The absorptive capacity of family firms – How familiness affects potential and realized absorptive capacity

Introduction

Organizational knowledge is widely recognized as the key competitive advantage of companies, and the ability to absorb external knowledge from the business environment is one way to swiftly acquire new knowledge (Grant, 1996; Kogut and Zander, 1992). This capability is usually referred to as absorptive capacity (AC) (Cohen and Levinthal, 1990), and it is a predominant concept in contemporary knowledge-management research. Zahra and George (2002) argue that AC can be regarded as four interrelated but separate constructs and they define AC as a firm's capacity to acquire, assimilate, transform, and exploit external knowledge. Originally, investments in research and development (R&D) were regarded as the most suitable proxy for AC (e.g. Cohen and Levinthal, 1990; Stock *et al.*, 2001; Veugelers, 1997). However, more recent studies have identified several other important antecedents to AC (Andersén, 2012; Volberda *et al.*, 2010), for example, combinative capabilities (Kogut and Zander, 1992) and socialization capabilities (Jansen *et al.*, 2005).Thus, in order to achieve a high level of AC, firms have to be externally oriented in order to identify and recognize external knowledge (Harrington and Guimaraes, 2005) and they have to possess suitable managerial cognition (Cohen and Levinthal, 1990; Lane *et al.*, 2006) and capabilities (Kogut and Zander, 1992) that can enable the firm to combine the newly acquired knowledge with existing knowledge.

These, and other recently identified antecedents to AC which will be addressed later in this paper (e.g. Vega Jurado *et al.*, 2008), are highly interesting from a family-firm point of view. Several studies have identified—and a number of scholars have argued—that these capabilities and knowledge structures differ between family firms and non-family firms. Some of these studies have, for example, identified that family firms invest less in R&D (Block, 2012; Chrisman and Patel, 2011), others have argued that family firms have more developed combinative capabilities (Patel and Fiet, 2011), and yet others have concluded that family firms have fewer external collaborations (Roessl, 2005) or a lower search breadth (Classen *et al.*, 2012) than non-family firms.

Although some studies have examined how various antecedents to AC differ between family firms and non-family firms, no studies have set out to specifically analyze AC in the context of family firms. Consequently, the AC of family firms is a highly under-researched subject. However, family firms are an extremely broad categorization; they include firms of all sizes and can be found in all industries. Thus, it is essential to focus on some specific characteristics of family firms. The concept of familiness is an established construct in research on family business and is defined as "…the unique bundle of resources a particular firm has because of the systems-interaction between the family, its individual members, and the business" (Habbershon and Williams, 1999, p.11). Some family firms have high levels of familiness whereas other family firms have more similarities with non-family firms regarding the level of familiness. In this paper, familiness will be analyzed from the social capital approach presented by Pearson *et al.* (2008). According to this definition, familiness consists of three key dimensions: the structural dimension, the cognitive dimension, and the relational dimension. Habbershon and Williams (1999) and Pearson *et al*. (2008) set out to explain the benefits of high levels of familiness. However, the present paper adopts a more critical approach by analyzing possible negative effects as well as positive effects of familiness. By reviewing and combining studies on AC and knowledge-management practices of firms with high levels of familiness, it is possible to develop new insights into the relationship between AC and familiness.

Although some studies have analyzed various antecedents to AC in the context of family firms, the number of studies is still quite few. Thus, the field is not mature enough to warrant a systematic literature review. Studies of interest do, for example, have to consider specific AC dimensions or its antecedents and relate the findings specifically to the level of familiness or the family firm – non-family firm dichotomy. Thus, the aim of this article to make initial propositions about the relationships between familiness and the four dimensions of AC described by Zahra and George (2002), i.e. the capacity to acquire, assimilate, transform, and exploit external knowledge. In doing so, I will discuss the relationship between the level of familiness and each dimension of AC separately, and I will also address the implications of these relationships.

The remainder of this article is organized as follows. First, the theoretical framework is presented and the key concepts—familiness and AC—are discussed and defined. Then, I put forward propositions on how the capacity to acquire, assimilate, transform, and exploit external knowledge (i.e. the definition of AC given by Zahra and George (2002)) is likely to be affected by the level of familiness. Each dimension of AC will be discussed under a separate section and will result in a proposition. Lastly, the implications, limitations, and avenues for future research are discussed.

Definitions of key concepts

Family firms and familiness

The concept of familiness refers to the unique resources that are the result of interaction between family, individuals, and firm (Habbershon and Williams, 1999). The concept has been analyzed and elaborated in numerous publications on family business research and provides a useful construct for understanding the unique characteristics of some (but not all) family firms. The level of familiness varies between firms, and it should not be regarded as a dichotomist concept such as the “family firm versus non-family firm” distinction (Rutherford *et al.*, 2008). Instead, Rutherford *et al*. (2008) describe familiness as being the result of the family’s influence over management (i.e. *power*), *experience* achieved by multi-generation firms, and *culture* in terms of how the family’s goals are aligned with the goals of the organization. In the seminal publication on familiness of Habbershon and Williams (1999), this concept and its relationship to performance was mainly explained from a resource-based view (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). By adding the dimension of social capital, the familiness-performance relationship was developed further and refined (Pearson *et al*., 2008; Sharma, 2008). A challenge when discussing familiness is that there are several different definitions of familiness and (family) social capital (Rutherford *et al*., 2008; Zellweger *et al.*, 2010). Thus, familiness can be defined subjectively depending on one’s idea of the archetypical family firm. A precise definition is therefore very important, and depending on which theoretical approach is adopted and how familiness is defined and analyzed, different conclusions can be drawn. For example, using a corporate governance approach, Carney (2005) argues that family firms are outward-looking, whereas Pearson *et al*. (2008), using resource-based theory, imply that firms with high levels of familiness are less externally oriented. In the present article, I follow the definition of familiness put forward by Pearson *et al*. (2008, p.960), i.e. “familiness consists of three resource-related dimensions of social capital (i.e., structural, cognitive, and relational) and [...] these dimensions create family firm capabilities, such as efficient information access and exchange, as well as collective actions”. Other key elements of this definition of familiness are closure “which prevents external influences and enhances internal focus” (p.961), that “the long-term goals of stability of the family nucleus and preservation of the family in the firm are often the primary objectives of family firms" (p.961), and that it "adopts an internal view of social capital" (p.956). The Pearson *et al*. definition of familiness is well-established in the entrepreneurship research and family business literature and it addresses the degree of familiness instead of the traditional dichotomous separation of family and non-family firms. It is important to recognize that the discussions in this paper are based on this definition of family firms and familiness.

Most studies on familiness have sought to explain various benefits of high levels of familiness (Habbershon and Williams, 1999; Zellweger *et al*., 2010), and Pearson *et al*. (2008, p.964) describe this as a limitation of their study and they ask whether "…too much familiness or family social capital [may] have negative consequences". Thus, familiness can also have negative effects and high levels of familiness can also be inversely related to the performance of a firm (Minichilli *et al.*, 2010). In order to adopt a more critical or nuanced approach to the concept of familiness it is therefore important to consider the possible negative effects (implicitly) described by Pearson *et al*. (2008) (and partly based on Arregle *et al.*, 2007).

Absorptive capacity

The term AC was first coined by Kedia and Bhagat (1988); however, the seminal contributions by Cohen and Levinthal (1989, 1990) are generally regarded as the most influential and important papers for the introduction of AC (Volberda *et al*., 2010). In the original definition, AC was defined as a firm's ability to "identify, assimilate, and exploit knowledge from the environment" (Cohen and Levinthal, 1989, p.589). In spite of—or probably more accurately, due to—the construct's great impact, AC has also been criticized for being diversified (Volberda *et al*., 2010), taken for granted (Lane *et al*., 2006), and also criticized for the "ambiguity and diversity of its definitions, components, antecedents, and outcomes" (Zahra and George, 2002, p.185). In the proposition section of this article, various antecedents will be reviewed and the implications for family firms will be discussed. However, due to the great number of definitions of AC, it is important to describe how the concept is defined in the present article.

In this paper, AC is defined according to the definition put forward by Zahra and George (2002, p.186), i.e. AC is "a set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge". Here, knowledge should be regarded in the context of the definition by Cohen and Levinthal (1989, p.589), i.e. "knowledge from the environment". AC is also regarded as a dynamic capability, i.e. a capability that can be used to configure, develop, and deploy the resources of the firm in order to achieve competitive advantages (Eisenhardt and Martin, 2000; Teece *et al.*, 1997; Zahra and George, 2002). This dynamic capability consists of four capabilities: acquisition, assimilation, transformation, and exploitation.

Zahra and George (2002) describe the acquisition and assimilation of knowledge as a firm's potential AC, whereas transformation and exploitation are categorized as realized AC. Acquisition and transformation concern a firm's receptiveness to external knowledge, whereas transformation and exploitation reflect "the firm's capacity to leverage the knowledge that has been absorbed" (Zahra and George, 2002, p.190). The four dimensions of AC (i.e. acquisition, assimilation, transformation, and exploitation) will be discussed and defined more precisely in the proposition section(s) of this paper. When discussing antecedents to the various dimensions of AC, Zahra and George choose to focus on antecedents to the more aggregated concepts of potential AC and realized AC. The capabilities that constitute the two dimensions of AC (acquisition and assimilation for potential AC and transformation and exploitation for realized AC) are highly interrelated. However, and as will be illustrated in the next sections, the four capabilities have several important unique features and are thus likely to have some separate antecedents. Also, Zahra and George (2002, p.189) state that these four capabilities can be regarded as being "distinct but complementary".

Propositions

In this section, the propositions of the article are elaborated. Each section begins with a definition of one capacity. Then, the general antecedents to that capacity are described. This is followed by a discussion of how these antecedents relate to familiness, which results in the formulation of a proposition. The review of previous research will illustrate that some studies have been conducted on the relationship between various dimensions of AC and familiness. However, many studies described in this section have analyzed these relationships implicitly, i.e. they have analyzed the relationships of interest in the present paper without using the precise terminology that was presented in the theoretical framework section. Even so, only studies that have used the same definitions of familiness (or family firms) are used to support the various propositions. When relating the AC literature on family firms, various elements described by Pearson *et al*. (2008) will be presented first in each section. This will be supplemented by considering other studies that have used similar definitions of familiness and/or family firms.

Acquisition of external knowledge in family firms

Acquisition of external knowledge is defined as "a firm's capability to identify and acquire externally generated knowledge" (Zahra and George, 2002, p.189). Thus, if we regard the absorption of knowledge as a stepwise process, the phase of acquisition would constitute the first step of this process.

The original proxy for absorptive capacity was R&D investments; however, how these investments influence various dimensions of AC was not elaborated in the seminal literature on AC (Cohen and Levinthal, 1989; Cohen and Levinthal, 1990). Fosfuri & Tribó (2008) could identify a positive correlation between investments in R&D and potential AC, and, as previously discussed, the acquisition of knowledge is one of two capabilities that constitute potential AC. Regarding R&D investments in family firms, several studies have found that family firms invest less in R&D than non-family firms (Block, 2012; Chrisman and Patel, 2011) and that family firms are more reluctant to acquire new technology (Kotlar *et al.*, 2013). This can be an important indicator that firms with high levels of familiness have less well-developed abilities to acquire external knowledge than non-family firms. However, there is much more evidence for this notion.

A key element in acquiring knowledge is the ability to identify knowledge, and several studies (e.g. Jansen *et al*., 2005; Zahra and George, 2002) have shown that this capability is highly dependent on an externally oriented approach. For example, Zahra and George (2002) strongly argue that exposure to external knowledge is related to the possibility of a firm acquiring external knowledge, and Cohen and Levinthal (1990) state that the number of gatekeepers, i.e. individuals interacting with the environment, will influence the possibility of identifying knowledge. The relationship between the possibility of acquiring knowledge and the number of individuals interacting with the external environment have been discussed in many seminal publications on organizational learning (e.g. Aldrich and Herker, 1977; Thompson, 1967). Also, a number of factors related to exposure to the environment that are crucial in order to identify and acquire external knowledge have been identified in more contemporary studies—for example, cross-functional teams (Jansen *et al.*, 2005), organizational openness (McGrath *et al.*, 1995), and an organizational culture characterized by openness (Harrington and Guimaraes, 2005). The relationship between openness and the acquisition of external knowledge has also been validated by a cross-sectional study by Fosfuri & Tribó (2008). In their study of 2,464 firms, they found that external exposure in terms of R&D collaborations and market-based transactions in R&D to be correlated to potential AC.

Thus, several studies have shown that the most important antecedent to the ability to acquire knowledge is likely to be the firm's exposure to the external environment. But what does the literature say about how familiness is related to exposure to the environment? There are several factors that make firms with high levels of familiness less externally oriented, with a less developed ability to acquire external knowledge. An important aspect of family firms is their focus on independence (Donckels and Fröhlich, 1991). According to Pearson *et al*. (2008) and Arregle *et al*. (2007), closure from the external environment is important in order to achieve high levels of familiness (as defined by Pearson *et al*.) with strong internal relationships. Pearson *et al*. (2008, p.961) specifically state that "Closure can be interpreted loosely as the degree to which boundaries exist, which prevents external influences…". Collaboration with other firms will make the firm more dependent on other actors, and the focus on strong internal relations is likely to make firms with high levels of familiness less positive to external collaboration (Roessl, 2005). Also, these firms are more concerned with preserving the socio-emotional wealth of their organization (Gomez-Mejia *et al.*, 2009). This presence of closure for firms with high levels of familiness has some empirical support in cross-sectional studies of family firms in general. In a study of 355 SMEs, Classen *et al*. (2012) showed that family firms have a lower search breadth than non-family firms. Search breadth was defined as "the number of different external sources or partner types that firms rely upon to acquire resources for their innovative activities" (Classen *et al*., 2012, p.192; Laursen and Salter, 2005). Also, as previously discussed, family firms generally invest less in R&D than non-family firms (Block, 2012; Chrisman and Patel, 2011; Kotlar *et al.*, 2013). De Jong and Freel (2010) were able to identify a positive relationship between the level of R&D

investments and the number of distance collaborations; thus, family firms are likely to have less distance collaborations due to their lower levels of investment in R&D.

To summarize: whether or not a firm is externally oriented with high levels of external exposure in terms of, for example, number of cooperation partners is a crucial antecedent to the capability of acquiring external knowledge. Also, there are ample amounts of conceptual arguments and, also some empirical evidence, that firms that are likely to have high levels of familiness are less externally oriented than non-family firms. Thus, the first proposition can be formulated as:

Proposition 1: The ability to acquire external knowledge is inversely related to the level of familiness.

Assimilation of external knowledge in family firms

When external knowledge has been acquired by the firm, the next step is to assimilate this knowledge by using "routines and processes that allow it to analyze, process, interpret, and understand the information obtained from external sources" (Zahra and George, 2002, p.189).

As discussed in the previous section, R&D investment and external relationships are important indicator of potential AC (Fosfuri and Tribó, 2008), and firms with high levels of familiness are likely to invest less in R&D than non-family firms (Block, 2012). The assimilation of knowledge is one of two components of potential AC; thus, many of the arguments presented in the previous section regarding acquisition of knowledge are also valid for assimilation of knowledge.

A key antecedent to the ability to assimilate external knowledge is the similarity between the two entities that exchange knowledge (Van Wijk *et al.*, 2008; Volberda *et al.*, 2010). In order for a firm to understand the acquired knowledge, it is important that the knowledge bases of the entities (i.e. the recipient of knowledge and the source of the knowledge) are similar (Lane and Lubatkin, 1998). It is also crucial that the firms have a "shared interpretation system… established by means of shared fundamental categories of perception, interpretation and evaluation inculcated by organizational culture" (Nooteboom *et al.*, 2007, p.1017). If these cognitive structures are too different, firms will not be able to assimilate or understand the newly acquired knowledge. Consequently, firms that have some unique characteristics will have more difficulty in understanding and thereby assimilating new knowledge.

As discussed in the section regarding acquisition of knowledge, acquisition can be regarded as a (to a certain extent) spontaneous process that is dependent on the number of external contacts, gatekeepers, etc. Assimilation of the acquired knowledge, on the other hand, is a process of understanding and it often requires some kind of deliberate and intended action from management. If a firm is to understand and interpret knowledge, the managers have to be willing to do so. Thus, the level of utilization of the ability to assimilate new knowledge can differ between firms (Andersén and Kask, 2012). According to Ocasio (1997), the areas that firms direct their cognitive attention to are affected by, for example, rules, resources, and relationships. Hence, AC is not only the result of individual abilities but also of their motivation, and the willingness to understand and interpret the new knowledge has been identified as an important antecedent to knowledge assimilation (Volberda *et al*., 2010). Firms that direct their cognitive attention to stability rather than renewal are therefore less likely to use their ability to assimilate new knowledge (Andersén and Kask, 2012).

To summarize the discussion regarding antecedents to assimilation of knowledge: firms that are more unique and firms that focus more on stability than renewal are likely to have inferior assimilation capabilities. These notions have important implications for familiness. In their seminal article on familiness, Habbershon and Williams (1999) argued that familiness is a highly idiosyncratic resource. So, does this mean that family firms are better at exchanging and assimilating knowledge with other family firms due to their similarities regarding familiness? Probably not; in fact, familiness also makes family firms more unique relative to other family firms. What makes family firms unique is each firm's *own* social capital (Arregle *et al*., 2007), and Pearson *et al*. (2008, p.961) state that "Closure establishes not only the boundaries of social networks, but also the uniqueness of the social capital context". Thus, firms with high levels familiness is not similar to other family firms due to the fact that familiness—in terms of social capital, for example (Hoffman *et al*., 2006)—is unique for each company. Consequently, family firms are more likely to possess some unique *firm-specific* characteristics than non-family firms.

Regarding the other important antecedent to assimilation of external knowledge, i.e. how open a company is to renewal and change, several studies have analyzed this issue for firms with high levels of familiness. For example, stability is a key dimension of social capital (Arregle *et al*., 2007). Although Pearson *et al*. (2008) highlight the importance of stability for building social capital, this characteristic of familiness is also likely to have a negative effect on the willingness to renew its business in terms of the assimilation of new knowledge. Thus, stating that high levels of familiness is positively correlated with a stability-oriented and not renewal-oriented approach is neither new nor controversial, and this notion has support in numerous other publications on family firms (e.g. Bertrand and Schoar, 2006; Hoffman *et al*., 2006; Lumpkin *et al.*, 2008). In fact, stability has been identified as a crucial component of familiness (Frank *et al.*, 2010).

Based on this discussion, it is possible to conclude that other than R&D investments, the propensity to renew the organization and the level of similarity between learning entities are key antecedents to assimilation of external knowledge. Also, when reviewing the literature on familiness, it is possible to assume that firms with high levels of familiness are inferior in their abilities to assimilate knowledge due to that stability is a key dimension of familiness. Thus the second proposition can be formulated as:

Proposition 2: The ability to assimilate external knowledge is inversely related to the level of familiness.

Transformation of external knowledge in family firms

At this stage of the absorption process, the firm has assimilated and thereby understood the external knowledge acquired. The firm has already been able to overcome the cognitive threshold (i.e. for understanding and interpreting the new knowledge) described by Nooteboom *et al*. (2007). When the acquired knowledge has been understood, the next challenge is to transform the newly acquired knowledge so that it can be adapted to the specific firm (Zahra and George, 2002). Thus, firms must have combinative abilities in order to combine knowledge gained from external sources and thereby develop knowledge that is new (Kogut and Zander, 1992; Van Den Bosch *et al.*, 1999). Zahra and George (2002, p.190) define the ability to transform external knowledge as the "capability to develop and refine the routines that facilitate combining existing knowledge and the newly acquired and assimilated knowledge".

According to Zahra and George (2002), the key antecedent to transforming external knowledge is social integration mechanisms—and socially well-integrated organizations possess higher levels of social capital. Social capital (Putnam, 1993) includes concepts such as trust, shared codes and languages, network ties, norms, and shared narratives. It is a prerequisite for combination and exchange of knowledge (Kogut and Zander, 1992; Nahapiet and Ghoshal, 1998). Thus, in the general literature on knowledge management, social capital has been identified as being the most important factor for transformation of knowledge. Several contemporary AC publications have also highlighted the importance of social capital and social integration for realized AC, and especially the transformation dimension of realized AC. For example, both Jansen *et al*. (2005) and Vega Jurado *et al*. (2008) identified a strong correlation between socialization capabilities and realized AC. Also, in their in-depth case study, Hotho *et al.* (2012, p.396) concluded that “social interaction enables local actors to participate in the transformation of new knowledge in the local context and is therefore crucial in ensuring that individual absorptive capacity translates into absorptive capacity at the organizational level”. Thus, although different scholars have used different concepts (e.g. social interaction, social integration mechanisms, and social capital), strong personal relationships, trust, and intra-firm cooperation have been identified as key antecedents for the ability to transform knowledge.

Pearson *et al*. (2008) use the concept of social capital in order to understand familiness and they argue that this can constitute an important competitive advantage. Hoffman *et al*. (2006) argue that firms with well-developed social capital have stronger intra-firm relationships than non-family firms. “Family ties are stronger, more intense, and more enduring” than non-family ties, and family capital can be regarded as “a special form of social capital” (Hoffman *et al*., 2006, p.136). These notions are also supported by Arregle *et al*. (2007, p.77) who argue that what they refer to as family social capital is “one of the most enduring and powerful forms of social capital”. Thus, family capital can be an important competitive advantage because, for example, it can enable the firm to develop new knowledge (Danes *et al.*, 2009).

Although higher levels of social capital and commitment to integrate the newly acquired knowledge are likely to enhance the ability of family firms to transform knowledge, family conflicts can also prevent family firms from integrating knowledge (Chirico and Salvato, 2008). Thus, there are also some factors (e.g. rivalries and family conflicts) that can make family firms less capable of transforming external knowledge. However, in their cross-sectional study, Zahra *et al.* (2007) found that firms with strong family involvement were better at integrating knowledge. Also, Patel and Fiet (2011) argue that family firms are better than non-family firms at combining existing tacit knowledge with new knowledge. Due to the importance of social capital for the transformation of external knowledge and because of the overwhelming evidence for the high levels of social capital of family firms (e.g. Arregle *et al*., 2007; Danes *et al*., 2009; Hoffman *et al*., 2006; Steier, 2001; Zahra *et al*., 2007), it is possible to formulate the third proposition:

Proposition 3: The ability to transform external knowledge is positively related to the level of familiness.

Exploitation of external knowledge in family firms

The final stage of the absorption process concerns how the firm exploits the knowledge that it has assimilated and transformed. Exploitation of knowledge can be defined as "a firm's ability to harvest and incorporate knowledge into its operations" (Zahra and George, 2002, p.190). Exploitation and transformation of knowledge make up the concept of realized AC and they are therefore highly interrelated. According to several studies on AC (Jansen *et al*., 2005; Vega Jurado *et al*., 2008; Zahra and George, 2002), social capital is a key antecedent to both dimensions of realized AC. In order for firms to leverage the new knowledge into tangible operations, it is necessary that the firm should have high levels of social capital. Thus, most of the arguments concerning transformation of knowledge in family firms do also apply to the exploitation of knowledge. There are, however, some specific antecedents that are more important for exploitation of external knowledge.

Leveraging of new knowledge into operations generally takes time (Barney, 1991). Thus, application of the new knowledge to tangible operations is a complex task that requires patience and an understanding of the complexity of the utilization and leveraging process (Gold *et al*., 2001; Kogut and Zander, 1992). Stability and long-term orientation are important dimensions of familiness (Pearson *et al*., 2008). Sirmon and Hitt (2003) argue that familiness is beneficial when leveraging knowledge due to what they refer to as patient capital. Patient capital is defined as "financial capital that is invested without threat of liquidation for long periods" (Sirmon and Hitt, 2003, p.343). This capital is more stable than other sorts of financial capital and is more common in family firms due to their unique relationships and their long-term orientation. Also, firms with high levels of familiness are likely to have more experience, due to the long-term orientation and the involvement of several generations, and are likely to possess more tacit knowledge (Pearson *et al*., 2008; Sirmon and Hitt, 2003). This tacit knowledge is important for leveraging of knowledge. In addition to this, leveraging of knowledge is associated with governance costs (Karim and Mitchell, 2000), i.e. costs for coordinating relations and communication in order to enhance, for example, use of knowledge. Due to social capital, these firms (i.e. firms with high levels of familiness) are likely to have lower governance costs than other firms and are thus likely to be better at leveraging the new knowledge (Sirmon and Hitt, 2003). Thus, the study conducted by Sirmon and Hitt (2003) and Pearson *et al*. (2008) provides some strong arguments for why familiness are likely to enhance knowledge exploitation. Also, whereas stability is inversely related to assimilation of knowledge, it is positively related to exploitation of knowledge. Thus, the arguments for why familiness is associated with high levels of stability (used to support proposition 2) are also applicable for assimilation of knowledge.

To summarize, it can be quite difficult to distinguish between transformation and exploitation of external knowledge, and the two concepts overlap. Most studies on AC have therefore identified and analyzed antecedents to the more aggregated construct of realized AC and not antecedents to the two dimensions that constitute realized AC (transformation and exploitation). Nevertheless, due to social capital, patient capital, and other characteristics of familiness described by Sirmon and Hitt (2003) and Pearson *et al*. (2008), firms with high levels of familiness are likely to have greater exploitation capabilities than non-family firms and the final proposition can be formulated as:

Proposition 4: The ability to exploit external knowledge is positively related to the level of familiness.

Discussion and implications

The propositions regarding familiness and AC are based on the reconceptualization of AC by Zahra and George (2002). This deconstructed approach to AC has allowed a structured analysis of how familiness is likely to affect various dimensions of AC. The main theoretical arguments for each proposition are summarized in Table 1. Although the propositions presented are supported by several studies, I have chosen to only include direct quotes from the Pearson *et al*. (2008) article in Table 1. This ensures that the key arguments are true to the Pearson *et al*. conceptualization of familiness that is used in this paper.

Table 1. Summary of theoretical arguments

Dimension of AC	Key antecedents and familiness (as defined by Pearson et al., 2008)	Proposition
Acquisition	"…closure is particularly strong for family firms…" (p. 961) (-) "Closure can be interpreted loosely as the degree to which boundaries exist, which prevents external influences…" (p. 961) (-)	P1
Assimilation	"The family's existing structure and long-standing internal relationships help build the stability…" (p. 961) (-) "The long-term goals of stability of the family nucleus and preservation of the family in the firm are often the primary objectives of family firms." (p. 961) (-)	P2
Transformation	"By the very nature of family firms, interdependence within the social structure is likely to be higher than in less stable social structures of nonfamily firms." (p. 962) (+) "The shared purpose of both the family and firm merge to create the collective understanding that is necessary for the family to maintain collaboration and achieve long-term family goals." (p. 957) (+)	P3
Exploitation	"…the family social group undergoes change at a slower rate than other firms, such that ownership of family firms is more stable over time." (p. 961) (+) "…organizations operating from a purely economic basis are less likely to have a history that can build enough social capital to develop collective actions." (p.961) (+)	P4
(+) or (–) indicates whether familiness has a positive (+) or negative (–) effect on the AC dimension.		

As previously discussed, R&D investment was originally regarded as the most suitable proxy for AC. However, more contemporary studies have questioned this assumption and a firm that has good abilities in acquiring knowledge does not necessarily possess well-developed capability regarding use of the knowledge acquired. Jansen *et al*. (2005, p.999), for example, conclude that "units may have difficulty managing levels of potential and realized absorptive capacity and vary in their ability to create value from their absorptive capacity". The propositions presented in this paper validate this notion and illustrate how familiness is likely to have positive as well as negative effect on AC. Thus, the findings of the present paper support the results of Jansen *et al*. (2005) by demonstrating that high levels familiness are likely to be better in certain dimensions of AC (i.e. transformation and utilization) and inferior in other dimensions (i.e. acquisition and assimilation). Whereas previous studies have concluded that firms are likely to differ in their abilities, this paper has provided a more detailed analysis of this issue.

Previous studies have analyzed various aspects of knowledge management of family firms (Classen *et al*., 2012; Patel and Fiet, 2011). This article, however, provides a holistic approach on the relationship between the absorption of knowledge and familiness, from identification of knowledge to utilization of absorbed knowledge. As pointed out in many previous studies, familiness can be a strength as well as a weakness. Due to their less externally oriented approach, firms with high levels of familiness are likely to be less able to identify and understand external knowledge. However, when the knowledge has been assimilated, familiness is likely to improve firms' possibilities to combine and exploit this knowledge. Using the March (1991) terminology, familiness is likely to be positively related to exploitation abilities, but inversely related to exploration abilities. Zahra and George (2002) refer to this as the efficiency factor, and this paper has illustrated that family firms (when defined as firms with high levels of familiness) are likely to have a high efficiency factor due to the fact that the gap between potential and realized capacity is lower for these firms. In fact, this paper has indicated that familiness gets more and more advantageous during the absorption process.

So, do firms with high levels of familiness have a more developed AC (at an aggregated level)? The argument presented in this article has illustrated that familiness is likely to have it pros (realized AC) and cons (potential AC). However, whether or not familiness is a good thing when it comes to absorbing external knowledge depends on the nature of the industry and the business environment. In, for example, stable business environments it is more important to have a high efficiency factor, whereas volatile environments require the firm to continually acquire and assimilate new knowledge (Zahra and George, 2002). Thus, according to this notion and from a solely AC viewpoint, familiness is more likely to be beneficial in a more stable business environment. However, these issues require further examination.

Limitations and avenues for future research

Family firms can be defined in different ways, and differ in their characteristics. In this paper, family firms have been defined as firms with high levels of "familiness" (Habbershon and Williams, 1999). Familiness has, however, also been defined and conceptualized in other ways (e.g. Carney, 2005). Thus, it is important to be aware of the fact that familiness and family firms have various definitions and that the propositions presented in this paper concern familiness as defined and conceptualized by Pearson *et al*. (2008). Another limitation is that the propositions presented are not very dynamic. Much family business research concern e.g. knowledge transfer in the succession processes (Cabrera-Suárez *et al.*, 2001) or how the entrepreneurial orientation (Zellweger and Sieger, 2012) or some of its dimensions (De Massis *et al.*, 2014) evolves in course of time. Thus, to adapt more dynamic approaches when analyzing AC in family firms will be an important field of research for future studies.

Also, AC has several definitions and the Zahra and George (2002) conceptualization has been criticized (see e.g. Lane *et al*., 2006; Todorova and Durisin, 2007). In the original definition, Cohen and Levinthal (1990) defined AC as a firm's ability to value, assimilate, and commercially utilize external knowledge. The assimilation dimension of the Cohen and Levinthal construct has similarities with the "assimilation" dimension and the "transformation" dimension of the Zahra and George definition. Thus, it is important to be aware of the fact that this paper has used the Zahra and George model of AC and other definitions of the concepts used in this paper are likely to generate other outcomes. Although the Zahra and George reconceptualization is a highly established construct in the knowledge-management literature, it would be interesting to analyze the relationship between AC and familiness by applying other definitions of AC (e.g. Todorova and Durisin, 2007) and to examine the usefulness of these approaches.

Another limitation of this article is that exploring antecedents to AC is still a new area of research. Most studies on AC have not set out to identify antecedents to AC, and they have been more concerned with analyzing the relationship between AC and, for example, innovation (Cohen and Levinthal, 1989; Cohen and Levinthal, 1990; Tsai, 2001) or overall performance (George *et al.*, 2001; Lane *et al.*, 2001). Other studies have mainly identified antecedents to the overall AC of firms (Cohen and Levinthal, 1990; Van Den Bosch *et al.*, 2003) or antecedents to potential AC and realized AC (Fosfuri and Tribó, 2008; Jansen *et al.*, 2005; Zahra and George, 2002). Thus, few studies have set out to identify antecedents to the specific dimensions of AC, i.e. the acquisition, assimilation, transformation, and utilization of knowledge. Nevertheless, as this paper has illustrated, it is possible to use research on general knowledge-management to explore these issues and to identify relevant antecedents. It will, however, be important to conduct future studies based on (hopefully) more rigorous reviews on antecedents to the four capabilities that constitute AC.

It would, of course, be interesting to test the validity of the propositions presented in this paper in future studies. All propositions concern quite straightforward causal relationships between familiness and various dimensions of AC and the theoretical arguments for the propositions have been elaborated in the present paper. Thus, to analyze the relationship between familiness and different levels of aggregation of AC will be an important field of research for future studies. It would be interesting to empirically test the specific propositions (e.g. whether or not familiness is positively related to acquisition of external knowledge), but also to analyze the relationship between familiness and potential AC, realized AC, and “total” AC (potential AC + realized AC). Also identifying how various moderating variables such as industry, firm size, firm strategy, etc. affect these relationships would be interesting. The concepts discussed and the propositions presented (i.e. familiness and the different dimension of AC) are all possible to operationalize. The level of familiness can, for example, be measured by using the familiness-power, experience, and culture (F-PEC) scale developed by Astrachan *et al.* (2002). The scale have been operationalized and applied successfully in previous studies on familiness (e.g. Klein *et al.*, 2005; Rutherford *et al*., 2008). Also, the various dimensions of AC have been successfully measured in several studies (Fosfuri and Tribó, 2008; Jansen *et al*., 2005). Thus, I encourage other researchers to empirically test the validity of the propositions presented in this paper.

Conclusion

In this paper, I have shed some light on the relationship between familiness and AC. Focusing on internal stability and developing the social capital of the firm is characteristic of familiness, and this enhances the realized AC of the firm. On the other hand, the limited exposure of firms with high levels of familiness to the external environment and the focus on stability instead of renewal will on the other hand reduce the potential AC. This tradeoff between inward-looking and outward-looking activities was described in the seminal AC study of Cohen and Levinthal (1990) and the concept of familiness fitted well into this discussion. There is a growing body of literature on the concepts of realized AC, potential AC, and familiness, and the methods for operationalizing these constructs are continually being improved. Thus, I encourage other researchers to explore this avenue of research with cross-sectional studies in order to validate the propositions presented in this paper—and with in-depth case studies to identify key antecedents to the acquisition, assimilation, transformation, and utilization of external knowledge in family firms.

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