the model has three items and two structural paths that lead to any constructs, the minimum size required for the sample in this research is 30. Hence, the sample made of 102 observations is suitable for the estimation process.

Measurement model

The model presents measurements related with the reflective and formative constructs. The constructs of power, experience, essence, and organizational effectiveness are modeled reflectively. These reflective indicators are a manifestation of the construct (Podsakoff et al., 2006), reflecting the latent construct that these indicators represent. The construct of knowledge integration is modeled formatively from the three components: internal social capital (intsoccap), affective commitment (affcom), and relationship conflicts (relcon). A formative measurement assumes that the construct is a function of the items; in other words, the observed items form or precede the construct (Cepeda and Roldán, 2004). The results show a mixed effect of the items that make up the knowledge integration construct. While internal social capital and affective commitment contribute positively to the integration of knowledge, relationship conflict does so in the opposite direction. This last effect is not surprising, since the literature recognizes the negative impact that relationship has on the integration of knowledge (Eddleston and Kellermanns, 2007; Zahra et al., 2007). Thus, it is observed that the two faces of family influence participate as antagonistic forces in the direction that the family firm can take advantage of said influence in the integration of knowledge (Su and Daspit, 2022). In this sense, as long as the quality and closeness of the relationships between family members and their emotional commitment to the firm is stronger, the negative effect produced by the relationships conflict can be reduced and does not affect the conditions for that family members share and integrate their individual knowledge in the firm (Chirico and Salvato, 2016). In our study, the negative effect of relationship conflict was offset and outweighed by the positive contributions of internal social capital and affective commitment, which ultimately positively affect knowledge integration and organizational effectiveness in family firms. Table 2 offers a synopsis of the parameters used in the measurement model.

Table 2. Latent variable, item measurement, composed reliability, average variance extracted (AVE) and Cronbach's α

Construct indicator	Factor loading /weight path	*t*-stat	Composed reliability	AVE	Cronbach's α
Power			0.921	0.854	0.841
Pow_1	0.881	4.928			
Pow_2	0.965	8.221			
Experience			0.971	0.918	0.956
Exp_1	0.911	9.110			
Exp_2	0.978	10.099			
Exp_3	0.983	10.702			
Essence			0.850	0.534	0.789
Ess_1	0.694	5.768			
Ess_2	0.822	9.991			
Ess_3	0.776	7.737			
Ess_4	0.565	3.746			
Ess_5	0.770	7.978			
Organizational effectiveness			0.911	0.633	0.888
Orgeff_1	0.675	6.796			
Orgeff_2	0.885	12.612			
Orgeff_3	0.829	10.206			
Orgeff_4	0.773	12.149			
Orgeff_5	0.700	5.327			
Orgeff_6	0.887	12.569			
Knowledge integration (formative)			—	—	—
Intsoccap	0.699	3.371			
Affcom	0.237	1.319			
Relcon	–0.273	1.308			
Control variables			—	—	—
Firm_age	0.085	1.037			
Firm_size	0.210	2.244			
Firm_ind	0.125	1.535			

The measurement model is assessed by analyzing the reliability of each item, internal consistency, as well as convergent validity and discrimination (Roldán and Leal, 2003). To obtain a good reliability of the item, the load must be higher than 0.7 (Carmines and Zeller, 1979). All loadings are higher than 0.7 with the exception of two essence items and two organizational effectiveness items, which have loads close to 0.6, a measurement still considered acceptable in the first steps of theory development (Chin, 1998). The measurement model of the formative constructs is evaluated by items weights, not by loads (Chin, 1998). The weights indicate how each item contributes to its respective construct (Cepeda and Roldán, 2004). Given that the formative items do not need to be related, the traditional indicators of reliability are not applicable (Chin, 1998). However, the absence of high multicollinearity between them must be verified (Diamantopoulos and Winklhofer, 2001). Multicollinearity is tested using the variance inflation factor (VIF), with a VIF below 5 showing a lack of multicollinearity (Kleinbaum et al., 1988). The results show that all values meet this standard, indicating that multicollinearity is not an issue.

The internal consistence of the constructs is assessed by determining Crombach's alpha and composed reliability. The convergent validity of the constructs is evaluated by examining the average variance extracted (AVE). The discriminating validity is evaluated by examining the degree to which the root of the AVE is higher that the co-related inter-construct, as shown in Table 3. In sum, the analyses show that all indicators have fair measurement properties (Fornell and Larcker, 1981).

Table 3. Correlations inter-construct and extracted variance average (AVE)

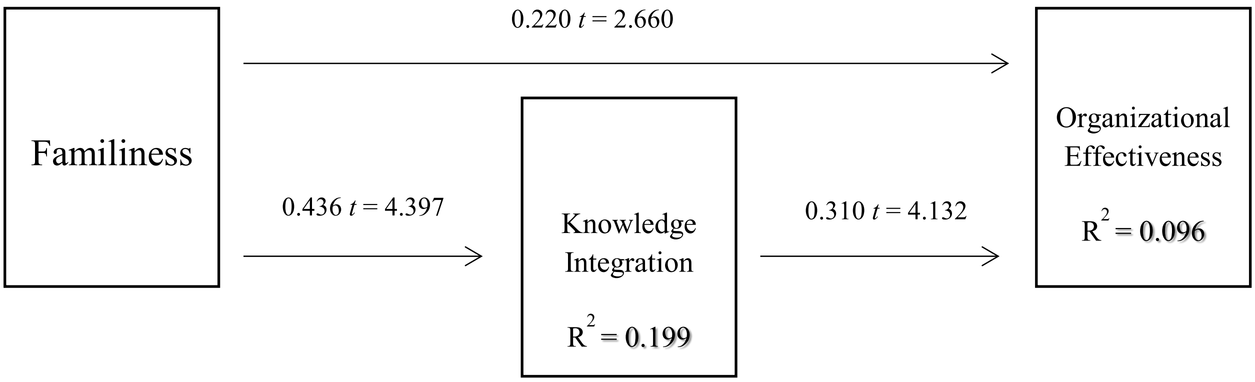
	1	2	3	4
1. Organizational effectiveness	**0.796**			
2. Essence	0.12	**0.731**		
3. Experience	0.044	–0.077	**0.958**	
4. Power	–0.257	0.228	0.036	**0.924**

Note: The elements in the diagonal belong to the root of the AVE.

Structural model

In Figure 2, we show the explained variance (R^2) in the dependent constructs and the path coefficients β for the model. In line with Chin (1998), we used bootstrapping (1,000 samples) to calculate standard errors and *t*-statistics. The R^2 for the endogenous variables are 0.199, and 0.096 for knowledge integration, and organizational effectiveness, respectively.

Figure 2. Empirical model about knowledge integration in family firm



As presented in Figure 2, familiness significantly and positively affects organizational effectiveness and knowledge integration with a coefficient of 0.220 (t = 2.660), and 0.436 (t = 4.397), respectively. These results provide evidence of the direct impact of family influence in knowledge integration, and organizational effectiveness. These results also suggest that the family effect affect the resources generation (Habbershon et al., 2003), and can promote, from a dynamic capability approach, the family firm continuity over generations.

Table 4 summarizes the results of the performed tests. The results allow to support H1, familiness positively and significantly affects the integration of knowledge with a coefficient 0.436 (t = 4.397). Regarding hypothesis H2, the results show a positive and significant relation between knowledge integration and organizational effectiveness with a β equal to 0.310 (t = 4.132). Thus, hypothesis H2 is supported. In regards to hypothesis H3, the structural path Familiness → Organizational effectiveness is positive and significant with a coefficient of 0.220 (t = 2.660). Moreover, according to Baron and Kenny (1986) we performed the Causal Steps Method (CSM) necessary to verify the mediation effect of knowledge integration in the relationship between familiness and organizational effectiveness. We also use 'SPSS Bootstrap Confidence Intervals' (PROCESS), as suggested by Hayes (2018). Then we apply the “Indirect Effects” plugin from SPSS Amos (Gaskin and Lim, 2018). All results suggest the existence of indirect effects (Table 6). The results confirm there is a complete mediation of knowledge integration, providing support to hypothesis H3 because knowledge integration completely mediates the relation between familiness and organizational effectiveness in family firms. Table 5 reports the results.

Table 4. Hypotheses results

Hypotheses	Path coefficient	*t*-stat	Results
H1: Familiness → Knowledge integration	0.436	4.397†††	Supported
H2: Knowledge integration → Organizational effectiveness	0.310	4.132†††	Supported
H3: Familiness → Knowledge integration	0.436	4.397†††	Supported
Knowledge integration → Organizational effectiveness	0.310	4.132†††	

†††p < 0.01; ††*p* < 0.05; †*p* < 0.1 (two-tail *t*-statistics).

Table 5. Mediating effect

Familiness → Knowledge integration → Organizational effectiveness				
Structural path	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Familiness → Organizational effectiveness	0.220 (2.660) †††			–0.021 (0.243)
Familiness → Knowledge integration		0.436 (4.397)†††		0.445 (3.779) †††
Knowledge integration → Organizational effectiveness			0.310 (4.132)†††	0.318 (2.719)†††

Notes: This table provides the route coefficients. Two-tail *t*-statistics are in parentheses.
†††*p* < 0.02; ††*p* < 0.05; †*p* < 0.1 (two-tail *t*-statistics).

Table 6. Results additional analysis of mediation relationship Familiness → Knowledge integration → Organizational effectiveness.

Paths	CSM	PROCESS	AMOS
a: Familiness → Knowledge integration	0.436***	0.1169**	0.1**
b: Knowledge integration → Organizational effectiveness	0.310***		
c: Familiness → Organizational effectiveness	0.220***		
c`: Familiness → Organizational effectiveness	-0.021		

Note: Path coefficients *p < 0.1; **p < 0.05; ***p < 0.01 (one-tail *t*-statistics).

Only firm size, measured as the number of employees, was significant with a β equal to 0.210 (*t* = 2.244). A larger size implies an increase in the interactions between family members and generate a better context for the integration of knowledge, but also involves a higher chance of relationship conflict that negatively affects knowledge integration in the family business (Chirico and Salvato, 2008).

Post-hoc analysis

As in other studies (Cunningham et al., 2017), we perform additional tests breaking down the variable measuring knowledge integration in our theoretical model, by considering its three components (internal social capital, affective commitment, and relationship conflicts) as framed by Chirico and Salvato (2008). We thus consider that familiness might relate with these three dimensions in different ways and, in turn, internal social capital, affective commitment and relationship conflict can exert different effects on organizational effectiveness.

The analysis performed suggests that familiness has a positive relationship with both internal social capital ($\beta = 0.409$, $t = 4.328$) and affective commitment ($\beta = 0.300$, $t = 3.305$), while there is a negative effect on relationship conflicts ($\beta = -0.359$, $t = 3.431$), which suggests that higher family involvement and essence reduces the likelihood that family members suffer from conflicting situations. Moreover, the effects of the knowledge integration components on organizational effectiveness are consistent with our original model. Indeed, internal social capital positively relates to organizational effectiveness ($\beta = 0.240$, $t = 1.831$); a similar pattern is observed between affective commitment and organizational effectiveness ($\beta = 0.153$, $t = 1.418$). Finally, relationship conflict is negatively related to organizational effectiveness ($\beta = -0.147$, $t = 1.398$). Further tests suggests that all three dimensions, internal social capital, affective commitment and relationship conflict, fully mediate the familiness-organizational effectiveness relationship.

Discussion and conclusion

The findings of this study offer novel insights on the relationship between familiness and organizational effectiveness, thus extending the debate on family involvement and performance (Chua et al., 2018). Our paper contributes to the literature considering both involvement and essence approaches, thus offering a more comprehensive picture on the effect of the family on the business (Basco, 2013). Moreover, adopting a knowledge-based view and dynamic capabilities perspective, this study contributes to the stream of knowledge management in family firms (Arzubiaga et al., 2022; Ge and Campopiano, 2022; Hadjielias et al., 2021; Su and Daspit, 2022) and provides a new understanding of knowledge integration as a fundamental stage of the knowledge management process (Gold et al., 2001; Lee et al., 2012; Zheng et al., 2010).

Our findings support that knowledge integration plays a key role in family firms (Chirico and Salvato, 2008, 2016), as an intervening mechanism (full mediation) between familiness and organizational effectiveness. Our results are consistent with and extend what was proposed by Daspit, Long, and Pearson (2019) in the sense that resources and capabilities derived from familiness promote the generation of dynamic capabilities leading to innovative solutions, recognized as a cornerstone of dynamic capabilities (Eisenhardt and Martin, 2000). Our study expands such conversation by demonstrating that knowledge integration emerges from family involvement and essence. It supports the view that the existence of dynamic capabilities in family businesses can be justified through the idiosyncratic knowledge management processes, particularly based on a common mental framework, affective commitment and emotional attachment of family members.

We provide contributions to family business and knowledge management literature. First, our study offers insights to family business literature by bringing forward the role of familiness (both involvement and essence) to explain organizational effectiveness (Chua et al., 2018; Frank et al., 2017; Pearson et al., 2008). Considering both involvement and essence suggests that the influence exerted by the family matters, in terms of its presence in the ownership and top positions of the business, on the one hand, and in terms of values, cohesion, and willingness to handle the business over to next family generations, on the other hand (Basco and Pérez Rodríguez, 2009). This provides a more comprehensive picture of the role of familiness in understanding organizational effectiveness in family business, thus contributing to further our knwoledge about the effect of familiness on business outcomes (Cano-Rubio et al., 2021; Daspit et al., 2019; Glyptis et al., 2021; Jocic et al., 2021). Our findings suggest that the relationship between familiness and internationalization (Cano-Rubio et al. 2021) can be understood as a result of the absorption of knowledge and experience that is carried out through the knowledge management process. Indeed, our findings suggest that effectiveness depends on family influence nuances (Campopiano et al., 2020), namely familiness, thus granting resources and capabilities needed to integrate knowledge that is usable for firm's effectiveness and growth (Bauweraerts et al., 2020; Cirillo et al., 2020).

Family business literature can benefit from our study, as it extends our understanding about the role of knowledge integration as an intervening mechanism in the above-discussed relationship. Our findings support that knowledge integration affects organizational effectiveness, extending previous findings suggesting that knowledge management skills are related to the generation of dynamic capabilities (Zheng et al., 2010), entrepreneurial orientation (Pittino et al., 2018), and organizational effectiveness (Gold et al., 2001). Moreover, the results about the full mediation of knowledge integration in the familiness-organizational effectiveness relationship specifically contribute to the debate on knowledge management in family business (Arzubiaga et al., 2022; Ge and Campopiano, 2022; Su and Daspit, 2022).

As behavioral triggers link the knowledge management process to the context where this process occurs, our study pinpoints that the family context, providing dedicated resources and capacities, influences the decision-making process and the strategic management of a family business. Such influence promotes knowledge integration based on internal social capital and the affective commitment of willing and able family members (Rondi, De Massis, and Kraus, 2021).

Moreover, our results add to the debate on knowledge integration as that specific stage of the knowledge management process where knowoeldge is reconciled from different sources (Chirico and Salvato, 2008), in order to make the family business survive and thrive (Barros-Contreras et al., 2016). Su and Daspit (2022) suggest that further research is needed in terms of knowledge management background, outcomes and moderators. Our research provides new evidence related to the background and outcomes of knowledge integration in family businesses. In terms of background, we propose internal social capital as an element derived from family resources that characterizes the knowledge management process. Family members' involvement and essence emerges as a key element in knowledge integration. Such involvement influences the development of family social capital. In terms of outcomes, our findings suggest that knowledge integration mediates the relationship between familiness and organizational effectiveness. Our results, thus, address the call to investigate factors that mediate the relationships involving knwoledge management processes and suggest that family features could positively influence the generation of knowledge-based resources, turning into sources for competitive advantage (Su and Daspit, 2022).

Second, our study contributes to literature on knowledge management by revealing the role of affective and emotional aspects to explain organizational effectiveness. A focus on family businesses provides the background to argue the importance of who is involved (family involvement); and the values, norms and traditions that characterize individuals involved (family essence). Familiness needs to be directed towards the creation of resources and capabilities that allow to benefit organizational effectiveness, and this mechanism is offered by the mediation of knowledge integration (Chirico, 2008; Pittino et al., 2018). In particular, affective commitment, quality of relationships, and communication among family members can improve the organizational culture, which spurs knowledge integration and makes it a key stage of the entire knowledge management process in the family business (Chirico and Salvato, 2008). Our findings support that the process of knowledge management in family firms is improved by the communication closeness, and commitment of family members to the business (Cabrera-Suárez et al., 2018).

Theoretical and practical implications

This study combines assumptions from the knowledge-based view and dynamic capabilities perspective to build the theoretical model. Based on our findings, the debate on familiness (Frank et al., 2017; Habbershon and Williams, 1999) benefits from an enhanced understanding of the role of both family involvement and essence in explaining knowledge integration. In particular, our study provides empirical evidence about the extent to which family members' involvement and essence are linked with knowledge integration as well as the preservation of SEW (Barros-Contreras et al., 2016). In studying the subsequent effect on organizational effectiveness, we extend the application of the dynamic capabilities perspective in the family business field (Chirico and Salvato, 2008), showing how resources provided by the influence of the family can impact the business outcomes (Glyptis et al., 2021).

Glyptis et al. (2021) demonstrate how family resources and capabilities in the family business are reconfigured, through dynamic management accounting capabilities, to facilitate business growth. Our study broadens such view by showing that the source of dynamic capabilities in the family business can be associated to knowledge integration. This produces a cause-effect outcome through family participation, influence, and organizational effectiveness.

Furthermore, our study underscores that whilst knowledge integration is key, it needs to be contextualized. In family businesses, knowledge intregration plays as an intervening mechanism linked to internal social capital, i.e., the strong relationships among members of the organization; affective commitment, i.e., the way individuals feel responsible for the organization; and the absence of relationship conflict, which is necessary to combine and transfer knowledge. Framing knowledge integration in these terms suggests how family-related knowledge and capabilities need to be orchestrated and, especially, integrated, to ensure success (Chirico and Salvato, 2008). In particular, internal social capital provides social relationships and strong affective bonds that promote the efficient exchange and combination of information thereby increasing mutual understanding among the family members (Carr et al., 2011). Similarly, the affective commitment of the family members and the absence of relationship conflicts contribute, with emotional support, to adapt their behaviour to achieve desired objectives and to integrate knowledge accordingly (Cabrera-Suárez et al., 2018).

In terms of practical implications, this study suggests that family business owners and managers need to develop an environment that promotes collaboration, exchange of information and knowledge among the members of the family firm. To create the necessary incentives to help knowledge integration develop effectively, executives must understand how the family transfers idiosyncratic resources to the firm. Executives must recognize that an environment characterized by trust and affective commitment facilitates interactions within the family and the firm. Interactions can reduce unwanted conflicts, especially in relationships amongst family members working in the firm. Appropriate management of these factors can translate into a more effective knowledge integration and, in turn, greater organizational effectiveness. In addition, this study suggests the importance of strengthening the future generation's commitment to the firm by incorporating the family's vision and organizational values to ensure family business continuity.

In a family business, family aspects such as altruism and entrenched ties can interfere with communication, and thus, with the integration of knowledge. For this reason, in order to survive, the family business requires a communication process that encourages shared information and increases the flow of information (Craig and Dibrell, 2006), which facilitates the flow of resources related to the performance of the family business (Herrero and Hughes, 2019). In this sense, internationalization can be considered as an outcome of the knowledge management process in the family business (Su and Daspit, 2022) and thus it should not be underestimated.

Limitations and future research directions

There are several limitations of our study. First, as a cross-sectional study, it is limited in measuring phenomena through time. Causal relations are difficult to estimate due to the static nature of the study, the dynamic nature of family essence and the effects of the knowledge integration process are difficult to capture. Second, the use of surveys to gather data comes with certain limitations and future research could, for instance, triangulate these data with other secondary or primary data sources. Moreover, our study was focused on a single country and thus we encourage future research to replicate and extend our contributions using sampling from more countries, and in different industry contexts. Further studies could expand using larger sample sizes, continuous data, multivariate normal data, and more countries relying on diverse techniques (Williams et al. 2010; Finney and DiStefano, 2013; Tehseen, Ramayah and Sajilan, 2017). Especially in the light of new calls for context-theorizing (Krueger et al., 2021), international comparison does not only aim at discovering to what extent our model can be valid, but also to further extend it considering, for example, the country differences of values, norms and traditions, as well as in terms of diversity of relationships among family members, as these familiness-related factors can affect knowledge integration.

Our study opens interesting lines for future research. First, in the analysis of knowledge integration through time, capturing its dynamic essence as suggested by De Massis et al. (2014), for example, through qualitative methodologies (De Massis and Kotlar, 2014) merits further attention. In the same way, future research could evaluate our model in diverse contexts (e.g., developed and developing economies), to corroborate or challenge our findings expanding on its adaptability and generalization (Basco et al., 2019). Likewise, future research could study the analysis of each of the factors that affect knowledge integration, incorporating the family firm identity (Frank et al., 2017). Finally, future research could evaluate how socioemotional factors could intervene in processes related to knowledge management (accumulation and integration) and promote the generation of family organizational routines (Gjergji et al., 2022). In doing so, we call future studies to further our understanding of knowledge integration in the most prevalent business form around the world.

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