Corporate Accelerators In Family Firms – A Conceptual View On Their Design

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ABSTRACT

Corporate accelerators (CAs) have become increasingly popular in both research and practice. In the past, analyses of CAs have centered on organizations in general, but those analyses focused on the particularities of CAs rather than the firms' contexts. With regard to firm-specific contexts, a growing number of family firms in Germany have started CAs in recent years. Family firms are known for their idiosyncrasies due to the family's involvement, which is argued to affect cooperation between family firms and start-ups. We claim that CAs also differ in the context of family firms. Taking a family firm specific perspective on corporate entrepreneurship, we argue that the design of family firms' CAs is influenced by these firms' idiosyncrasies. By connecting this perspective with general CA design dimensions, we conceptually derive family firm specific CA designs and discuss their implications for CAs in general and for CAs in the context of family firms.

Keywords: Family Firm; Corporate Accelerator; Accelerator Design

INTRODUCTION

Even though an accepted definition of accelerators does not yet exist (Richter, Jackson & Schildhauer, 2018), accelerators are generally time-limited programs set up by one or multiple sponsors (e.g., governments, companies, or universities) for a selected portfolio of start-ups in order to support the start-ups' businesses and are characterized by a strong focus on mentoring and educational support (Cohen, 2013; Cohen Fehder, Hochberg & Murray, 2019). Corporate accelerators (CAs) are accelerators that are funded by corporations (e.g., Cohen et al., 2019; Hochberg, 2016). They represent mutual collaboration between corporations and start-ups, in which the corporations aim to profit from the start-ups' ideas and the start-ups aim to profit from the corporations' sponsorships (e.g., funding, office space, and coaching) (Weiblen & Chesbrough, 2015). Simply put, CAs are organized means through which corporations interact with start-ups (e.g., Kohler, 2016).

The establishment of CAs has become an increasingly popular activity in recent years, and research on CAs in general has started to flourish (e.g., Kupp, Marval & Borchers, 2017; Moschner, Fink, Kurpjuweit, Wagner & Herstatt, 2019; Richter et al., 2018; Shankar & Shepherd, 2019). For instance, in 2015 and 2016, researchers listed CAs as one of the major trends in the "corporate innovation" scene (e.g., Hochberg, 2016; Weiblen & Chesbrough, 2015). Given this trend, researchers began to study CAs in terms of their motivation, design, and functioning. In this regard, Kanbach and Stubner (2016), Moschner et al. (2019), Prexl, Hubert, Beck, Heiden and Prügl (2019), and Shankar and Shepherd (2019) derived different CA types. Others outlined factors related to the facilitation, success, and efficiency of CAs (e.g., Connolly, Turner & Potocki, 2018; Kohler, 2016; Kupp et al., 2017; Mahmoud-Jouini, Duvert & Esquiro, 2018; Richter et al., 2018), as well as factors constraining CAs (Jackson & Richter, 2017). Surprisingly, to the best of our knowledge, research focused on the particular context of CAs in family firms is non-existent,[1] even though family firms have increasingly started to set up CAs. In Germany, for instance, both the technology group Heraeus (Heraeus, 2019) and the healthcare product and services provider B. Braun (Braun, 2019) have established corporate accelerators. Moreover, several family firms, including, for instance, the manufacturers Dr. Oetker (food) and Miele (appliances), have established a corporate accelerator together (Terpitz, 2019). Therefore, we need to take a family firm specific look at CAs, as the cooperation between these firms and start-ups is unique due to the family's involvement in the firm (e.g., Klopper, 2018). Hence, we argue that the design of CAs in family firms is affected by the family's involvement in the firm.

Consequently, the design of family firm CAs is the subject of this paper's conceptual investigation. More specifically, we want to investigate how a family's involvement in the firm is likely to shape the design of corporate accelerators. For this purpose, we draw on the general CA design dimensions derived by Kanbach and Stubner (2016), and we apply Randolph, Li, and Daspit's (2017) family firm specific corporate entrepreneurship suggestions. We argue that these two lenses are suitable for making inferences about the characteristics of CA design in family firms. Our study contributes to the CA literature by highlighting the firm-specific attributes that may determine the set-up of CAs. Moreover, we offer support for the suggestion that the family firm corporate entrepreneurship model introduced by Randolph et al. (2017) might be well suited for analyzing the design characteristics of specific corporate entrepreneurship modes, such as CAs. From a practical perspective, our findings can help family firm practitioners evaluate whether setting up CAs is a valid option and how their family firm's characteristics are likely to shape the CA's design.

THEORETICAL FOUNDATIONS

In order to analyze how family firms, set up CAs, we first examine the extant research on the classification and design of CAs. We then argue for the appropriateness of building on theory on family firm corporate entrepreneurship by briefly outlining how CAs connect to corporate entrepreneurship and how corporate entrepreneurship, in turn, is treated in family firm research. This lays the foundation for linking general CA design dimensions with a family firm specific corporate entrepreneurship logic to derive a family firm specific CA design.

CAs' Classification and Design

Similar to accelerator studies in general (Crișan, Salanță, Beleiu, Bordean & Bunduchi, 2019), CAs and their classification have been treated in a variety of ways due to the fact that the first CAs did not appear until the early 2010s (e.g., Kohler, 2016). Some researchers subsume CAs among new modes of incubation (e.g., Hausberg & Korreck, 2020; Pauwels, Clarysse, Wright & Van Hove, 2016) or corporate venturing (e.g., Haslanger, 2019; Selig, Gasser & Baltes, 2018). Others specifically distinguish CAs from such activities and view them as a mode of start-up engagement (e.g., Kohler, 2016; Weiblen & Chesbrough, 2015) that may improve the corporation's innovative and competitive position (Weiblen & Chesbrough, 2015) and/or trigger their growth and renewal (Kohler, 2016). Furthermore, while some researchers classify CAs as an innovation approach focused on bringing external innovation into the firm, (e.g., Weiblen & Chesbrough, 2015), others specifically acknowledge that CAs may be classified as an innovation approach in which innovation originates from within the firm (e.g., Selig et al., 2018).

In order to analyze CAs within the context of family firms, we must first unite these diverse classification approaches. In this regard, we follow research that theoretically anchors CAs in the concept of corporate entrepreneurship (e.g., Lehmann & Wilhelm, 2018; Selig et al., 2018; Shankar & Shepherd, 2019). Corporate entrepreneurship can be defined as a "process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization" (Sharma & Chrisman, 1999, p. 92).[ii] As such, corporate entrepreneurship is an integrative concept that encompasses attempts at innovation, corporate venturing (internal and external), and strategic renewal (Sharma & Chrisman, 1999). Therefore, it has the potential to even out the differences in CA classification, as it is inclusive of all of these aspects.

Past studies focused on CAs have generally been explorative in nature (Bauer, Obwegeser & Avdagic, 2016), and often aimed at providing a better understanding of CAs' design dimensions and their respective implications. While one stream of research highlights the design distinctiveness of CAs as a means of innovation accompanied by implementation advice (e.g., Kohler, 2016; Richter et al., 2018), another stream of research points to the differences among CAs depending on the peculiarities of their designs (e.g., Kanbach & Stubner, 2016; Moschner et al., 2019; Prexl et al., 2019; Shankar & Shepherd, 2019).

However, these studies differ with regard to their approaches. For example, Moschner et al. (2019) build on Hochberg (2016) to derive and describe four types of CAs along the two design dimensions: i) whether the CA is funded by one or more corporations, and ii) whether the CA is managed by the funding corporation or an external provider. In contrast, Prexl et al. (2019), who build on Pauwels et al. (2016), focus on CAs set up by corporations to develop an ecosystem to surround them. They derive and describe five accelerator types based on 15 design dimensions comprised

in the categories "[participant] selection, business support, and graduation" (Prexl et al., 2019, p. 627). Kanbach and Stubner (2016) look at CAs that are funded by a single corporation. They establish four different accelerator types that differ with regard to the kind of objective pursued by the CA, and the respective configuration of the remaining eight design dimensions comprised by the CA's "focus" and "organization." Shankar and Shepherd (2019) identify two types of CAs in which the selection of participants, their "acceleration," and their results depend on the corporation's "strategic posture" and corresponding "investment time horizon."

In this paper, we draw on Kanbach and Stubner's (2016) framework of design dimensions. In contrast to Prexl et al. (2019), Kanbach and Stubner (2016) did not limit their focus to ecosystem-developing CAs. Hence, their design dimensions are more generic and broadly applicable. However, this applicability may be limited, as Kanbach and Stubner (2016) derived their design dimensions by analyzing CAs funded by only one corporation, in contrast to Moschner et al. (2019). Nevertheless, Kanbach and Stubner's (2016) design dimensions appear to be more fine-grained than Moschner et al.'s (2019) and may, in fact, be easily extended by including the possibility of setting up CAs with multiple corporations. Furthermore, according to Kanbach and Stubner (2016), a CA's design is mainly influenced by its objectives, which are determined by the corporation. This is also in line with Shankar and Shepherd's (2019) findings. As Shankar and Shepherd's (2019) study allows for a deep-dive into two different CA directions, their findings may further complement the application of Kanbach and Stubner's (2016) CA design-dimensions framework.

Connecting Corporate Entrepreneurship in Family Firms With CA Design

In the context of family firms, corporate entrepreneurship has been subject to increasing interest in recent years. With regard to the activities encompassed by corporate entrepreneurship, researchers have looked at family firms pursuing "collaborative innovation" (e.g., Feranita, Kotlar & De Massis, 2017; Magistretti, Dell'Era, De Massis & Frattini, 2019), engaging in corporate venturing activities in general (e.g., Greidanus, 2011), engaging in internal corporate venturing activities in particular (e.g., Brumana, Minola, Garrett & Digan, 2017; Greidanus & Märk, 2012; Wiedeler & Kammerlander, 2019), and cooperating with external start-ups (e.g., Klopper, 2018). When examining corporate entrepreneurship in family firms in general, researchers have often aimed to identify factors that influence corporate entrepreneurship (e.g., Kellermanns & Eddleston, 2006; Minola, Campopiano, Brumana, Cassia & Garrett, 2017).

Due to differences among family firms, researchers have called for advances in our understanding of how different types of family firms may pursue corporate entrepreneurship (McKelvie, McKenny, Lumpkin & Short, 2014). In line with that call, Randolph, Li and Daspit (2017) conceptually derive "A Typology of Corporate Entrepreneurship Orientations in Family Firms" (p. 534), and argue that family firms differ with regard to the level of intensity and the design of corporate entrepreneurship activities. This is because these firms may be distinct with regard to their "willingness" and their "ability" to be involved in corporate entrepreneurship activities (Randolph et al., 2017). Building on a "willingness-ability" paradigm, Randolph et al. (2017) follow a basic idea found in analyses focused on distinguishing family firms from each other and from non-family firms (see De Massis, Kotlar, Chua & Chrisman, 2014) and in examinations of innovation-related issues in family firms (e.g., Chrisman, Chua, De Massis, Frattini & Wright, 2015). Given our argument that corporate entrepreneurship may serve as a suitable umbrella concept for analyzing CAs, we argue that if the design of corporate entrepreneurship activities in family firms depends on their willingness and ability, then the design of family firm CAs will also depend on these factors.

According to Kanbach and Stubner (2016), CAs can be characterized in terms of their "objectives" and "configurational dimensions." The CA objectives indicate a firm's goals for a CA. The configurational dimensions - the "focus" and "organization" of the CA - comprise eight design elements that are combined to allow for achievement of the CA's objectives (Kanbach & Stubner, 2016). In other words, the CA's configurational dimensions indicate how a firm will achieve the CA's objectives.

According to Randolph et al. (2017), the family firm's "transgenerational succession intention" (TSI), which indicates whether the firm is eager to keep the firm for future family generations ("salient" TSI) or not ("negligible" TSI), may help to determine what the family firm wants to achieve with its corporate entrepreneurship activities (i.e., its "willingness"). In terms of CA design in family firms, this implies that the degree of TSI may indicate what the firm wants to achieve with its CA (i.e., the direction of the CA's objectives).

Randolph et al. (2017) also introduce the firm's "knowledge acquisition capability" (KAC), which refers to its "limited" or "expanded" capability to recognize and obtain external knowledge (see Zahra & George, 2002). This may help indicate whether and how the family firm is likely to pursue its corporate entrepreneurship goals (i.e., its "ability"). In this regard, Randolph et al. (2017) anticipate "that the extent to which the family firm leverages its knowledge acquisition capability fundamentally alters the modes and outcomes of CE [corporate entrepreneurship]-related activities" (p. 534). In terms of CA design, this implies that the family firm's degree of KAC may indicate whether and how the family firm is likely to pursue its CA goals. As stated above, the CA's configurational dimensions indicate how the CA's objectives may be achieved.

Together, these two arguments imply that the family firm's degree of KAC may indicate which design of the CA's configurational dimensions the family firm is likely to adopt. Given the nature and definition of CAs, parent and portfolio firms try to achieve their objectives through mutual cooperation. This implies that if firms (i.e., parent firms) wish to establish CAs, they will need to be capable of recognizing external knowledge in order to identify promising start-ups (i.e., portfolio firms) that fit the intended CA objectives (see Kohler, 2016). Furthermore, over the course of the cooperation, parent firms need to be capable of obtaining external knowledge in order to engage with their portfolio firms and to achieve the CA's objectives (see Richter, Jackson & Schildhauer, 2018). Consequently, the capability of a family firm to recognize and obtain external knowledge (i.e., its KAC) plays a crucial role in the context of CAs. It may influence the targeting of portfolio firms with regard to the capability of a family firm to recognize external knowledge. In addition, it may influence how the family firm engages with the portfolio firm with regard to the capability of the family firm to obtain external knowledge.

A closer examination of the eight design elements of Kanbach and Stubner's (2016) configurational CA dimensions - "locus of opportunity," "industry focus," "venture stage," "strategic logic," "equity involvement," "external partner," "connection to parent," and "leadership experience" - reveals that they are related to targeting and engaging with portfolio firms. This strengthens the notion that the family firm's degree of KAC may indicate which design of the CA's configurational dimensions the family firm is likely to pursue. Given the above arguments, we propose the following guiding proposition:

Proposition 1: The dimensions of TSI and KAC may provide an indication of whether and how family firms are likely to set up CAs.

CA Design in Family Firms

We now look at how the degrees of TSI and KAC shape the design of a family firm's CA, especially in terms of its objectives and configurational design dimensions. An overview of our propositions is provided in

Table 1. Overview of Proposed Shape of CA Objectives and Configurational Dimensions in Family Firms With Regard to Their Possible Degrees of TSI and KAC

			Family firm corporate entrepreneurship-determining dimensions according to Randolph et al. (2017)	
CA design dimensions according to Kanbach and Stubner (2016)	**Objectives**		**Transgenerational succession intention (TSI)**	
			Negligible	**Salient**
	Primary and additional		Tactical and/or financial	Strategic
	Configurational dimensions		**Knowledge acquisition capability (KAC)**	
			Limited	**Expanded**
	Focus	Locus of opportunity	Internal	External also possible
		Industry focus	Tight	Broad also possible
		Venture stage	Early	Later also possible
		Strategic logic	Predominantly exploitation	Also, predominantly exploration
		Equity involvement	Naturally displayed	Possible
	Organizational	External partner	Only trusted partners	Possible
		Connection to parent	Integrated	Independent also possible
		Leadership experience	Internal	External also possible

Source: Own illustration.

CA Objectives in Family Firms

According to Kanbach and Stubner (2016), a CA's direction and design-determining objectives can be broken down into "primary objectives" and "additional objectives." Primary objectives include "strategic" and "financial" objectives. Additional objectives may, for instance, include the creation of an entrepreneurial spirit within the firm or the establishment of a position as "an innovative, agile, and flexible organization" (Kanbach & Stubner, 2016, p. 1765) in order to be appealing as a potential employer and investor (Kanbach & Stubner, 2016).

Researchers have begun to investigate unique factors that motivate business decisions in the context of family firms and their anticipated outcomes (e.g., Berrone, Cruz & Gómez-Mejía, 2012; Gómez-Mejía, Cruz, Berrone & De Castro, 2011). Generally speaking, these factors cater to the family's utility function, which researchers argue may mostly be determined by non-economic, socio-emotional elements (Gómez-Mejía et al., 2011; Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson & Moyano-Fuentes, 2007). However, the kind of utility that each family might favor may vary- one family may prefer outcomes that favor future generations (a long-term-orientation), while another may prefer outcomes that benefit currently active family members (a short-term orientation) (Miller & Le Breton–Miller, 2014; Randolph et al., 2017). Building on these thoughts, Randolph et al. (2017) highlight the necessity of determining whether the family firm intends to keep the firm for future family generations (salient TSI) or not (negligible TSI), as this may indicate the direction of the corporate entrepreneurship activities the firm is likely to pursue. These authors also state that while family firms with salient TSIs are likely to pursue corporate entrepreneurship decisions that cater to the family's long-term orientation (i.e., future value creation for later generations), family firms with negligible TSIs are likely to pursue decisions that cater to the family's short-term orientation (i.e., value creation for the current generation). These thoughts imply that family firms with salient TSIs are likely to pursue CA objectives that cater to the family's long-term orientation, while family firms with negligible TSIs are likely willing to pursue CA objectives that cater to the family's short-term orientation.

Randolph et al. (2017) use the family's long-term orientation toward creating value for future family generations to suggest that family firms with salient TSIs may pursue corporate entrepreneurship activities that are directed at the firm's "strategic sustainability." As such, the corporate entrepreneurship activities that these families favor are of long-term strategic relevance for the firm. They support value creation for future family generations, as they are directed towards the firm's longevity.

In contrast, family firms with negligible TSIs may pursue corporate entrepreneurship activities that are not focused on the firm's strategic sustainability (Randolph et al., 2017). As such, the corporate entrepreneurship activities that a family favors are not necessarily of long-term strategic relevance for the firm. Randolph et al. (2017) suggest two possible directions for this type of corporate entrepreneurship activity: focused on a short-term economic gain for the family (e.g., increase the firm's profitability) or family-favored projects that are not associated with the firm's strategy at all.

The direction of a CA is framed by the type of primary objective (strategic or financial) it pursues (Kanbach & Stubner, 2016). Overall, strategically oriented CAs are directed at the parent firm's business optimization and/or renewal, while financially oriented CAs are directed at a parent firm's investor perspective (Kanbach & Stubner, 2016; Shankar & Shepherd, 2019). Consequently, the potential strategic relevance of the portfolio firms is important to the parent firm in the case of strategically oriented CAs (Shankar & Shepherd, 2019). In the case of financially oriented CAs, the potential to increase the portfolio firms' value using the parent firm's resources is more decisive than the portfolio firms' strategic fit with the parent firm's business (Kanbach & Stubner, 2016).

Given our discussion of the anticipated directions of family firms' corporate entrepreneurship activities, we argue that family firms with salient TSIs are likely to pursue CAs that are focused on ensuring the firm's longevity. As such, CAs should be of long-term strategic relevance for the family firm, which may be best incorporated in strategically oriented CAs. However, family firms with negligible TSIs are likely to pursue CAs that are directed at optimizing the business for the family's short-term economic gain. Even though the optimization of a firm's business through CAs (e.g., via anticipated cost savings or customer-base increases) also has a strategic objective (see Shankar & Shepherd, 2019), we refer to such objectives as "tactical" and corresponding CAs as "tactically oriented." Our goal is to be better able to distinguish the overall direction of these CAs from the strategically oriented CAs associated with family firms

with salient TSIs. In addition to tactically oriented CAs, family firms with negligible TSIs may pursue financially oriented CAs if financial investments in new ventures are related to a family-favored project, regardless of the firm's strategy (see Randolph et al., 2017). In such CAs, portfolio firms are often not strategically relevant for the firm's business and the owning family may benefit economically from increasing the portfolio firms' value by leveraging the family firm's resources (see Kanbach & Stubner, 2016; Randolph et al., 2017). Consequently, with regard to family firm specific CA objectives, we propose the following:

Proposition 2a: Family firms with salient TSIs are likely to pursue strategic CA objectives.

Proposition 2b: Family firms with negligible TSIs are likely to pursue tactical CA objectives and/or financial CA objectives.

Family Firms' Configurational CA Dimensions

After establishing their CA objectives, firms can shape their CAs' configurational dimensions (Kanbach & Stubner, 2016). As outlined above, Kanbach and Stubner (2016) identified eight elements that make up the CA's *configurational dimensions*, which can be subsumed under the CA's "focus" and "organization." Whereas the CA's *focus* comprises the elements of "locus of opportunity," "industry focus," "venture stage," "strategic logic," and "equity involvement," its *organization* includes the elements of "external partner," "connection to parent," and "leadership experience." These eight elements can take on different characteristics (e.g., "internal" versus "external" locus of opportunity). Furthermore, as we have discussed, the capability of a family firm to recognize and obtain external knowledge (see Randolph et al., 2017; Zahra & George, 2002) may indicate which design of the CA's configurational dimensions the family firm is likely to pursue. Applying this logic to the eight elements and their different characteristics, we argue that the family firm's degree of KAC (i.e., limited or expanded) may affect which characteristics of these elements the firm is likely to pursue.

In order to further explain the notions of limited and expanded KACs, Randolph et al. (2017) draw on network-theoretical thoughts of "structural embeddedness" and "relational embeddedness" (Granovetter, 1985), as introduced into the context of KAC by Zheng, Zhang and Du (2011). In differentiating between limited and expanded KACs with the help of arguments related to structural embeddedness, Randolph et al. (2017) propose that family firms that rely on external networks with redundant ties exhibit limited KACs, while family firms that "recognize the limitations of redundant knowledge networks and attempt to diversify their exposure to valuable knowledge resources" (p. 534) are characterized by expanded KACs. In light of discussions on relational embeddedness, Randolph et al. (2017) argue that family firms with limited KACs have a rather narrow external network that is composed of a few, only highly trusted partners. In contrast, family firms with expanded KACs have a broad external network composed of both close and distant partners from which they can source external knowledge (Randolph et al., 2017). The operation of a broad external network may enable family firms to create "organizational social capital" (Arregle, Hitt, Sirmon & Very, 2007). As Zahra (2010) argues, this may help "family firms (…) connect with other companies to gain the knowledge necessary to stimulate entrepreneurship" (p. 346). Overall, family firms with limited KACs are more constrained in their capability to recognize and obtain external knowledge than family firms with expanded KACs (Randolph et al., 2017).

Given these arguments as a basis for analysis, we can discuss how the family firm's degree of KAC may affect its ability to design the CA's configurational dimensions of "focus" and "organization." In other words, we can examine its likely ability to pursue the respective characteristics of the eight elements.

CA Focus – Locus of Opportunity, Industry Focus, Venture Stage, Strategic Logic, and Equity Involvement

A CA's *locus of opportunity* refers to the origin of the targeted portfolio firms, which may either stem from within ("internal") or outside ("external") the parent firm (Kanbach & Stubner, 2016). In order for a family firm to take over an external locus of opportunity, promising external portfolio firms have to be identified. For this purpose, a broad network is key. Kohler (2016), for instance, argues that a parent firm has "to build and leverage [its] network to identify many interesting startups that respond to the call for applications" (p. 353). As argued by Randolph et al. (2017), family firms with limited KACs do not have broad networks. Therefore, they may be less likely to take over

an external locus of opportunity. However, taking over an internal locus of opportunity may not require such a broad network. Instead, internally focused CAs target internal employees and their business ideas, and they may assist the parent firm in steadily transforming itself (Selig et al., 2018). Building on Rothaermel and Thursby (2005), Randolph et al. (2017) suggest that in family firms with limited KACs, "knowledge structures [are] becoming more localized and firm-specific, yielding potential operational benefits for performance" (p. 534). They also state that such family firms "are restricted to incremental CE [corporate entrepreneurship] activities obtained using primarily internal knowledge resources" (Randolph et al., 2017, p. 538). These thoughts imply that even though family firms may have limited KACs, they may still be capable of recognizing their distinct internal firm knowledge. We thus propose:

Proposition 3a: Family firms with limited KACs are likely to target an internal locus of opportunity with their CAs.

In contrast, family firms with expanded KACs may not be limited to an internal locus of opportunity. According to Randolph et al. (2017), family firms with expanded KACs build broad external networks. Furthermore, building on Zahra and George (2002), Randolph et al. (2017) suggest that these firms "are able to expand the scope of new opportunity search, extend perceptual schema, and increase the speed and quality of opportunity recognition" (p. 539). Thus, we propose:

Proposition 3b: Family firms with expanded KACs are likely able to target both internal and external loci of opportunities with their CAs.

The industries covered by the portfolio firms represent the CA's *industry focus* (Kanbach & Stubner, 2016). In this regard, the parent firm can target either portfolio firms active in a particular industry related to the parent firm ("tight" focus) or portfolio firms in industries different from that of the parent firm ("broad" focus) (Kanbach & Stubner, 2016). According to Randolph et al. (2017), family firms with limited KACs are likely to only focus on corporate entrepreneurship activities that are closely linked to the firm's core business. In the CA context, this implies that family firms with limited KACs may only target portfolio firms in industries related to that of the parent firm. This leads to the following proposition:

Proposition 4a: Family firms with limited KACs are likely to target a tight industry focus with their CAs.

On the other hand, a family firm with an expanded KAC may not necessarily target portfolio firms active in businesses that are closely related to the firm's core business. In this regard, Randolph et al. (2017) argue that family firms with expanded KACs look for "more distant knowledge resources from a wider range of sources" (p. 534) and are "able to gain a better understanding of environmental dynamics across multiple industries" (p. 534). Thus, the CAs of these firms may target portfolio firms that are active in industries that are not linked to the family firm's core business. We thus propose:

Proposition 4b: Family firms with expanded KACs are likely able to target both a tight and a broad industry focus with their CAs.

Finally, CAs differ with regard to the maturity of the targeted portfolio firms. More specifically, they may vary with respect to where the firms are in their *venture stage*, as they may be in an "early stage" (e.g., idea or prototype phase) or in a "later stage" (e.g., business-conduct phase) (Kanbach & Stubner, 2016). As argued above, family firms with limited KACs are likely to follow an internal locus of opportunity (see Proposition 3a). This implies that these CAs address portfolio firms that are in their early stages or, more specifically, internal innovative business ideas (Kanbach & Stubner, 2016; Selig et al., 2018). This is also in line with the general notion that corporate entrepreneurship modes that rely on an innovation flow that arise from within the firm often start out with the generation and/or further development of internal business or product ideas (see Gutmann, 2019). Given the line of argumentation for Proposition 3a, we argue that family firms with limited KACs can also target such internal early-stage ventures (i.e., internally generated innovative business ideas) due to their inherently distinct firm knowledge. This is particularly likely to be the case if these ideas are related to the business's core (see Proposition 4a). Given these circumstances, we propose:

Proposition 5a: Family firms with limited KACs are likely to target early-stage ventures (i.e., internally generated innovative business ideas) with their CAs.

A more nuanced line of reasoning needs to be applied for family firms with expanded KACs, as these firms are also able to follow an external locus of opportunity (see Proposition 3b). In contrast to an internal locus of opportunity, an external locus of opportunity may not imply a focus on a certain venture stage (see Kanbach & Stubner, 2016). A focus on external early- and later-stage ventures entails certain challenges when it comes to recognizing inherent opportunities. In the case of external early-stage ventures, which have yet to prove themselves on the market, recognition of opportunities with regard to both the team and the idea appears to be key (see Shankar & Shepherd, 2019). In addition, for external later-stage ventures, recognizing opportunities inherent in, for instance, their products or services (including underlying technologies), or their business and behavioral structures with the aim of leveraging cost or market synergies may be essential (see Shankar & Shepherd, 2019). Given the argumentation for Proposition 3b, family firms with expanded KACs may be able to master these challenges because when it comes to opportunity recognition, they are able to increase its speed and quality. This may be because these firms have contacts in their broad external networks that can provide them with firm and market insights (see Zahra, 2010). As such, we propose:

Proposition 5b: Family firms with expanded KACs are likely able to target both early- and later-stage ventures with their CAs.

Finally, these arguments may add to the CA's *strategic logic*. Building on March's (1991) conceptualization of "exploration" and "exploitation," Kanbach and Stubner (2016) differentiate between CAs in which an exploration-oriented strategic logic prevails and CAs in which an exploitation-oriented strategic logic prevails. Generally, knowledge acquisition may be key when explaining "exploration as well as exploitation related activities within a firm" (Mom, Van Den Bosch & Volberda, 2007, p. 911). For instance, Li, Vanhaverbeke and Schoenmakers (2008) compare various exploration and exploitation studies. They suggest that one way to distinguish between exploitation and exploration may relate to the kind of "knowledge search" ("local" or "distant") that firms pursue in the context of innovation. In summarizing studies in this regard, they propose that "activities that search for familiar, mature, current or proximate knowledge" (Li et al., 2008, p. 115) represent exploitation (local knowledge search) and "activities that search for unfamiliar, distant and remote knowledge" (Li et al., 2008, p. 115) represent exploration (distant knowledge search). Building on these thoughts, we argue that family firms with limited KACs may only be able to search locally for new knowledge due to their narrow external networks. This is in line with our argumentation for Propositions 3a, 4a, and 5a, according to which these firms may only be able to accelerate internally generated business ideas that are close to the family firm's core. As argued by Randolph et al. (2017), this combination may lead to incremental innovation output. Incremental innovation, in turn, is often associated with exploitation activities (e.g., Atuahene-Gima, 2005; Benner & Tushman, 2003). Consequently, we propose:

Proposition 6a: Family firms with limited KACs are likely to set up CAs in which an exploitation orientation prevails.

Moreover, we argue that family firms with expanded KACs may not be limited to exploitation-oriented CAs. Due to their broader external networks, they may be able to search more distantly for new knowledge. This is in line with our argumentation for Propositions 3b and 4b, which suggests that family firms with expanded KACs may also be able to target external portfolio firms with an industry focus that is not tightly linked to the parent firm. As such, family firms with expanded KACs may be able to pursue radical innovations (Randolph et al., 2017) with the help of their CAs. Contrary to incremental innovation, radical innovation is often associated with exploration activities (e.g., Atuahene-Gima, 2005; Benner & Tushman, 2003). Hence, we propose:

Proposition 6b: Family firms with expanded KACs are likely to set up CAs in which either an exploration or an exploitation orientation prevails.

A parent firm may engage with its CA's portfolio firms in different ways, such as *equity involvement*. Here, parent firms may acquire equity stakes in their portfolio firms (e.g., via shares or a convertible loan) (Kanbach & Stubner, 2016). Equity, which represents a "real option" investment, enables family firms to closely monitor, interact with, and profit from their portfolio firms (Zahra, 2010). When CAs have an internal locus, the parent firm may naturally hold

equity in potential new ventures (Kanbach & Stubner, 2016). As we argue in Proposition 3a that family firms with limited KACs may only be able to follow an internal locus of opportunity with their CAs, we propose:

Proposition 7a: Family firms with limited KACs naturally undertake equity engagement with their CAs' portfolio firms.

The same argumentation holds true for family firms with expanded KACs that may follow an internal locus of opportunity with their CAs. In the case of an external locus, the acquisition of equity is often related to a specific purpose (see Kanbach & Stubner, 2016). As such, a family firm must be willing to acquire equity stakes (see Chrisman et al., 2015). However, this willingness may be directly influenced by the family's nonfinancial goals (i.e., its TSI) (see Duran, Kammerlander, Essen & Zellweger, 2016; Randolph et al., 2017). In addition to a certain willingness to invest, family firms should be able to initiate equity investments, given their financial ability. Here, in line with Zahra (2010), family firms with expanded KACs may be particularly able "to identify and negotiate equity deals with those ventures in which they wish to invest" (p. 348). We thus propose:

Proposition 7b: Family firms with expanded KACs are likely able to undertake equity engagement within their CAs' external portfolio firms.

CA Organization—External Partner, Connection to Parent, and Leadership Experience

At times, parent firms may be overwhelmed by the organizational and managerial effort required to set up and execute a CA. As such, they may require the help and support of an *external partner* (Kanbach & Stubner, 2016). This external partner may be a firm offering specialized services in setting up and executing CAs (Hochberg, 2016; Kanbach & Stubner, 2016; Moschner et al., 2019) or other firms that will also function as parent firms (Hochberg, 2016; Moschner et al., 2019). Whereas the former may be characterized as a "powered by" CA, the latter can be characterized as a "consortium" CA (Hochberg, 2016; Moschner et al., 2019).

Generally, teaming up with external partners may help family firms with limited KACs to, for instance, identify promising external portfolio firms and, thereby, compensate for their limited capability to recognize external knowledge potential. However, these partners may represent an external knowledge source from which they would then acquire knowledge. Given Randolph et al.'s (2017) explanation of family firms with limited KACs, these firms may only be able to identify and obtain external knowledge through external partners with which they have strong ties (i.e., partners that they trust). Consequently, we argue that family firms with limited KACs are likely to engage only trusted external partners when setting up and executing CAs. However, even if family firms with limited KACs engage trusted external partners in these activities, they still need to be able to obtain knowledge from their CAs' portfolio firms. In line with our argumentation above, the establishment of strong relational ties with these portfolio firms is key in this regard. Nevertheless, it takes time to build such ties, as they are formed through intimacy, frequency, reciprocity, and emotional intensity (Ebers & Maurer, 2014; Granovetter, 1973). Notably, CAs are often time restricted, as they may only run for a couple of months (e.g., Kanbach & Stubner, 2016; Kohler, 2016). Thus, building such ties with external portfolio firms appears highly unlikely. Consequently, we posit that even though engaging with trusted external partners in the set up and execution of CAs may help family firms offset some of their KAC-related limitations (e.g., recognition of external knowledge potential), these firms will still face the challenge of obtaining knowledge from their CAs' portfolio firms. Therefore, the overall usefulness of engaging external partners when setting up and executing CAs may be questionable for these firms.

Apart from setting up and executing CAs, external partners may also be used as mentors for portfolio firms within the course of their acceleration (e.g., Kanbach & Stubner, 2016; Kohler, 2016; Mahmoud-Jouini et al., 2018). We argue that the involvement of trusted external partners can be beneficial in cases where family firms with limited KACs are accelerating internally generated business ideas that are close to the family firm's core (see Propositions 3a, 4a, and 5a). In this regard, quick validation of such ideas is essential, according to Selig et al. (2018). Overall, trusted partners in a family firm context may be helpful in such situations, as they are likely to be both closely related to the family firm's core business and taken seriously by the firm (see Duran et al., 2016). Ultimately, we propose:

Proposition 8a: Family firms with limited KACs are likely able to engage trusted external partners when setting up and executing CAs. However, this may only be useful for supporting the acceleration of internally generated business ideas.

In contrast to family firms with limited KACs, family firms with expanded KACs should be able to acquire new knowledge through external partners with which they have either strong or weak relational ties (Randolph et al., 2017). As such, the restrictions that family firms with limited KACs encounter in terms of external partner types and their usefulness may not apply. Hence, we propose:

Proposition 8b: Family firms with expanded KACs are likely able to engage external partners when setting up and executing CAs.

The association between parent firms and portfolio firms may also be expressed in terms of the *connection to parent*- that is, whether the CAs are "integrated" into one of the parent firm's business units or departments, or set up as separate legal entities that are relatively "independent" of the parent firm (Kanbach & Stubner, 2016). Both types of connection may exhibit "autonomy." According to theory on corporate ventures, a corporate venture unit's autonomy can be defined as "a separate pot of money allocated to the unit for investments, and venture unit decision rights over both relevant investment and management matters" (Birkinshaw & Hill, 2005, p. 251). The combination of this definition with Kanbach and Stubner's (2016) *connection to parent* dimension implies that independent CAs may resemble autonomous corporate venture units. Conversely, integrated CAs may resemble less autonomous corporate ventures units. Lee, Park and Kang (2018) summarize and derive potential implications of rather autonomous (independent) and less autonomous (integrated) corporate venture units. In particular, they differentiate between investment control and investment focus. While rather autonomous units placed outside the firm may face less investment control from the parent firm, less autonomous units placed within the firm may encounter more control (e.g., Siegel et al., 1988). Consequently, autonomous units may be able to focus on longer-term-oriented (riskier) investments in portfolio firms, which may not have direct value for the parent firm's current business (e.g., Siegel et al., 1988; Simon, Houghton & Gurney, 1999) and/or may compete with the parent firm in the future (Lee et al., 2018). In less autonomous units, the parent firm's business units might have a stronger influence, which may direct the focus of investments toward portfolio firms offering the potential for a strategic return in the short term (see Lee et al., 2018). Lee et al. (2018) also state that being located within the parent firm may enable better collaboration with the parent firm's business units, which may improve the targeting and leveraging of strategically relevant portfolio firms. Consequently, while autonomous corporate venture units may be set up to search more distantly for new knowledge (i.e., follow an exploration orientation), less autonomous units may be set up to search for new knowledge in closer areas (i.e., follow an exploitation orientation). Lee et al. (2018) support this notion by proposing and showing that a corporate venture unit's autonomy (independence) is positively related to the parent firm's explorative innovation performance and negatively related to the parent firm's exploitative innovation performance.

We argued in relation to Proposition 6a that family firms with limited KACs may only be able to search locally for new knowledge due to their narrow external networks. In order to support such a search, family firms with limited KACs should set up integrated CAs. We therefore propose:

Proposition 9a: Family firms with limited KACs should set up CAs that are relatively well integrated into the parent firm.

On the other hand, family firms with expanded KACs may be able to search more distantly for new knowledge due to their broader external networks (see Proposition 6b). If they pursue a more distant search, they should, by implication, set up independent CAs. Hence, we propose:

Proposition 9b: Family firms with expanded KACs should set up CAs that are relatively well integrated into the parent firm when they want to search more closely for knowledge and relatively separate from the parent firm when they want to search more distantly for knowledge**.**

The CA's connection to the parent firm is also closely related to its *leadership experience*. According to Kanbach and Stubner (2016), a parent firm can appoint employees from within the firm to take over the CA's leadership, hire

external professionals, or utilize a mixture of both (Kanbach & Stubner, 2016). We argue that the type of leadership appointed may directly affect a (perceived) CA's autonomy (see Brumana, et al., 2017). While CAs led by internal employees may support a strong operational link between the CA and the parent firm, externally hired leaders may result in weaker operational links between the CA and its parent firm. In light of the autonomy argumentation above, this leads us to propose:

Proposition 10a: Family firms with limited KACs should set up internally led CAs in order to support the CAs' integration into the parent firm.

Proposition 10b: Family firms with expanded KACs should set up internally led CAs to support the CAs' integration into the parent firm and externally led CAs to support the CAs' independence.

CA Types in Family Firms

We have now examined the likely design of family firms' CA objectives and configurational dimensions in relation to their TSIs and KACs. An examination of the configurational design dimensions shows that family firms with expanded KACs can set up any kind of CA, as there are no restrictions regarding the characterization of each configurational dimension. Therefore, as a CA's final design is guided by its objectives (Kanbach & Stubner, 2016), the TSI dimension will guide the design of these family firms' CAs. The picture for family firms with limited KACs is somewhat different. These firms face several restrictions regarding the characteristics of the configurational dimensions. Hence, we must investigate how these limitations support or restrict the objectives that a family firm might want to pursue with its CA. Hence, as in the case of Randolph et al.'s (2017) corporate entrepreneurship typology, we have to combine willingness and ability in order to derive likely CA designs. Table 2 offers an aggregated overview of the different family firm CA designs: "non-existent," "internally focused," "externally polarized," and "unifying." We describe and explain these designs in the following sections.

Table 2. CA Designs in Family Firms - Aggregation of Family Firms' Corporate Entrepreneurship-Determining Dimensions and General CA Design Dimensions

		Dimensions determining family firms' CE according to Randolph et al. (2017)			
		Negligible TSI*/ Limited KAC**	**Salient TSI/ Limited KAC**	**Negligible TSI/ Expanded KAC**	**Salient TSI/ Expanded KAC**
CA design dimensions according to Kanbach and Stubner (2016)	Objectives		Long-term strategic	Either tactical / *or financial*	Long-term strategic
	Locus of opportunity		Internal	External	Internal and external
	Industry focus		Tight	Tight/*broad*	Tight and / or broad but somehow related
	Venture stage		Early	Later / *also earlier*	Early and later
	Equity involvement		No	Yes	Yes, but highly selective
	Strategic logic		Predominantly exploitation	Exploitation / *exploration*	Exploration and exploitation
	External partner		If engaged, only trusted ones	Yes, if regarded as helpful	Yes, if regarded as helpful
	Connection to parent		Integrated	Integrated / *independent*	Semi-independent
	Leadership experience		Internal	Internal/*external*	Internal and external
Family firm CA type		**Non-existent**	**Internally focused**	**Externally polarized**	**Unifying**

* Transgenerational succession intention
** Knowledge acquisition capability
Source: Own illustration.

Negligible TSI and Limited KAC: The Non-Existent CA

Our propositions imply that family firms with negligible TSIs are likely to pursue either tactical or financial objectives with their CAs (see Proposition 2b). As such, CAs may aim to optimize a family firm's business (e.g., generate cost savings) when pursuing tactical objectives or act as an investment vehicle when pursuing financial objectives. However, family firms with limited KACs may only be able to set up CAs that target internally generated innovative business ideas (see Propositions 3a, 4a, 5a). This most likely resembles an internal CA (see Selig et al., 2018). The purpose of internal CAs may be to examine the future value of such internal ideas and to support the parent firm's strategic transition through the renewal of its resource and capability base (Selig et al., 2018). As such, these CAs may serve as innovation vehicles that are set up at the beginning of a long-term-oriented strategic-renewal process, which may not support the achievement of tactical or financial CA objectives. As a result, these firms' CA objectives are likely to be mismatched with their abilities to reach those objectives. We thus propose:

Design Proposition 1: Family firms with negligible TSIs and limited KACs are unlikely to set up CAs.

Salient TSI and Limited KAC: The Internally Focused CA

Family firms falling into this category have salient TSIs, which implies that they are likely to pursue strategic CA objectives (see Proposition 2a). Similar to family firms that are unlikely to set up a CA, these family firms have limited KACs and may, therefore, only be able to set up a CA that resembles an internal CA. However, in contrast to family firms that are unlikely to set up a CA, these firms may set up an internal CA. Internal CAs may support a firm's strategic sustainability, as they may serve as innovation vehicles that support long-term oriented strategic-renewal processes. The family firm's salient TSI and the accompanying long-term strategic orientation of these firms may provide them with the patience needed to turn promising ideas into value-creating realities (see Greidanus & Märk, 2012). In cases where internally accelerated innovative business ideas may lead to new ventures in the future, equity is naturally involved (see Proposition 7a). Moreover, due to the rather narrow search scope implied by an internal locus of opportunity and a tight industry focus, an exploitation orientation prevails in internal CAs (see Proposition 6a). As such, these CAs should be connected to the parent firm (see Proposition 9a; Brumana, Minola, Garrett & Digan, 2017). In order to support this link to the parent firm, internal CAs should be led internally (see Proposition 10a). If appropriate, trusted external partners may support the acceleration of internally generated business ideas (see Proposition 8a). Overall, research on internal corporate venturing implies that such activities in the context of family firms are likely to aid "succession by allowing the next generation to put their own stamp on the business" (Greidanus & Märk, 2012, p. 179). This notion indicates that family firms with limited KACs are likely to set up internal CAs due to their salient TSI. We ultimately propose:

Design Proposition 2: Family firms with salient TSIs and limited KACs are likely to set up internally focused CAs.

Negligible TSI and Expanded KAC: The Externally Polarized CA

Family firms with this type of CA have expanded KACs. As such, they are not limited in their ability to design the CA's configurational dimensions. However, their willingness with regard to CA objectives may influence the CA's design. Like family firms without CAs that also have negligible TSIs, an internal CA may not be of interest to firms in this category, as such CAs may not support a tactical or financial orientation. With regard to a CA's tactical orientation, "identify[ing], develop[ing], and integrat[ing] new products and services into [the] parent company's value chain" (Kanbach & Stubner, 2016, p. 1771) may represent potential tactical objectives (see Shankar & Shepherd, 2019) that may help optimize the family firm's business. In this regard, CA research proposes targeting external, later-stage ventures (Kanbach & Stubner, 2016; Shankar & Shepherd, 2019). As this tactical orientation suggests, portfolio firms should be closely related to the parent firm's business, which supports an exploitation orientation (see the derivation of Propositions 6a and 6b). This implies that these CAs should be rather connected to the parent firm (see Proposition 9b) and thus be rather internally led (see Proposition 10b). According to Kanbach and Stubner (2016), CAs adopting such a tactical orientation require equity involvement to aid the overall collaboration between the parent and portfolio firms.

We have already argued that family firms with expanded KACs are likely able to undertake equity engagement (see Proposition 7b). We also argue that these family firms are likely willing to invest equity, as the family and economic goals overlap (see Chrisman & Patel, 2012) when a family has negligible TSI (see Randolph et al., 2017). Furthermore, building on Randolph et al.'s (2017) proposed ownership and management situation (i.e., dominant family control in later generations; strong dependence on non-family managers) and the resulting characterization of corporate entrepreneurship activities (i.e., diversified and often low strategic relevance for the firm) for this type of family firm, we argue that family members may display low "affect" for the firm (see Zellweger & Dehlen, 2012) and that they may thus be willing to invest equity (see Sciascia, Nordqvist, Mazzola & De Massis, 2015). In line with this argument, we agree with Randolph et al. (2017) that these firms are likely to "engage in radical corporate entrepreneurship activities in terms of magnitude and scope" (pp. 539-540). Consequently, these family firms may set up financially oriented CAs, as represented by Kanbach and Stubner's (2016) characterization of a "Unicorn Hunter" CA. In this regard, quickly increasing the value of the CA's portfolio firms using the parent firm's resources and capabilities is essential. Thus, equity involvement is a *sine qua non*. Such CAs target external portfolio firms with a broad industry focus in both the early and later stages. This high exploration orientation implies that these CAs should be set up as independent units (see Proposition 9b) that are predominantly externally led (see Proposition 10b). Overall, engaging an external partner when setting up such CAs may be helpful. This also holds true for the tactical-oriented CA discussed above (Kanbach & Stubner, 2016).

Design Proposition 3: Family firms with negligible TSIs and expanded KACs and are likely to set up externally polarized CAs that have either a tactical or financial focus.

Salient TSI and Expanded KAC: The Unifying CA

The family firms behind the "unifying" CA also have expanded KACs and are, therefore, able to choose from the entire breadth of configurational design possibilities. As these family firms also have salient TSIs, the configurational design is likely to support strategic CA objectives (see Proposition 2a). This has some interesting implications. First, as outlined above, targeted portfolio firms will be strategically relevant. As such, these portfolio firms will be related to the parent firms' business, at least to some extent. This implies that portfolio firms with a tight and/or a broad but somehow related industry focus will be targeted. Due to their expanded KACs, these family firms may not be restricted to searching internally for innovative ideas - they may also be able to search externally. If CAs combine both loci of opportunity, they may be what Moschner et al., (2019) depict as "hybrids" in which external portfolio firms are complemented with internally developed innovative ideas. Overall, these firms may target portfolio firms that are in any venture stage. Given their ability to look for new knowledge both closely and distantly, these firms may adopt both an exploitation and exploration orientation. Thus, these CAs are likely to support incremental and radical innovation output.

Given this dual orientation, such CAs should be semi-independent with regard to the parent firm. To ensure this kind of autonomy, these CAs should have both internal and external leadership. With regard to equity involvement, we argue that these family firms display high "affect" for the firm due to their salient TSIs (see Zellweger & Dehlen, 2012) and may, therefore, be more cautious when investing equity (see Sciascia et al., 2015). As such, although they may be willing to invest equity, they may be rather selective with their investments. In this regard, CAs may be characterized by a suitable corporate entrepreneurship mode, as equity stakes in the context of CAs are lower than in other venturing activities (e.g., Cohen, 2013; Selig et al., 2018; Shankar & Shepherd, 2019). Furthermore, equity involvement may not always be required in CAs. If deemed helpful, external partners may be engaged in order to support the setup and execution of these CAs. Overall, such CAs appear to bridge the characteristics of almost every configurational design element, which makes them "unifying" CAs.

In addition, we argue that "unifying" CAs and "internally focused" CAs may aid the firm's succession process. More specifically, Wiedeler and Kammerlander's (2019) study implies that engaging the next generation of family managers in internal corporate venturing activities may, under certain circumstances, create an opportunity for these managers to strengthen their "entrepreneurial capabilities." A comparison of the circumstances related to the design of such activities (i.e., semi-structural autonomy, medium financial risk, highly knowledgeable but medium seniority leadership) with the characteristics of "unifying CAs" suggests that these CAs may be able to offer support in this regard. Consequently, we propose:

Design Proposition 4: Family firms with salient TSIs and expanded KACs are likely to set up unifying CAs.

CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH AVENUES

Our study contributes to two streams of research: family firm literature and CA literature. We demonstrate that Randolph et al.'s (2017) family firm specific model of corporate entrepreneurship is helpful for studying specific types of corporate entrepreneurship, such as CAs. Moreover, we show that family firms may differ with regard to the types of CAs they are likely to set up. In total, we were able to derive four types of family firm CAs. This has implications for both family firms and potential portfolio firms. Family firms may be better informed about the kind of CA they are likely to establish depending on their specific TSI/KAC combinations. Portfolio firms, on the other hand, are better able to choose the kind of family firm CA with which they would like to cooperate. In this regard, future research may help to identify whether and how parent firms may differ in their cooperation patterns and their behavior towards their portfolio firms in the cases of "externally polarized" CAs and "unifying" CAs. We would expect differences in this regard to arise from variances in the family firms' TSIs.

With regard to CA research, our study demonstrates that firm-specific attributes, such as the firm's KAC, may have to be considered in order to determine the kind of CA that a firm is likely to establish. Our findings indicate that not all firms will set up a CA. More specifically, family firms will need to at least possess limited KACs and salient TSIs or, alternatively, negligible TSIs paired with expanded KACs, in order to establish CAs. If both the TSI and the KAC are low, family firms are unlikely to set up a CA owing to the mismatch in these firms' willingness and abilities. In this context, it would be interesting to explore whether non-family firms may have factors that affect their willingness and ability to set up CAs.

As this study is conceptual in nature, empirical studies on the set-up of family firm CAs might be helpful for validating and extending our findings. Furthermore, while our results suggest likely types of CAs in certain family firm contexts, they do not indicate whether a family firm will be effective in leveraging its CA. In order to investigate this aspect, a closer look at the components of a firm's "realized absorptive capacity" (see Zahra & George, 2002) may be fruitful. Overall, we hope our study motivates additional studies of CAs in the context of family firms.

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END NOTES

[i] Even though some studies may include family firm CAs in their analyses (e.g., Connolly et al., 2018), they make no reference to them in terms of marking them as family firm affiliated or pursuing a family firm specific analysis.
[ii] This definition has not only been widely used in the context of corporate entrepreneurship studies in general but also in the context of family firms in particular (e.g., McKelvie et al., 2014; Randolph et al., 2017).