

Knowledge management in family firms: opening the black box and suggestions for future research

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Introduction

The knowledge management (henceforth, KM) field is moving forward fast and has become a topic of increasing interest for both scholars and managers in recent years (Bamel and Bamel, 2018; Biscotti *et al.*, 2018; De Massis *et al.*, 2012). KM refers to knowledge creation, knowledge storage, knowledge sharing and knowledge application both within an organization and across organizations (Del Giudice and Maggioni, 2014), being considered as key when developing a firm's capability to address current and future business challenges and survival (Durst and Edvardsson, 2012). Furthermore, research indicates that a methodic planning and a careful operationalization in KM are essential for businesses so as not to endanger their competitive positions in the marketplace (Perri and Peruffo, 2016). This explains why KM has been the subject of extensive theoretical and empirical studies and is now widely considered as a relevant determinant of superior firm performance (Massaro *et al.*, 2016). However, the extensive body of KM research has primarily focused on the study of large corporations with dispersed ownership while neglecting the study of other types of businesses such as family firms that are often smaller in size and characterized by idiosyncratic firm behavior (Cerchione *et al.*, 2016) induced through the influence of the controlling family on firm decisions and firm behavior. This neglect is particularly striking due to the distinctive characteristics of family businesses (Zellweger *et al.*, 2010; Kotlar and De Massis, 2013) as well as their widespread growth worldwide (Holt *et al.*, 2018; De Massis *et al.*, 2018a; Miroshnichenko *et al.*, 2021).

Given the relevant role played by family business idiosyncrasies for adequately designing and successfully implementing KM processes in these organizations (Chirico and Salvato, 2016; Del Giudice *et al.*, 2010), it is essential to develop a more detailed and comprehensive understanding of the factors affecting different aspects associated with KM in a family business setting. Family businesses are usually distinctive by having visible and active owners, family values, collective identity, commitment, emotional ownership, long-term orientation and a desire for the firm to endure across generations (Berrone *et al.*, 2012; Chirico and Salvato, 2016). In a word, these organizations are to a great extent influenced by the family (König *et al.*, 2013). This makes their behavior particularistic (De Massis *et al.*, 2014; Hoy, 2003) as a result of their family firms' distinctive attributes such as centralized authority structures, incentives for parsimonious use of resources and asymmetrical accountability norms (Carney, 2005; Gedajlovic *et al.*, 2012; Gedajlovic *et al.*, 2004). Thus, the family's influence that can manifest itself in the organization may affect the KM activities and practices within these firms (Döring and Witt, 2020; Brinkerink, 2018; De Massis *et al.*, 2016b; Kammerlander and Ganter, 2015). Notwithstanding, except for a few recent studies (Casprini *et al.*, 2017), hardly any research has directly and explicitly addressed the multiple facets of KM (e.g. knowledge creation, knowledge storage, knowledge sharing and knowledge application) within the specific family business setting.

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For all of the above, the goal of this special issue was to take inventory and to add to knowledge advancement by assembling a series of articles investigating the phenomenon of KM in the specific context of family businesses by means of different theoretical lenses and methods and by building on what we know, but more importantly, identifying current knowledge gaps and future research avenues and offering new theoretical and empirical insights. In this special issue, we went in search of variety. The papers included focus on different aspects of knowledge processes that had previously been largely overlooked among family firms, the role of different stakeholders affecting KM when disruptive changes take place (e.g. phases of the succession process) and different cultural contexts (e.g. China, Germany, Italy, Malaysia and Spain). The papers apply a range of theories (e.g. contingency and resource orchestration theories, knowledge from a practice perspective, knowledge-based perspective, ability and willingness paradox, pragmatic learning theory, institutional theory) and methodologies, ranging from systematic literature reviews to survey data, and from panel data to qualitative multi-case studies. The selected papers focus on one or manage to connect multiple core concepts identified as part of the KM, namely, knowledge creation, knowledge storage, knowledge sharing and knowledge application (Alavi and Leidner, 2001), thus solidifying the conceptual foundation of KM in family firms.

In addition, this special issue also aims to reach beyond the family business community, since most of prior research has been conducted by family business scholars while KM scholars have for the most part ignored the effects of the most ubiquitous form of business organization in any world economy (Casprini *et al.*, 2017). In this vein, this special issue aims to address KM scholars that do not commonly focus on family firms to make them familiar with the singularities of this particular type of business organization and the opportunities that this field of study might offer to them.

In this article, we present a review of existing theoretical and empirical evidence on different processes of KM, and we develop an integrative framework emphasizing the variety of KM processes within family businesses, their antecedents as well as outcomes and the role of context. We then provide an overview of the articles published in this special issue and conclude by proposing an agenda to inform future studies in this area.

Multiple facets of knowledge management in family firms

Defined as beliefs, commitment, viewpoints, purpose and action (Nonaka, 1994), firm-level knowledge is regarded as a core competency and a relevant source of competitive advantage (CA) and value creation in the short term (Chaithanapat and Rakthin, 2021) that pushes continuous improvements and results in higher performance in the long run for firms (Liu *et al.*, 2019; Martins *et al.*, 2019). Since knowledge is an intangible as well as a complex to understand and to share element among the different departments (Martins *et al.*, 2019), a proper management of knowledge is required to facilitate the availability for different internal agents of all the knowledge in an organization (Barley *et al.*, 2018; Dayan *et al.*, 2017; Santoro *et al.*, 2018). Prior research considers KM as an essential strategic factor in organizational operations (Martinez-Conesa *et al.*, 2017) as it allows creating, storing, sharing and applying the knowledge and information both within an organization and across organizations (Del Giudice and Maggioni, 2014). Furthermore, KM is enhancing its relevance for the competitiveness of large companies and small and medium enterprises (SMEs) (Bloodgood, 2019; O'Connor and Kelly, 2017) due to its usefulness for developing a firm's ability to address current and future business challenges and ensuring survival (Durst and Edvardsson, 2012), thereby providing momentum to this factor in the international sphere (Cerchione *et al.*, 2016).

KM is defined as the process of acquiring, storing, sharing and applying knowledge (Lee, 2012; Alavi and Leidner, 2001) that provides organizations the way to find specific information more efficiently and effectively and to organize that information for quick recovery and reuse (Lee and Lee, 2007). Researchers have studied the role of KM in increasing competitiveness at different levels, namely, intra-organizational, inter-organizational and even multinational levels (Iddy and Alon, 2019). The studies analyzing the multiple facets of KM have mostly focused on nonfamily businesses (Obeso *et al.*, 2020), while the KM research on family businesses is still fragmented

and in its early stage (Chaudhary and Batra, 2018). More specifically, although prior research on KM is extensive and offers insights for both management research and practice, there is a lack of consistent and adequate conceptualizations of KM for the development of theoretical models and the design of empirical work in the always complex area of family businesses. In reviewing and synthesizing this body of research in this article, we set the hook for a more unified perspective and a comprehensive understanding of KM in family businesses, identifying critical gaps in current research and pointing to future research directions that can contribute to move this field forward.

Opening the black box of knowledge management processes in family firms

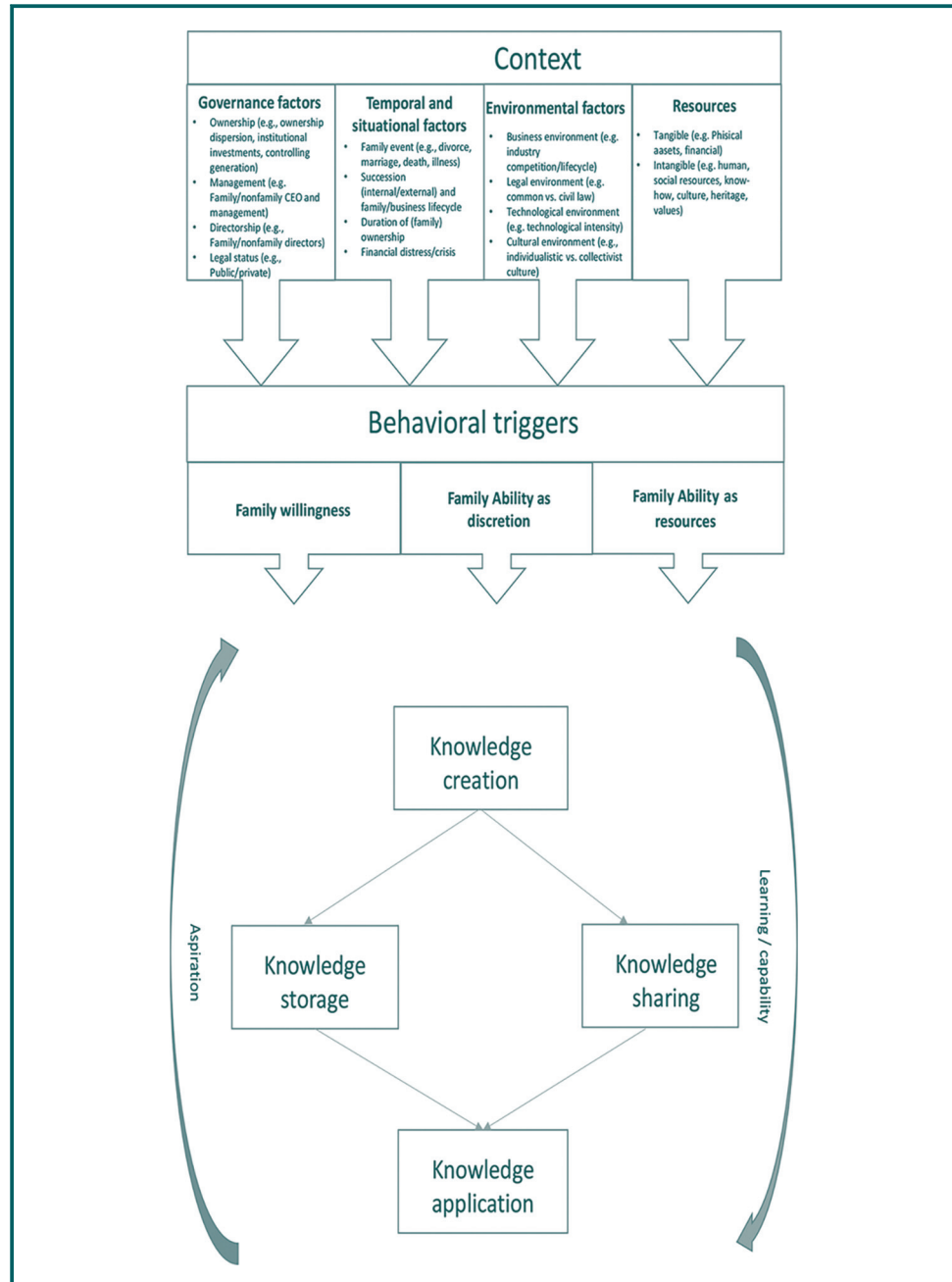
We summarize existing research on KM in family firms in Figure 1, which provides a comprehensive view of KM in terms of the varying processes, namely, knowledge creation, knowledge storage, knowledge sharing and knowledge application. Moreover, this framework emphasizes the role of behavioral triggers as well as the context that underlies the particularistic nature of KM in family firms. Our analysis underscores the relationship between different KM processes as understood in terms of learning, capability and aspiration.

Knowledge creation

Researchers have increasingly highlighted the need to understand the knowledge creation process because this is essential for family firm survival (Brännback *et al.*, 2008). In this vein, knowledge creation adds with work efficiency, new product and service development and an enhanced firm's resilience (Duarte-Alonso *et al.*, 2021). Knowledge creation usually takes place as a consequence of learning how to deal with dilemmas emerging from ongoing conditions, pushing the creation of a new set of conditions where the dilemmas do not take place (Razmerita *et al.*, 2016; Matsuo and Easterby-Smith, 2008). In this respect, notably, the challenges faced by companies' staff usually make them develop necessary solutions that may subsequently stimulate knowledge creation in the business (Ueki *et al.*, 2011).

Scholars in the knowledge field have suggested that, according to its origin, knowledge coming from both internal and external sources fuels knowledge creation processes (Su and Daspit, 2021). Although complementary, Wasim *et al.* (2018) affirm that while some family firms prioritize internal family knowledge for knowledge creation processes, others prefer the knowledge that comes from broader knowledge networks. Regarding the latter, external networks are the mechanisms through which external knowledge is acquired, being regarded as most relevant in the earlier stages of a family firm's life cycle (Boyd *et al.*, 2015) and usually studied from a dynamic capabilities theoretical viewpoint (Alonso-Duarte *et al.*, 2019; Chirico and Salvato, 2008). The family business needs to be included into a system that allows it to share knowledge through direct contacts with other actors (Del Giudice and Maggioni, 2014). In fact, close ties and regular relationships with external sources such as customers, suppliers and competitors provide with market knowledge to the family business (Arzubiaga *et al.*, 2019). Family businesses usually collaborate with external actors by relying on trust rather than contracting with partners (Sundaramurthy, 2008), turning family social capital in a key component of knowledge creation based on external sources. In the case of knowledge creation based on internal sources, the integration of prior experiences with accumulative explicit and tacit knowledge over generations requires unique social capital among kin (Patel and Fiet, 2011). Moreover, these tight relations among kin, which turn into a rich family social capital (Zahra *et al.*, 2004), facilitate the family firm's ability to combine and create new knowledge across generations (Brinkerink, 2018). This kind of new knowledge usually comprises family instructions, rules and customs and is known as idiosyncratic knowledge (Boyd *et al.*, 2015). Nevertheless, this family capital can also have some negative effects in knowledge creation. For instance, in cases where the family social capital is strong, nonfamily employees are perceived as less trustworthy, although their different backgrounds and expertise in comparison to family employees turns them into a potentially rich source of diverse knowledge for the family firm (Su and Carney, 2013). Other sources of knowledge acquisition might lie in the collaboration with

Figure 1 Knowledge management in family firms; context, behavioral triggers, learning/ capability and aspiration



innovation partners and particularly startups (Schell *et al.*, 2021). Depending on the specific configuration on how family firms cooperate with ventures, such partnership can lead to the acquisition of exploratory knowledge that lies outside the family firm's extant knowledge boundaries (Waldkirch *et al.*, 2021). The ventures can be founded and led by either family externals, or other family members that assumed an entrepreneurial role outside the family business (Riar *et al.*, 2022). Finally, King *et al.* (2022) emphasize that family business restructuring encompasses different strategic tools such as acquisitions, divestments or buyouts, and the distinctiveness of such phenomena in the family business context can play an important role for knowledge creation of family firms across generations.

Knowledge storage

Alavi and Leidner (2001) highlight the great relevance of knowledge storage or retrieval to get an effective KM process in an organization. Knowledge storage may influence adaptation capacity and competitiveness in businesses, enhancing the survival of family businesses in the long haul (Chirico and Salvato, 2016). Indeed, Patel and Fiet (2011) report that knowledge stocks retrieved as a consequence of a successful knowledge storage phase may explicate differences when finding new opportunities between family and nonfamily businesses. Common in the research of this phase is the notion that knowledge storage, understood in terms of a dynamic capability, substantiates strategic decision-making in family businesses (Barros *et al.*, 2016).

Scholars in the dynamic capability theory tradition have argued that knowledge storage can be regarded as a dynamic capability that allows family businesses to validate and combine their specialized perspectives, notions and expertise leading family firms' organizational adaptation in increasingly competitive contexts (Chirico and Salvato, 2008). In this vein, prior research has highlighted the need to understand the processes and mechanisms through which businesses design and implement their knowledge storage phase. Notably, Moorman and Miner (1998) argue that knowledge storage needs to be designed depending on the form of knowledge that is retrieved. In particular, implicit/tacit knowledge such as culture and work processes may need a different design of the knowledge storage procedures in comparison with explicit knowledge such as manuals and databases, among others (Olaisen and Revang, 2018).

At the organizational level, the storage of knowledge assets can be conducted via different ways such as storytelling (Kammerlander *et al.*, 2015a), history-scripting strategies (Ge *et al.*, 2021), organizations' memories (Walsh and Ungson, 1991) and the use of the family's and/or territory's tradition as a strategic resource (De Massis *et al.*, 2016a). Kammerlander *et al.* (2015a) argue that since family-centered stories remain stable over time, storytelling becomes a helpful instrument of knowledge storage in family firms. Relatedly, Walsh and Ungson (1991) highlight the important role of language, interactions and stories as a valuable means of knowledge storage. This is echoed by Ge *et al.* (2021) who identify three history-scripting strategies – embedding, elaborating and building family history – that can be used by family firms to store historical knowledge about the entrepreneurial family, allowing them to create a CA. In a similar vein, Erdogan *et al.* (2020) reveal that tradition can be used by family SMEs to store and imprint in the current family generation knowledge aspects pertaining to the previous family generations.

Knowledge sharing

Knowledge sharing, sometimes also labeled knowledge exchange, refers to the organizational processes that disseminate knowledge among all individuals taking part in the activities of a particular process (Lee and Lee, 2007; Botero *et al.*, 2021). Regarded as the central process of KM, the successful implementation of KM is highly dependent on a fluent knowledge sharing (Al-Emran *et al.*, 2018). However, scholars in this field affirm that family firms face specific difficulties inherent to their nature when sharing knowledge assets both formally and informally (Le Breton-Miller *et al.*, 2004). More specifically, one of the most typical issues in family businesses is related to the fact that small groups of family members are usually afraid of sharing their specific knowledge not only with external agents but also with nonfamily members within the organization (Arzubiaga *et al.*, 2019). This is related to the fact that family members see nonfamily members as well as external stakeholders as threats to their socioemotional wealth (SEW) (Kotlar *et al.*, 2018). As a result, this reluctance to set an effective flow of knowledge between different internal and external agents can weaken the effectiveness and development of the CA of family businesses (Arregle *et al.*, 2007).

On the one hand, research on knowledge sharing within the top management team (TMT) at the group level has been based on similar theoretical positions and offered similar results, as compared with the other two KM processes (namely, knowledge creation and storage). For instance, prior studies have underlined that a strong family influence in the business can be a

key element for knowledge sharing, as it leads to the emergence of family social capital that fosters exchange (Pittino *et al.*, 2018). Family social capital allows a fluent knowledge sharing between family members, being especially useful to share knowledge among TMTs with a large proportion of family members (Sanchez-Famoso *et al.*, 2014). This social capital enhances the knowledge-related interactions between family managers while creating a close team feeling among them (Feranita *et al.*, 2017). Subsequently, the latter may hinder the incentive to share knowledge with outsiders like nonfamily managers (Daspit *et al.*, 2019).

On the other hand, Kotlar *et al.* (2020) affirm that this reluctance to share knowledge does not only take place within TMTs but also with external stakeholders. Moreover, in their study, these scholars argue that often family managers see external nonfamily parties as a threat to maintaining their SEW. In view of the reluctance to share knowledge not only with nonfamily managers but also with external agents, Casprini *et al.* (2017) propose that both imprinting, understood as the value-oriented knowledge search and innovation, and fraternization, which refers to trust-oriented long-term cooperation with stakeholders, are useful capabilities that help overcoming knowledge transfer hurdles.

Finally, knowledge sharing can also play a key role in the succession process (Cabrera-Suárez *et al.*, 2001). In this sense, recent research does not only find that knowledge sharing has to be carried out long before the succession process takes place, but also that the knowledge-sharing process between the incumbent and the successor is usually gradual (Ge and Campopiano, 2021). Moreover, knowledge types for a successful succession entail technical knowledge, organizational knowledge and cognitive knowledge (Sambrook, 2005), rendering tacit knowledge sharing a relevant requisite for succession continuity between the incumbent and the successor (Matser *et al.*, 2011).

Knowledge application

Among the phenomena representing the application of knowledge that family firms can pursue, researchers have focused mostly on innovation (Casprini *et al.*, 2017; Chirico and Salvato, 2016), which has direct consequences for firm performance and its competitiveness in the market (Zattoni *et al.*, 2015). In this vein, prior research highlights the importance of this phase of KM when designing and implementing a broad array of innovation types (Darroch and McNaughton, 2002). All in all, the specific nature and characteristics of family firms result in both specific CAs and weaknesses in this last KM phase (Del Giudice and Maggioni, 2014).

Regarding CAs, family social capital seems to play a relevant role for success in the knowledge application phase (Chirico and Salvato, 2016). The more established the family social capital is within the family business, the more probable it will be that these businesses own valuable tacit knowledge about the firms' processes as well as have lower governance costs (Glyptis *et al.*, 2021). Consequently, these factors will facilitate family firms to benefit from the application of knowledge. Nevertheless, some other factors inherent to family firms may also hamper knowledge application. One of the factors is related to the limited human capital they have. Fang *et al.* (2021) argue that family firms usually possess a smaller pool of talent within their staff as a consequence of the type of employees they hire. Relatedly, Zahra (2012) affirms that this results in a lower ability of family firms to succeed in knowledge application. These lower levels of breadth and depth of knowledge source can be especially harmful for family firm performance (Mostafiz *et al.*, 2021) and product innovation (Brinkerink, 2018). In other words, preceding KM phases have a direct impact on the knowledge application phase in general and product development in particular.

All in all, KM is a crucial element in the development of sustainable CA through innovation whether in products or services (Del Giudice and Maggioni, 2014). Moreover, KM plays a key role in allowing family firms to develop temporal symbiosis, which Erdogan *et al.* (2020) define as an organization's simultaneous adoption of retrospective and prospective approaches to using its resources to concurrently perpetuate tradition and achieve innovation.

While we acknowledge the importance of each of the four KM processes, our integrative framework also reports two circular arrows – labeled as *learning/capability* and *aspiration* – indicating two key mechanisms through which a family firm iteratively progresses along the process from knowledge creation to its application. One of these mechanisms is related to learning dynamics and the development of capabilities, whereas the other refers to the motivational aspects that drive a firm to create, store, share and apply knowledge.

In the next section, we examine the triggering mechanisms (namely, behavioral triggers) that link the KM processes to the context where such processes occur (e.g. governance factors, temporal and situational factors, environmental factors and resources).

Behavioral triggers

A significant body of research points to the important role of behavioral triggers within family firms that originate from ability and willingness factors (De Massis *et al.*, 2014), two key drivers of family governance that theoretically originate differences in behavior and outcomes between family firms and their nonfamily counterparts as well as among family firms (Chrisman *et al.*, 2015). On the one hand, willingness refers to the favorable disposition of the involved family to engage in distinctive behavior and comprises the goals, intentions and motivations that drive the family involved to impacting the firm's behavior in directions that are distinct from those sought by firms without family involvement (De Massis *et al.*, 2015). Willingness is closely related to the goals and intentions of the family, that is, whether the family prioritize (and to what extent) family-oriented goals such as family harmony, family social status and family identity linkage instead of other business-oriented goals (Chrisman *et al.*, 2012; Kotlar and De Massis, 2013). This aspect is key to better understand whether and to what extent family businesses prioritize their KM as well as in which ways family businesses design and implement the different phases of KM.

On the other hand, recent literature has deepened in the concept of ability and, according to their nature, has considered two distinct behavioral propensities within it: ability as discretion and ability as resources (De Massis *et al.*, 2018a). Ability as discretion refers to the discretion of the family to direct, allocate, add to or dispose of a firm's resources. In addition, this behavioral propensity also includes the family owners' power and legitimacy to choose the goals of the organization as well as among the feasible strategic, structural and tactical decisions for those aims (De Massis *et al.*, 2015). The family's power to control the firm's strategy may be enhanced through different organizational mechanisms that allow the family to bypass the board when making strategic decisions (Carney, 2005). Conversely, this ability of the family may be hindered by relevant nonfamily agents such as non-family directors and shareholders. Therefore, ability as discretion of the family can intervene in the importance given in terms of resource commitment to KM as well as, subsequently, in the design and implementation of its different phases.

Ability as resources refers to the family's power to act and the resources and capabilities that family owners need to arrange so as to achieve their objectives and lead the firm in the desired direction (De Massis *et al.*, 2015). This resource-based component focuses on the role of family firms' unique resources and capabilities such as higher or lower stocks of social, human and financial capital that could lead to different CAs (Rondi *et al.*, 2021). In this regard, Rondi *et al.* (2021, p. 437) argue that in family firms with a given "certain level of the ability as the discretion of the family to direct, allocate, or dispose of a firm's resources, there will be differences in the behavior of family versus nonfamily firms as well as among family firms depending on the level of ability as capability." Thus, the level of ability as resources may influence not only how KM is designed and implemented but also the success of the different phases within family businesses.

Context

Existing research has also highlighted the relevance of the role of context on KM. Understanding the role context plays in family business KM means appreciating how governance factors, temporal and situational factors, environmental factors and family and

firm resources combined influence managerial decisions (see context boxes). Indeed, different aspects related to context have been identified as influencing the way family firms make decisions in terms of general issues such as corporate governance (De Massis *et al.*, 2016b), firm strategy (Moreno *et al.*, 2021) as well as other more family-firm-specific processes such as succession processes (Porfirio *et al.*, 2020). Nevertheless, little is known about the influence of multiple contexts on the different KM phases. With the aim to integrate the role of context in our framework, we focus on four broad categories of contexts.

First, the governance factors refer to the different aspects and mechanisms that influence the direction and control of an organization (Gnan *et al.*, 2015; Charkham, 1994). In the case of family businesses, they include, among others, ownership, management, directorship and legal factors. Regarding ownership factors, family control and family blockholder, ownership dispersion, controlling generation and institutional investments factors are included. Regarding management factors, some of the studied aspects are whether the CEO is or is not a family member (Kammerlander and Ganter, 2015) and whether senior management positions are majorly influenced by family or nonfamily members (Kraiczy *et al.*, 2014). On the directorship side, factors such as the proportion of family directors have been widely analyzed (Arzubiaga *et al.*, 2018) as well as family guardianship defined in terms of existence of trustees and family councils (Scholes *et al.*, 2021). Finally, regarding the legal factors, the legal status of the family business (e.g. public/private) has been one of the most studied aspects (Carney *et al.*, 2015). These factors are likely to influence KM in general and shape the way different KM facets are designed and implemented in family firms. These meso-context aspects have been scantily investigated in the KM literature so far, with only few studies considering the influence of family involvement in KM decisions (Zahra *et al.*, 2007; Jaskiewicz *et al.*, 2013).

Second, temporal and situational factors refer to aspects associated with the temporal evolution of the family and/or the business. Regarding the family events, the main aspects influencing KM may be related to divorce, marriage as well as death or illness of CEO or any other family member in relevant managerial positions. On the other hand, KM in family businesses may be affected by succession processes, which could be accomplished by promoting a family member to CEO or hiring an external professional for that purpose. Other temporal factors influencing KM are the stages of the family and/or of the business in their respective lifecycles, the duration of (family) ownership and even the occurrence of potential financial distress or crisis. Nevertheless, despite the relevance of these factors, defined by De Massis *et al.* (2018a, p. 12) as the chrono-context and comprising “the life courses of the family and business systems and encompasses factors that lead to evolutionary or punctuated changes along the family’s and the business’s life (De Massis *et al.*, 2018b),” more research is needed (Debellis *et al.*, 2021).

Third, environmental factors include business environment such as industry competition and lifecycle; legal environment that entails whether the family business is set in a country where common law is preponderant in comparison to civil law or vice-versa; and technological environment, where one of its main factors is technological intensity. Prior research has mostly focused on the effects of environmental factors in Western countries, with more research being needed in other institutional contexts such as emerging countries (Vazquez *et al.*, 2020). For instance, we welcome scholars to investigate how where a family business operates can play a role in shaping KM behavior and outcome, moving the industrial sector to the front-seat of family business theorizing rather than considering it at best as a control variable.

Finally, resources include tangible resources such as physical and financial assets as well as intangible resources such as human and social resources, know-how, culture, heritage and even values. The specificity of the latter in family businesses influences the KM within this type of firms and becomes a key aspect to understand the differences between family and nonfamily businesses. Specifically, the intangible assets available in family firms are likely different in terms of quantity and quality compared to those in other types of businesses (Kammerlander *et al.*, 2015b): on the one hand, family firms possess certain resources, such as a trust-based culture or entrepreneurship as a tradition, that foster KM along the entire process, stimulating

knowledge acquisition, storage, sharing and application. On the other hand, certain resources such as emotional ties to existing assets might hinder KM. Moreover, the availability or lack (or even slack) of certain tangible resources (e.g. financial liquidity) might further influence parts of KM, such as knowledge acquisition and knowledge application. For instance, their embeddedness in rural communities might make it difficult for family firms to acquire (technological) knowledge from startups that are often located in the urban centers.

Articles in this special issue

Next, we situate the articles in the special issue within the overarching framework of [Figure 1](#). As summarized in [Table 1](#), each article focuses on a different topic in relation to KM in family firms, draws from different theoretical perspectives, and develops new arguments in response to existing research gaps. We discuss the insights offered by these articles in relation to our integrative model about the antecedents, process variety, context and outcomes of KM.

[Su and Daspit \(2021\)](#) provide a systematic review of the growing literature on KM in family firms, thus contributing new integrated insights following the multi-process framework grounded in the sociology of knowledge developed by [Alavi and Leidner \(2001\)](#). Specifically, the authors base their work on the four primary knowledge management processes of knowledge creation (i.e. knowledge acquisition), knowledge storage/retrieval, knowledge transfer (i.e. knowledge sharing) and knowledge application. By reviewing the literature, they identify antecedents, outcomes and moderators that are unique to the family business context. In terms of antecedents, the authors underscore family social capital, long-term orientation, local embeddedness, shared common language, family ownership and family culture, among others. The outcomes of KM in family firms include both firm-centric outcomes (e.g. innovation, entrepreneurial orientation (EO), internationalization, financial performance and competitiveness) and family-centric outcomes (e.g. succession, transgenerational value creation and transgenerational entrepreneurship). Then, the review identifies several moderators of the relationships between KM antecedents, KM processes and KM outcomes, including various dimensions of SEW, levels of family cohesion, family generation in control, board and organizational social capital and absorptive capacity. Taken together, this review article provides a holistic look at KM in family firm literature that has the potential to inspire new research directions and advance the understandings of KM in the wider management literature. Regarding [Figure 1](#), by focusing on the four different primary KM processes, this paper contributes to advance learning and capability perspectives while adding to the context part by underlining some of the main governance and resources factors.

[Ge and Campopiano \(2021\)](#) focus on the role of multiple stakeholders who influence KM along the different phases of the succession process, addressing specifically the question of how knowledge is managed across generations in family businesses. Specifically, through a systematic integrative literature review, the authors analyze 63 papers published in high standard journals and identify critical gaps in the KM of different phases of the succession process. The review identifies three main succession processes (setting the rules; grooming the successor; passing the baton) where knowledge is managed differently depending on the different stakeholders (knowledge transfer between incumbent and successor, within the family boundary and across the family boundary) involved across the different phases. The first succession phase, regarded as “setting the rules,” is the preliminary stage of the succession process where the main aim is to set up the ground rules to plan the transition from generation to generation. In this phase, the authors conclude that a few core practices are planned or established to construct knowledge to ensure a trustful relationship once the successor joins the family business. The second succession phase, grooming the successor, is considered as the most crucial phase of the succession process when knowledge is created, acquired, shared and transferred, as well as essential when nurturing and training next-generation members. As a concluding remark of this second phase, the authors highlight the relevance to this phase to establish practices aimed at training and mentoring successors in terms of strategic planning,

Table 1 Summary of the special issue papers

<i>Title</i>	<i>Authors</i>	<i>Topic</i>	<i>Research questions</i>	<i>Data and methods</i>	<i>Theory</i>	<i>Key findings/arguments</i>
Knowledge management in family firms: A systematic review, integrated insights, and future research opportunities	Su and Daspit	Knowledge management processes in family firms	What are the main antecedents, outcomes and moderators of knowledge management processes in family firms?	Systematic literature review of 74 articles published in 23 journals	N.A.	This literature review contributes to the synthesis and advancement of family-firm KM scholarship by presenting a framework for the antecedents, outcomes and moderating factors associated with family-firm KM processes. Antecedents are examined based on the nature of their influence on family-firm KM processes, with the simultaneous opposite effects of some influences highlighted. Additionally, key outcomes are synthesized based on their family versus firm-centric orientation. Further, opportunities for advancing scholarship on family-firm KM are presented
Knowledge management in family business succession: Current trends and future directions	Ge and Campopiano	Knowledge management and family business succession	How is knowledge managed across generations in family business?	Systematic integrative literature review of 63 empirical articles	Multi-stakeholder and multi-stage framework	The systematic literature review advances our understanding of knowledge management in family business succession and clarifies the theoretical assumptions on knowledge in conducting research projects on family business. Embracing a "knowledge from practice perspective", the study offers research directions to guide future contributions on knowledge construction in family business succession. The role of family-related knowledge is also highlighted as an area for further investigation
Exchanging knowledge in the TMT to realize more innovation opportunities: What can family firms do?	Rondi and Rovelli	Knowledge exchange in the TMT and innovation opportunity realization	What influence does the TMT exert on knowledge management in pursuing innovation opportunity realization?	Ordinary least square regression analysis on 237 Italian firms, 120 of which are family firms	Knowledge-based perspective	Family firms realize fewer innovation opportunities than nonfamily firms. This result is fully mediated by the knowledge exchange in the TMT: in family firms, the TMT exchanges less knowledge than in nonfamily firms, which drives their lower realization of innovation opportunities. In family firms, the increase in the nonfamily TMT members positively influences the TMT knowledge exchange, but only when the time the CEO spends in searching for innovation opportunities outside the firm is low. The more the CEO search increases, the more this positive influence decreases, up to the point it becomes negative

(continued)

Table 1

<i>Title</i>	<i>Authors</i>	<i>Topic</i>	<i>Research questions</i>	<i>Data and methods</i>	<i>Theory</i>	<i>Key findings/arguments</i>
Pragmatic learning in family SMEs: A qualitative study of functional overload among family SME owner-managers	Querbach, Kammerlander, Singh and Waldkirch	Learning processes and innovation success in family SMEs	How do family SME owner-managers engage in learning, and how are those learning processes affected by family SME-specific characteristics?	Two qualitative multicase studies on German family SMEs involving 61 interviews with family owner-managers, family members, employees and customers	Pragmatic learning theory	The family owner-managers' "functional overload" is a major barrier to learning while employee empowerment, family-members' support and customer feedback as critical resources in overcoming such functional overload. Nevertheless, these resources turn out to be major amplifiers of functional overload in later phases of the learning process, thus impeding learning and innovation
Family ownership and cooperative R&D: the moderating effect of political ties	Dong, Wang and Chen	Family ownership and cooperative R&D	How does family ownership impact family firms' engagement in R&D cooperation?	Fixed-effects regression analysis on 610 Chinese manufacturing family firms on a panel from 2009 to 2017	Ability and willingness paradox framework	Family ownership has an inverted U-shaped relationship with cooperative R&D and political ties moderate the relationship in such a way that the inverted U-shaped relationship will be steeper in firms with more political ties than in firms with fewer political ties
Entrepreneurial orientation, competitive advantage and strategic knowledge management capability in Malaysian family firms	Mostafiz, Hughes and Sambasivan	Entrepreneurial orientation and strategic knowledge management capability	To what extent does achieving competitive advantage mediate the relationships between entrepreneurial orientation and family firm performance? Does the family firm's strategic knowledge management capability affect whether it achieves competitive advantage and firm performance from its entrepreneurial orientation?	A hybrid approach applying structural equation modelling (SEM) and deep-learning artificial intelligence (DL-AI) analysis on 268 Malaysian family firms	Contingency perspective of EO and resource orchestration theory	Competitive advantage mediates the relationship between innovativeness, proactiveness and risk-taking dimensions of EO and firm performance. However, autonomy and competitive aggressiveness have no bearing. In addition, the relationships among innovativeness, proactiveness and risk-taking with CA and performance are positively moderated by SKM capability, becoming more potent at higher levels. Furthermore, specific EO dimensions and the interacting effects of EO-SKM capability are necessary to influence CA and to attain performance success subsequently
The family's effect on knowledge sharing in family firms	Botero, Barroso, Sanguino and Binhote	Family's effect on knowledge sharing in family firms	How does the family system impact knowledge sharing within family firms?	Structural equation modelling (SEM) and the partial least squares (PLS) on 93 Spanish family firms	Institutional theory	Family system characteristics (i.e. next-generation commitment, family trust and intergenerational relationships) affect knowledge sharing through their impact on the participative culture of a family firm. Additionally, when a family has been in control of the business for more generations, they place higher importance on family legacy and continuity, which is likely to strengthen the relationship between participative culture and knowledge sharing in family firms

knowledge acquisition from incumbents as well as moral and competence values. The third succession phase, passing the baton, takes place when the succession process is at the end and successors are ready to take the lead of the business. In this last phase, accumulating experience outside the family business emerges as a crucial practice to construct knowledge in the ultimate phase of this succession process. Regarding [Figure 1](#), this paper contributes to the context part by focusing on the effects that different phases of one of the main temporal and situational factors such as the succession process has in KM.

[Rondi and Rovelli \(2021\)](#) extend the knowledge-based perspective on family firm innovation by showing differences in the level of knowledge exchange as the mechanism that explains family firms' lower realization of innovation opportunities. Based on a sample of 120 family and 117 non-family Italian firms, the authors demonstrate that in family firms, the TMT shares less knowledge than in nonfamily firms, which drives their lower realization of innovation opportunities. Furthermore, in family firms, a higher nonfamily involvement in TMT increases the TMT knowledge sharing, but only when the time the CEO spends in searching for innovation opportunities outside the firm is low. In this sense, the more the CEO search increases, the more this positive influence decreases, up to the point it becomes negative. These findings are based on the mechanisms of absorptive capacity through which family firms acquire external novel knowledge, assimilate and transform it within the TMT, and exploit it to realize innovation opportunities. This study is one of the first investigations that examines TMT characteristics and behavior by grasping the interaction of organizational design and searching activities in driving family firms' innovation outcomes. Regarding [Figure 1](#), this paper adds to the learning/capabilities part by specifically focusing on one of the main KM phases, that is, knowledge sharing.

[Querbach et al. \(2021\)](#) point out the tendency of learning and innovation scholars to focus on learning mechanisms in large-sized and professionally run organizations. However, less attention has been directed at understanding the mechanisms, barriers and enablers of learning in smaller, less formalized businesses, especially in the case of family SMEs. Based on the assumption that although the learning mechanisms are likely to be similarly relevant across contexts, the enablers and barriers to learning are likely to be context-sensitive; they examine how family SME owner-managers engage in learning, and how those learning processes are affected by family SME-specific characteristics. Using pragmatic learning theory as an interpretive lens, [Querbach et al. \(2021\)](#) conduct a qualitative multi-case study involving 61 interviews in family SMEs with family SME owner-managers, family members, employees and customers where novel insights into the mechanisms, barriers and enablers of learning and innovation within family SMEs are provided. Specifically, the authors note that the family owner managers' "functional overload" is a major barrier to learning, and employee empowerment, family-members' support and customer feedback are critical resources in overcoming such functional overload. Nevertheless, the authors show that these resources work as major amplifiers of functional overload in later phases, thus impeding learning and innovation. Regarding [Figure 1](#), by focusing on mechanisms, barriers and enablers of learning, this paper contributes to the learning and capability part.

[Dong et al. \(2021\)](#) echo the widespread idea among scholars that family firms are less inclined toward innovation as a consequence of the paradoxical nature of their ability and willingness. Nevertheless, the authors point out that, surprisingly, the simultaneous consideration of ability and willingness in the analysis of family firm cooperative R&D remains under-researched. Thus, drawing on the ability and willingness paradox framework in family business research, [Dong et al. \(2021\)](#) suggest that family ownership influences cooperative R&D via two opposing mechanisms: power concentration and wealth concentration. They also deepen our current understanding of the boundary conditions of informal institutions for the impact of family ownership on cooperative R&D by investigating the moderating role of political ties. Based on a panel of 610 Chinese manufacturing family firms and 2,127 firm-year observations from 2009 to 2017, the authors found that family ownership has an inverted U-shaped relationship with cooperative R&D, and political ties moderate the relationship in such a way that the inverted U-shaped relationship is steeper in firms with more political ties.

More specifically, family ownership influences firms' cooperative R&D through the positive effect of power concentration and the negative effect of wealth concentration. These findings have implications for practitioners and show that family owners should take advantage of concentrated power, for instance, by adapting quickly and committing sufficient resources to cooperative R&D opportunities, whilst controlling path-dependent relationship development caused by concentrated family wealth. Additionally, family owners should consider that the effect of political ties on the relationship between family ownership and cooperative R&D works as a double-edged sword. Regarding [Figure 1](#), this paper sets its hook in the behavioral triggers part in general and in the willingness and ability concepts in particular.

[Mostafiz et al. \(2021\)](#) analyze the thesis that the family firm's success is dependent on effective strategic knowledge management (SKM) capability coupled with an EO. In this respect, the authors focus on responding to two specific questions such as to what extent does achieving CA mediate the relationships between EO and family firm performance as well as to what extent does the family firm's SKM capability affect whether it achieves CA and firm performance from its EO. Drawing on the contingency and resource orchestration theories, the authors use a hybrid approach applying structural equation modeling (SEM) and deep-learning artificial intelligence (DL-AI) to test these questions against a data set of 268 Malaysian family firms. The results confirm that CA mediates the relationship between only three dimensions of EO, namely, innovativeness, proactiveness, risk-taking (not in the case of autonomy and competitive aggressiveness) and firm performance. Moreover, the authors found that the relationships among innovativeness, proactiveness and risk-taking with CA and performance are positively moderated by SKM capability, becoming stronger at higher levels. Interestingly, four additional DL-AI models reveal the necessity of specific EO dimensions and the interacting effects of EO-SKM capability to influence CA and to attain performance success subsequently. Regarding [Figure 1](#), by focusing on the moderating role of SKM in the relationships among the dimensions of EO with CA and performance, this paper adds to the learning and capabilities part in general and knowledge application in particular.

[Botero et al. \(2021\)](#) examine how the family system plays a role in knowledge sharing within family firms and show that this influence takes place through two routes. On the one hand, there is an external route in which the family affects the culture of the organization. On the other hand, there is an internal route in which family leadership within the firm affects the practices and behaviors within the business. Based on a sample of 93 Spanish family firms, the authors found that family system characteristics (i.e. next-generation commitment, family trust and intergenerational relationships) affect knowledge sharing through their impact on the participative culture of a family firm. Furthermore, the results also showed that when a family has been in control of the business for more generations, they place higher importance on family legacy and continuity, which is likely to strengthen the relationship between participative culture and knowledge sharing in family firms. All in all, the findings indicate that the family system can play a role in helping family firms create environments that promote knowledge sharing through the influence of the family on the culture of the business and through the leadership roles of next-generation family members. Regarding [Figure 1](#), this research contributes to the learning and capabilities part in general and to the knowledge-sharing process in particular.

Some directions for future research

KM in family firms and all the different aspects emerged when examining the intersection of these two research fields provide a means to highlight a number of areas for further research that extend the work of the papers presented in this special issue. A holistic approach to our integrative framework enables us to identify areas that future research might conduct, as well as potentially fruitful research questions. In this section, we build on the integrative framework to identify some areas that deserve further attention and offer promising avenues for future research. Relatedly, an agenda for future research based on the elements in the integrative framework of KM developed in [Figure 1](#) is summarized in [Table 2](#). This research agenda is not completely exhaustive, but it

Table 2 Selected opportunities for knowledge management research in family firms

<i>Building blocks of the integrative framework</i>	<i>Dimensions</i>	<i>Questions for future research</i>
KM facets	Knowledge creation	How does family heterogeneity in terms of family structures, functions, interactions, and events affect knowledge creation processes? How do these family structures, functions, interactions, and events influence the willingness toward the internal (STI, DUI) or external (cooperations, M&A, venturing) knowledge creation processes? How does family involvement in TMT in terms of horizontal (proportion of family senior managers) and vertical (number of generations involved) distance influence the knowledge locus (i.e. spatially and/or temporally and/or culturally distant from current knowledge base)? What family-related factors and contingencies determine the way knowledge creation is operationally managed? How do willingness and ability towards knowledge creation evolve and interact over time? Does the family's influence on knowledge creation processes in family firms change with time, especially as later generations take over? If yes, how and why?
	Knowledge storage	How do family firms store implicit and explicit knowledge? Does the family's influence by means of storytelling influence the knowledge storage process? Does this influence change with time, especially as later generations take over? How do organizational memories influence the knowledge storage process in family firms? How do family firms retrieve in the business the knowledge that has been already stored in the family? How do the social interactions processes between family-centered and business-centered organizational goals determine the knowledge storage in family firms? What is the role played by a family's and/or a family firm's history in shaping knowledge storage in family firms?
	Knowledge sharing	How do the differences and complementarities of family members' and non-family members' backgrounds and expertise influence the knowledge sharing process? How do the differences and complementary backgrounds and expertise of family members belonging to different generations influence the knowledge sharing process? What is the role of social dynamics (such as social exchange, social comparison and social identity processes) in knowledge-sharing processes within family firms and with externals? How does family firms' embeddedness in a local innovation ecosystem affect knowledge sharing and its outcomes? How does knowledge sharing affect family business relationships with external (e.g. supply chain) partners and their transactions (e.g. speed of decisions, locus of control and so forth)? How does collaborative innovation happen in FFs? What are the micro-level barriers and challenges for knowledge sharing necessary for open and collaborative innovation in FFs? How do such effects evolve over time? Do intergenerational tensions result in difficulties with knowledge sharing? How do family firms reconcile these tensions? How does a succession process influence the knowledge transfer across generations in family firms? And, how does the knowledge sharing between the predecessor and the new CEO influence the success of a succession process? How can family firms leverage social capital to cooperate with other firms for knowledge sharing?

(continued)

Table 2

<i>Building blocks of the integrative framework</i>	<i>Dimensions</i>	<i>Questions for future research</i>
Behavioral triggers	Knowledge application	How does the knowledge application process destabilize family firm logics and routines, and how is the family system subsequently re-stabilized? What are the non-economic outcomes of knowledge application in family firms? How do they affect subsequent knowledge creation processes? How do family businesses manage the temporal symbiosis? How do they balance the tensions between tradition and new knowledge to succeed in the knowledge application process? What are the non-economic outcomes of family firm KM? How do they affect subsequent KM decisions? How do differences across KM facets in family firms shape differently different types of innovation (e.g. product/service vs process vs business model innovation)? Are family firms in a better position than their nonfamily counterparts when applying knowledge to obtain specific types of innovation? If yes, for what types? How important is balancing traditional and new knowledge for the outcomes of knowledge application in family firms?
	Family willingness	How do older generations' behaviors affect the ability and willingness of the next generation to join the knowledge creation process? When and how is consensus achieved on KM decisions among family members? And within the board and TMT? How do family characteristics affect the willingness and ability of family firms to successfully engage in different KM phases? What family-related factors and contingencies determine the way KM is operationally managed?
	Family ability as discretion	How do the differences and complementarities of family members' backgrounds of different generations influence the capability of knowledge creation? How do the individual goals of family and non-family members affect KM? Does family harmony spur or hamper the different KM phases? How? What are the benefits and risks of family owners' emotional attachment and power that may influence the KM process of a family firm? How do such effects evolve over time?
	Family ability as resources	How do family values affect knowledge in the different KM phases? What factors enhance or prevent the development of KM and decision-making in family businesses? What are the components of family and organizational culture that are at work in promoting, designing and implementing KM systems? How do capabilities and attitudes towards KM evolve and interact over time? Does the family's influence on KM processes in family firms change with time, especially as later generations take over? If yes, how and why?
The role of context	Governance factors	How do the KM outcomes of a family firm influence family involvement in the business? Does the ownership dispersion influence the different KM phases in family firms? Does a family member CEO foster or hamper a successful KM in family firms? What are the various (formal and informal) configurations of KM and decision-making in different types of family businesses (e.g. closely held vs dispersedly owned, early vs later generation family firms, etc.)?

(continued)

Table 2

<i>Building blocks of the integrative framework</i>	<i>Dimensions</i>	<i>Questions for future research</i>
	Temporal and situational factors	Does the family involvement in TMT/board influence KM in family firms? How does the generation in control influence the different KM phases in family firms? How do relationships within the family as well as between family and non-family members change over time? How do they affect family firm KM? How does achieving consensus among family members and within the board/TMT change over time and affect KM phases? What is the interplay of boards/TMTs demographic characteristics (e.g. board/TMT composition) and boards/TMTs organizational design configurations in shaping KM processes and outcomes?
	Environmental factors	How do KM phases intersect with other FF processes (e.g. successions)? How do family dynamics during generational succession affect family firm KM? Are next generations more inclined to reconsider the KM designed by earlier generations? Are family firms more equipped for knowledge creation and application during downturns and environmental jolts than non-family firms? How have the health and economic crises during and in the aftermath of the Covid-19 pandemic affected family firm KM drivers, phases and outcomes in family firms? How does a relevant family event (e.g. divorce, marriage, death, illness) influence KM in family firms? How does the KM destabilize family firm logics and routines, and how is the family system subsequently re-stabilized? How do KM phases unfold over time? How does a succession process impact on the KM in family firms? Is it equal for internal or external successors?
	Resources	How does KM change during the distinct family/business lifecycles? Does digitalization foster or hamper the KM in family firms? How does succession shape different KM facets? What are the differences between intra-family and external succession? Does the long-term orientation of FFs influence their KM performance/outcomes in the long run? What can a family firm learn from its KM? And from each KM phase? How do emotions affect KM decisions and phases?

identifies what are in our view particularly interesting research questions that deserve specific attention.

Taken together, our proposed integrative framework and the papers published in this special issue have relevant implications for practice as well as for future research. Specifically, an important issue concerns the need for organizations to define KM performance in relation to the goals they are aiming to achieve. Moreover, our integrative framework can serve as a background policy document for policymakers. The KM processes of family businesses are being paid increasing attention in the public domain, and our research advances the understanding of the various facets of KM and their characteristics, and can help policymakers in their decisions on how to build a system of supporting initiatives for KM for the most ubiquitous form of business organization in any world economy.

Conclusion

In conclusion, we have offered an integrative framework that is helpful to synthesize theoretical and empirical research on KM in family firms, by focusing on the different KM

facets that are faced by family firms in their attempt to successfully manage knowledge, the behavioral triggers that activate their distinctive KM behavior as well as the contextual influences on KM in family firms. This framework has been used to position the contributions of the papers published in the special issue against existing theoretical and empirical research on KM in this type of firm, and we have proposed an agenda for future research by delineating a number of important research questions that need to be addressed if theories around the complex issues of KM, their behavioral triggers, contextual factors and application are to move forward. Considering that scholarly interest concerning family firms continues to grow (Rovelli *et al.*, 2021), we believe that gaining a better understanding of KM processes and execution will become of crucial importance for research and practice in this particular field. We hope our efforts will inspire other scholars to continue this important and promising area of investigation, of which we have only started to scratch the surface.

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