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Investor Type, Cognitive Governance and Performance in Young Entrepreneurial Ventures: A Conceptual Framework*

Christophe Bonnet, Peter Wirtz

Grenoble Ecole de Management and Université Lumière (Lyon 2)

Abstract

This article contributes to a better understanding of the process of entrepreneurial finance from a behavioral perspective. We specifically examine the cognitive features and interaction of three key-actors in entrepreneurial finance: entrepreneurs, business angels and venture capitalists and derive implications for performance (value creation and growth) when a young venture raises external equity capital. Concepts of cognitive cost and value enhance theoretical insight into why BA and VC intervention is typically sequential. We also predict in what specific situations one should expect simultaneous coinvestment by BAs and VCs and how investors can use cognitive levers to influence the speed of growth.

Keywords: Business Angel, Venture Capitalist, Cognitive Governance, Venture Growth.

Introduction

Young entrepreneurial firms are an essential vector of economic growth and dynamism. Such ventures face especially strong challenges in managing the dynamics of growth (Hambrick and Crozier, 1985) and attempting to tackle specific strategic hurdles (Graebner and Eisenhardt, 2004). Part of the challenge is to gain access to and assemble various critical resources in an effort to fuel growth and get the venture on an expansion path. Frequently, resource needs come in the form of financial capital. When internal funding and the founder's personal wealth are insufficient to cover the financing needed for further growth, external investors, such as business angels or professional venture capitalists, may contribute critical resources in the form of equity finance. This brings about significant change in the ownership structure.

Bringing in new shareholders then raises the question of the nature and quality of the relationship between the different shareholder categories and the entrepreneur, in as much as the investors may exert significant influence over venture performance (Lindsay, 2004; Mason & Harrison, 2002; Wiltbank, 2005; Wiltbank *et al.*, 2009). The relationships between the entrepreneur and the new external investors are typically mediated by various governance mechanisms such as investor participation on corporate boards (Rosenstein *et al.* 1993; Sapienza *et al.*, 1996), terms of contract (Kaplan and Strömberg, 2004) and incentives linked to ownership structure (Bitler *et al.*, 2006).

The academic literature on the governance of entrepreneur-investor relations has mainly approached the issue from the perspective of agency theory (Daily *et al.*, 2003), according to which the corporate governance system essentially assumes a disciplinary role, improving performance through economizing on agency costs (Jensen and Meckling, 1976; van Osnabrugge, 2000; Bitler *et al.* 2006). More recently, empirically grounded studies have come to question such an exclusive focus on the disciplinary role of corporate governance, especially in the field of young entrepreneurial ventures. Graebner and Eisenhardt (2004), for instance, observed venture capitalists and business angels play a supportive strategic role in corporate governance, the latter working as a “syndicate” of cooperating peers rather than as a “monitor” of principal-agent relationships.

An alternative approach to corporate governance, borrowing from knowledge-based and behavioral theories, has begun to emerge and to present a major challenge to the dominant disciplinary approach. This alternative view may be qualified as cognitive, for it recognizes the potential role of governance in the process of strategy formulation and in the acquisition of managerial capabilities. Prominent examples of studies devoted to cognitive aspects of governance are Forbes and Milliken (1999), Rindova (1999), Charreaux (2002), Kor and Sundaramurthy (2008). According to these studies, the role played by the various actors involved in corporate governance and their impact on strategic outcomes and performance may be dependent on their specific cognitive background (experience, education, mindsets, decision-making heuristics ...) and interaction (learning, cognitive process ...).

Filatotchev and Wright (2005) promote the idea of the existence of a corporate governance life cycle, thereby suggesting that the specific role played by corporate governance in mediating entrepreneur-investor relationships may actually depend on a firm’s stage of development. The present article is focused on the governance of young entrepreneurial ventures which raise external equity to finance further growth. Entrepreneurial firms may be assumed to face especially strong cognitive challenges, for at least three reasons: (1) entrepreneurs have been shown to present specific cognitive features affecting their decision-making process (Busenitz and Barney, 1997 ; Forbes, 1999; Krueger, 2003; Sarasvathy, 2001), (2) entrepreneurs’ specific education and experience may lead to the discovery of business opportunities not evident to people with different mindsets (Shane, 2000), (3) entrepreneurs may lack the requisite managerial capabilities to exploit the perceived opportunities and sustain high levels of growth (Hambrick and Crozier, 1985; Hellmann and Puri, 2002; Wasserman, 2001). For all those reasons, the arrival of and interaction with specific investor types may have strong implications for the perception of the venture’s best strategic opportunities and of the best way to capture and exploit them. Differences in cognition between entrepreneurs and investors may induce costs or increase value, depending on the precise nature of such differences and the unfolding dynamics of interaction. Hence costs may arise when mutually inconsistent mindsets lead to strong conflict over the best strategic options that should be adopted, whereas value may emanate from the heterogenous experience and capabilities which certain investors bring to the venture, stimulating processes of organizational learning.

The present study develops a conceptual framework of the governance of young entrepreneurial ventures that open their capital to external investors in pursuit of a strong growth strategy. We do not challenge the fact that considerations of personal interest, as agency theory would have it, are present in entrepreneur-investor interactions and that investors seek to protect themselves from the consequences of potential managerial opportunism. Rather, we think that concepts of cognitive cost and value, represent a useful complement to deepen our understanding of venture governance and its impact on performance and value creation. Our proposal is that issues of discipline and cognition are both relevant to the governance of investor-entrepreneur relations., Cognitive issues do

however appear to be particularly important at an early stage in the growth process of young ventures. One central contribution of our framework is to go beyond the concentration of the ownership structure to consider the specific impact of different owner categories on performance. Business angels and venture capitalists have been shown to be significant suppliers of growth capital to growing entrepreneurial firms. They differ in many respects. Business angels are frequently experienced entrepreneurs who invest their own money, preferably in industries that they already know. They are not only driven by financial objectives (Morrisette, 2007). Venture capitalists are more typically professionals who manage funds with the objective of maximising the financial return for their fund providers. Although some of them may be former entrepreneurs, they have diversified backgrounds and they generally invest in a larger span of industries than business angels. These differences might impact investors' behaviour and the interaction they establish with entrepreneurs, from both the disciplinary and the cognitive perspective. Our framework has empirical implications concerning the various roles of angel investors and VCs in the governance processes of young entrepreneurial ventures and for their impact on the creation of value.

The remainder of the study is structured as follows. Section 1 gives a brief review of the dominant approach of governance related to entrepreneurial finance, questions its relevance, and then goes on to put special emphasis on the cognitive features of entrepreneurial finance. Section 2 presents a review of the literature on angel financing and venture capital and characterizes typical features of these two investor categories, which can be expected to have a bearing on agency costs and on cognitive costs and value. Section 3 proposes empirical implications derived from the combined framework.

1. Investor Relations in Entrepreneurial Finance: Beyond Agency Theory¹

Jensen and Meckling (1976) made the seminal contribution to positive agency theory which has become the dominant theoretical framework for analyzing shareholder-manager relationships. The starting point in Jensen and Meckling's analysis is an entrepreneurial firm, where the founder is the only shareholder and the manager at the same time. In this situation, agency conflicts are absent, because the entrepreneur completely internalizes the value impact of his decisions. Things change when the entrepreneur sells outside equity because such a scenario creates an incentive for the founder/manager to pursue his personal interests to the detriment of the new shareholders. Consequently, when a new shareholder enters, agency costs arise. Such an increase can however be reduced by putting in place the appropriate monitoring and incentive mechanisms. Hence, from the agency perspective, corporate governance follows an exclusively disciplinary orientation, functioning as a check on conflicting interests.

The question arises, however, why the entrepreneur should open up his venture to investors in the first place since this brings about agency costs which will be anticipated and priced by the potential external shareholders anyway. Jensen and Meckling's answer is in the recognition of the entrepreneur's personal budget constraint. That is to say that the sale of outside equity may be the only means to capture certain value enhancing investment opportunities, simply by loosening the firm's budget constraint. Thus, outside equity brings the firm on a value enhancing "expansion path", as long as the incremental value generated from expansion exceeds the marginal agency costs induced by the decrease of the entrepreneur's ownership stake. The value created by an external shareholder, say a private equity firm, stems from the funds it contributes and its capacity of controlling managerial agency costs by devising the appropriate incentive and control mechanisms. In discussing the O.M. Scott LBO for instance,

¹ This section strongly builds on earlier work by one of the authors (Wirtz, 2010).

Baker and Wruck (1989) make a case for the private equity firm's ability to design governance mechanisms (remuneration design, management participation, board of director functioning, covenants) which help decrease agency costs. It should however be noted that, in the initial agency model, the outside shareholders play no role in constructing the investment opportunity set itself. The latter is given, and the role of outside shareholders is restricted to bringing in financial capital and to supporting the residual risk, while controlling the objective attributes of their investments by maintaining transparency on information flows. In such a model, outside shareholders' governance activity is restricted to monitoring and contract enforcement. Agency theory thus focuses on controlling costs of conflicting interests when information is asymmetrically distributed. Investors enhance value through governance by crafting the appropriate monitoring and incentive mechanisms. Monitoring reduces information asymmetry, whereas incentives align the entrepreneur's interests with those of external shareholders. Jensen (1993) considers the governance mechanisms developed by certain private equity firms as especially efficacious when it comes to economizing on agency costs.

Though this may be one important explanation for the success of certain ventures, in many cases, the success and performance of entrepreneurial growth firms is not due to financial incentives and monitoring alone. In fact, one major shortcoming of agency theory lies in its implicit assumptions about the origin and the recognition of opportunities to create value. The origin of strategic opportunities and the recognition of their value creation potential are actually exogenous to the theory, and it is simply assumed that good (positive NPV) and bad (negative NPV) projects somehow exist. They are given by the environment, and to maximize value, it is important to have access to information about the good projects, to give incentives to the entrepreneur to choose the good ones and to make him expend optimal effort.

The strategic management literature however has a longstanding tradition in recognizing that making a competitive strategy is as much about cognition (Hambrick and Mason, 1984; Huff, 1990; Walsh, 1995), vision (Fransman, 1994; Witt, 1998), and difficult to imitate capabilities (Penrose, 1959; Teece, Pisano, Shuen, 1997), as it is about mere information. What an entrepreneur perceives as the best strategy depends on his or her specific mindset. The same goes for an investor. Mindsets are influenced by individual and collective learning processes, which may be highly specific and path dependent. Part of such learning is tacit in nature and thus difficult to communicate to others. One implication of the cognitive nature of strategy formulation is the fact that many value creation opportunities do not exist independently of the people who conceive them in specific organizational settings. The art of strategy is not simply about choosing the objectively best strategy in a predefined menu. Strategy is created in processes of individual and organizational learning (Nonaka and *al.*, 2001), which rely on capabilities that go beyond the control of conflicting interests.

Fransman (1994) illustrates the central importance of knowledge in creating and realizing the potential of corporate success. He actually draws a clear distinction between information, as it is present in agency theory, and knowledge, as employed in strategic management and evolutionary economics (Nelson and Winter, 1982). Information is in fact defined as objective data about states of the world and state-contingent outcomes. As such, it is a closed set. It may be asymmetrically distributed, but its transfer from one stakeholder to another is possible, albeit at a cost (monitoring costs). In such a context, an information's meaning is unambiguous. Things change when the precise meaning of any given information depends on peoples' mindsets. Thus, even if knowledge evolves with the acquisition of information, there is "loose coupling" between the two concepts, which is to say that the interpretation of any piece of information in terms of value creation is not self evident but depends on people's mental patterns at the time they receive the information. The latter may then have an impact on mental patterns and belief structures, but these change in a highly path-dependent way, so

that the knowledge gained from new information is sometimes very different from one person to another, depending on education and personal experience. In fact, Fransman defines knowledge as dynamic mental constructs. So, in comparison to agency theory's conception of information, knowledge is an open set. It is created in an ongoing learning process, part of which is tacit (Nonaka and *al.*, 2001).

Beyond their privileged access to information in the above defined sense, top managers' specific knowledge structures can hence be crucial in an effort to create value and stimulate growth. In their work on upper echelons, Hambrick and Mason (1984) actually consider a firm's strategy and performance to be a reflection of its top managers' cognitive base and values. Since there is only loose coupling between objective information and knowledge gained, some people perceive opportunities for value creation and others do not, even if information is distributed symmetrically. In such a situation, monitoring and incentive alignment alone are insufficient to increase a firm's value and engage in the dynamics of growth. This is because information from the environment is perceived through the lens of an entrepreneur's specific mindset. The latter influences strategy formulation and, ultimately, a firm's performance (Hambrick and Mason, 1984).

One important implication is that there may be a conflict between an entrepreneur and his firm's investors about the best strategy to follow, independently of any problem of conflicting interests, and that cognition may hence influence the dynamics of governance. As Conner and Prahalad (1996) put it: "[...] truthful individuals honestly may disagree about the best present and future course of action for their business activities. Or, the parties may possess different mindsets generally. Discord fundamentally derives from personal knowledge that cannot be communicated fully to others at the time of the disagreement." (p. 483). Consequently, our understanding of entrepreneur-investor relations may gain from admitting the existence of cognitive (or knowledge) asymmetry, which is different in nature from mere information asymmetry.

Such cognitive asymmetry is likely to induce conflicts due to mutual misunderstanding among stakeholders (e.g. the entrepreneur and certain external shareholders). Such conflicts are not rooted in mutually inconsistent interests and thus cannot be tackled by the means of interest alignment alone, as traditional agency theory would have it. Their resolution depends on stakeholders' initial skills and knowledge, as well as on their willingness and capability to learn. Thus cognitive conflicts cause costs which may be labelled as cognitive costs.

The costs stemming from cognitive conflicts are different in nature from costs rooted in agency conflicts. They are related to the various efforts undertaken by stakeholders to overcome differences in the perception of opportunities, to convince others of the relevancy of their conceptions (e.g. an innovative business model), as well as to eventual losses of efficiency due to lasting differences in understanding. Table 1 sketches out different types of potential cognitive costs in comparison with the traditional agency costs.

[Table 1 here]

The above presentation of cognitive costs emanating from the relationship between entrepreneurs and external stakeholders, such as business angels and venture capitalists, shows that these costs are linked to learning processes that potentially lead to a transformation of strategic knowledge (which may reduce the gap between different mindsets) and to an acquisition of new managerial capabilities. It is however important to emphasize that cognitive conflict differs from traditional agency conflict in a fundamental way. In fact, agency conflict is always value reducing, and as long as the marginal cost of monitoring and bonding remains inferior to the marginal reduction in residual losses, the latter's minimization will maximize value. Not so with cognitive heterogeneity, which can actually be value

enhancing (Forbes and Milliken, 1999; Hambrick *et al.*, 1996), in as much as it opens up new strategic perspectives and allows to sustain an ongoing process of learning and innovation. Consequently, the specific mindsets of external stakeholders, say business angels or venture capitalists, different from the entrepreneur's own, not only generate cognitive cost, but may also contribute cognitive value by bringing in new perspectives and valuable experience. Depending on their specific cognition and the latter's relative match with the entrepreneur's mindset, investors may act in such a way as to enhance the dynamics of mutual learning and thus support strong growth. In this case, governance would actually increase entrepreneurial discretion, furthering the capabilities required to manage the dynamics of strong growth.

Young technology ventures evolve in a highly uncertain environment, where knowledge about the best strategic opportunities is especially ambiguous. This makes cognition potentially a highly relevant variable in entrepreneur-investor relations. So, one may wonder if the disciplinary approach, rooted in agency theory and preoccupied with closely monitoring managerial discretion, is sufficient when it comes to explaining the dynamic interaction between entrepreneurs and investors in entrepreneurial ventures at an early stage in the process of growth. We may expect to gain explanatory power from combining basic principles of agency theory with the cognitive approach. According to the latter, investors use corporate governance to gain better understanding of entrepreneurial opportunity and as a lever to enhance strategic vision and managerial capability with a potentially strong impact on performance.

2. Business Angels, Venture Capitalists and Governance

From the above, it follows that, in as much as specific investors have specific cognitive features, investor type can be expected to have a significant impact on venture performance and success. This may help understand specific configurations of investors at specific stages of venture growth. Two broad investor categories are especially important for entrepreneurial finance and have been shown to assume complementary roles (Harrison, Mason, 2000) when it comes to supporting venture growth: business angels and venture capitalists. What are their specific roles and contributions to the governance and performance of young ventures? Empirical research has shown them to differ by their origin, previous experience and objectives. They tend to establish different types of contractual and informal relationships with venture founders. They assume complementary roles over the life cycle of young ventures, as BAs generally invest small amounts of money at early stages whereas venture capital funds invest larger amounts at the expansion stage. In certain cases, however, they do invest simultaneously in the same venture.

In this section we first document major empirical differences between BA and VC characteristics, as well as the specific investment and governance processes they typically engage in. In a second step, we derive theoretical implications for the governance of young growth ventures by VCs and BAs from the two basic theoretical frameworks: agency theory and the cognitive approach.

2.1. Empirical differences between BAs and VCs

The typical BA and VC each have specific characteristics

In the literature on entrepreneurial finance, BAs are described as "resembling more" to entrepreneurs than to VCs (Farrel, 1998), as being "closer" to entrepreneurs than VCs are (Kelly & Hay, 2003), as having an entrepreneurial orientation (Lindsay, 2004). BAs are predominantly actual or former entrepreneurs who invest their own money (Morrisette, 2007), whereas VCs are finance professionals who manage investors' money. Therefore BAs'

knowledge base and cognitive process are close to entrepreneurs'. Due to their experience they generally have good knowledge of a specific technology, industrial sector or market, and they express a preference for investing in industries they know (Wright & *al.*, 1999; van Osnabrugge, 1999). VCs, although some of them may have technological or industrial experience or expertise, often have a more generalist background (MBA, consulting or financial experience).

With regard to cognitive process typical in entrepreneurial decision making, two important specificities emerge from the literature: intuition and effectuation. Entrepreneurial intuition is defined by Mitchell & Friga (2005) as “*the dynamic process by which entrepreneurial alertness cognitions interact with domain competence (e.g., culture, industry, specific circumstances, technology, etc.) to bring to consciousness an opportunity to create new value.*” According to van Osnabrugge & Robinson (2000, *in* Morissette) BAs primarily assess the entrepreneur (*vs.* the business model) in their selection process and largely base their decisions on their own judgment and *gut feeling* rather than on extensive due diligence. The proper assessment of the entrepreneur’s intuition hence plays a significant role. To the contrary, VCs use a more formal, extensive and analytical approach based on the analysis of entrepreneurs’ references and past experience, of venture technology, of potential market and competition, and of financial projections (Wiltbank, 2005). This may be due to differences in cognitive ability and style between BAs and VCs, but also to the fact that VCs manage other people’s money and need therefore to document and justify their decisions in order to show to their fund providers that they behave in a responsible and rational manner (van Osnabrugge, 2000).

Effectuation, or effectual logic, is a construct that aims at describing how entrepreneurs take strategic decisions in uncertain environments (Sarasvathy, 2001). Rather than using a predictive approach (i.e. trying to forecast future outcomes using detailed market studies, financial projections, etc.) in order to pre-determine precise opportunities, goals and expected returns, as VCs usually do, many entrepreneurs use an “effectual”, non predictive, approach. This means that they do not try to first predict future outcomes and then match them with resources needed to attain predicted outcomes. Effectuators rather try to control (shape) outcomes (possible effects) based on their initial endowments with resources, strengths, social networks, and progressively manage to transform their environment as they go along thus creating new opportunities. According to Wiltbank & *al.* (2009), BAs use both predictive and non predictive (effectual) approaches in their investment decisions, albeit in different proportion. They suggest a moderate tendency toward one dominant approach over the other, some BAs being more predictive (much like formal venture capitalists), others more effectual (like the entrepreneurs of the ventures they invest in). Interestingly, BAs who emphasize a non predictive (effectual) approach experience a reduction in investment failures without a reduction in success rates.

BAs’ investment objectives also appear to be closer to entrepreneurs’ than those of VCs. BAs want to make money but they grant less importance than VCs to precise IRR and exit timing objectives, and they appear to have diverse non financial goals such as challenge, fun, helping to start a new company, that are as (or more) important for them as (than) financial goals (Farrel, 1998; Kelly & Hay, 2003; Morissette, 2007). VCs set their objectives in financial terms only and need to control the exit as they are committed to create value for their fund providers in a limited time frame.

The respective characteristics of first-time entrepreneurs, BAs and VCs as they emerge from the entrepreneurship literature are summarized in table 2.

[table 2 here]

BAs and VCs use different investment processes

The dynamics of venture capital investing can be represented as a five step process: deal sourcing, deal screening, deal evaluation, deal structuring, and post-investment activities (monitoring, exit) (Tyebjee & Bruno, 1984). In as far as it has an impact on managerial discretion, the investment process at large may be analyzed as an exercise in corporate governance. We present in table 3 a comparison of the respective procedures used by BAs and VCs based on the literature on angel and venture capital investing.

The main distinctive features of BAs' investment process, compared to VCs, may be summarized as follows:

- BAs are typically more intuitive, less formal and analytical in deal selection and evaluation.
- They bring specific entrepreneurship experience and sector knowledge, and look for close interactions with management in order to contribute assistance, advice and personal contacts to the venture. VCs bring more extensive financial and general management experience.
- BAs negotiate less extensive contracts, relying more on their capacity to intervene as events unfold (effectuation), whereas formal VCs try to anticipate major risks as much as possible and consequently put more weight on clauses aiming at reducing agency risk.

[table 3 here]

2.2. Theoretical implications for the respective roles of BAs and VCs in venture governance and performance

Informal and Formal Venture Finance in the Light of Agency Theory

According to agency theory, agency risks exist in young venture financing because of strong information asymmetry (on the quality of the project and of the entrepreneur) and of the existence of potential conflicts of interest between financial investors and entrepreneurs. They may be significant because most young ventures rely mainly on intangible assets and on the goodwill, ethics and abilities of the entrepreneurial team (van Osnabrugge, 2000). These risks theoretically exist for BAs and VCs likewise. It is consequently assumed that investors mainly use governance mechanisms to reduce agency risks, through active monitoring and contractual clauses designed to enhance their control over the venture, to limit their downside risk, and to incentivize entrepreneurs to create value.

[table 4 here]

Agency theory has frequently been applied to the explanation of venture capital governance. Kaplan & Strömberg (2004) identify four types of agency risks that VCs may encounter in their investment process. Based on their findings and on similar studies, we match in table 4 specific governance mechanisms typically used by VCs with specific agency risks. Previous research indicates that VCs tend indeed to reinforce these governance mechanisms when they perceive increased agency risks (KS, 2004; Barney & *al.*, 1994).

Agency theory has also been used to study BAs' investment process, with results that feature some notable differences with VCs. BAs are not unaware of potential agency risks, but they typically manage them by different means. They seem to rely more on their own capacity to act, than on up-front contracts. *Vis-à-vis* the adverse selection problem, they rely significantly on their own judgment and on trusted referral sources more than on extensive due diligence (van Osnabrugge, 2000). They also seem to consider that they can manage agency risks

through their level of involvement in the post-investment phase, by establishing a trusting and positive relationship with entrepreneurs (Landström, 1992). They work within a framework of “incomplete contracts” and, consequently, bother less about due diligence and contractual detail than VCs, as they think they will be able to reach positive outcomes through their post-deal involvement (van Osnabrugge, 2000).

In a survey of 106 UK based BAs, Kelly & Hay (2003) have however identified five “non negotiable” clauses (i.e. that are almost always included by BAs in the contracts with entrepreneurs) : (i) veto rights over acquisitions/divestitures; (ii) prior approval for strategic plans and budgets; (iii) restrictions on management’s ability to issue share options; (iv) non compete contracts required from entrepreneurs upon termination of employment in the venture; and (v) restrictions on the ability to raise additional debt or equity finance. Interestingly, clauses frequently used by VCs are absent from this list, such as performance dependant compensation, liquidation claims and anti-dilution clauses, forced exit, vesting entrepreneurs shares. BAs seem to be more preoccupied with controlling strategic decisions post-investment than with the provision of financial incentives to entrepreneurs. However one should note that BAs with a longer investment experience tend to negotiate tighter financial clauses, thus adopting a behaviour closer to VCs in monitoring entrepreneurs.

The above developments indicate that BAs and VCs may be concerned with agency risks likewise, albeit to different degrees. So agency theory would predict that BAs as well as formal VCs conduct the investment process by using various governance mechanisms primarily as a means to control for objective agency risks, at each stage of the process. Although the precise nature of the governance mechanisms employed may differ from one investor to another (Kaplan and Strömberg, 2004), their economic role is supposed to be identical: maximize shareholder value through strong financial discipline. Governance is supposed to grant investors access to objective information (not subjective knowledge in the above defined sense) and achieve interest alignment. Be it through formal due diligence or elaborate contractual arrangements (in the case of VCs) or through personal contact and hands-on monitoring (in the case of BAs), agency theory is focussed on interest alignment, not cognition. From this perspective, what is the respective role of BAs and VCs in the case of a co-investment in the same venture? On the one hand, the multiplication of different investors may intensify potential agency conflicts, because of the diversification of interests at stake. On the other hand, specific investor-types may have access to specific information, due to the specific governance mechanisms they have developed (*cf.* Jensen, 1993, referring to the governance mechanisms developed by private equity firms). So BAs and VCs might be considered to be complementary in terms of the specific information each is able to access (and certify), which should lead to a decrease in information asymmetry.

Business Angels and Venture Capitalists in a Cognitive Framework

The above quoted literature on BAs and VCs indicates that these two investor categories typically have different cognitive features, be it in terms of knowledge gained from formal education and professional experience, or in terms of cognitive style and process (intuition and effectuation *vs.* prediction). This may induce a gap between investors’ mindsets and those of entrepreneurs of varying magnitude at the time these different actors first come into contact. Bringing in different investor categories hence theoretically creates cognitive heterogeneity which is a potential source of cognitive conflict and cost. If the cognitive mismatch between a particular investor and the entrepreneur is too strong, the relationship may be interrupted rapidly, without any financing taking place, not because of an absence of objective information, but because of mutual misunderstanding. The cognitive distance between BAs having strong entrepreneurial experience and entrepreneurs should be smaller than between VCs and entrepreneurs. Reduced cognitive distance may allow for an intuitive understanding of the intrinsic value of an entrepreneur’s original project, without formal

financial projections. Conversely, the typical VC's mental distance from first-time entrepreneurs may be stronger than in the case of BAs, for reasons of differences in training and in the resulting specific modes of reasoning.

BAs with an entrepreneurial background present many similarities with entrepreneurs in terms of cognitive process and knowledge base. In fact, they often invest in industries they already know, which should facilitate their understanding of the new venture's strengths and weaknesses. However, the similarity between BAs and entrepreneurs is not complete. Although having a lot in common, they still may have different mindsets and knowledge bases, partially due to differences in their specific prior experience. We therefore expect externalizing costs from entrepreneurs towards BAs to be moderate.

BAs who seek strong involvement and close interaction with entrepreneurs can thus share their entrepreneurial experience, provide mentoring and fill the competence gap existing in the top management team of the new venture at a relatively low cognitive cost. We can expect this involvement to be a source of knowledge transfer to the entrepreneurial team. It can therefore be assumed that BA/entrepreneur interaction has the potential to produce a high cognitive value through learning, particularly in the case of first time entrepreneurs, who may benefit more from the transfer of previous entrepreneurial experience by BAs. It should be noted however that maintaining a close interaction with entrepreneurs may be excessively time consuming and costly if the venture is located far away, which may explain why most BAs invest locally (Kelly & Hay, 2003).

The likelihood of a cognitive gap between VCs and entrepreneurs is greater than between BAs and entrepreneurs at an early stage of venture growth, if we consider the fact that they generally work from a different knowledge base, have different prior experience, and specific cognitive processes. Cognitive conflict may be strong during the pre-investment phase, particularly if the VC adopts a rigid attitude in due-diligence and in contract negotiation. For example, inexperienced entrepreneurs may be upset by (what they considers as) an excessive tendency towards the use of formal analysis, predictive approach (detailed action plans and financial forecasts), downside contractual protections for investors and forced exit clauses, simply because they do not share the same cognitive logic than VCs. Entrepreneurs may need to engage in costly externalizing activities in order to convince VCs of the value creation potential of the venture, as the latter lack specific industrial and technical knowledge and want to conduct formal and extensive due diligence. We therefore anticipate that there may be relatively high cognitive costs resulting from VC-entrepreneur interactions. However this may be moderated by several factors:

- Cognitive conflict may diminish over time, even during the pre-investment phase, as it can be expected that mutual understanding and shared knowledge will develop in the process of interaction;
- Experienced VCs may be less rigid and more prone to understanding entrepreneurs' logic than young VCs, who need to establish a track record and who have a shorter experience of dealing with entrepreneurs. Entrepreneurs may also be more able to understand VCs' logic when they had previous opportunities to deal with them;
- In the case of a co-investment by BAs and VCs, BAs may help reduce the cognitive gap between VCs and entrepreneurs as they appear to be "in the middle", sharing cognitive characteristics with both, and being close to entrepreneurs (as peers) as well as to VCs (as co-investors). According to previous research, VCs view BAs' active involvement in the post-investment phase, and their ability to fill possible competence gaps in the entrepreneurial team, as major advantages of co-investing (Harrison and Mason, 2000).

It should be emphasized that particular entrepreneurs' and investors' respective mental features are not static, but can be expected to evolve in a complex process of interaction. Hence, the different actors' specific experience counts very much. It is thus possible that a VC

compensates a lack of personal experience as an entrepreneur through his frequent contacts with the entrepreneurs he funds. VCs, BAs and entrepreneurs featuring a certain degree of cognitive heterogeneity at the outset learn in the process of interaction. When VCs and BAs coinvest in the same venture, they may be supposed to make complementary contributions, due to their heterogeneous cognitive resources. It may thus be supposed that, early in the investment process, before any formal contracts are put in place, BAs play an especially strong cognitive role, in as much as they gain intuitive understanding of the entrepreneur's project, being able to translate the entrepreneurial idea into financial language. In fact, BAs can gain an intimate understanding of both worlds – the entrepreneurial and the financial – through their personal experience. They can thus play a helpful role early in the fundraising process, helping the entrepreneur to explain his venture's intrinsic value at a low cognitive cost to professional investors, potentially willing to contribute funds. The VCs' cognitive role and enhancement of performance, different in nature from the BAs', can be supposed to increase at later stages of venture growth. In fact, VCs have been reported to contribute managerial capabilities in a mentoring effort leading to a professionalization of functional capabilities (Hellman and Puri, 2002). Such professionalization is instrumental in tackling the challenges that arise when crossing certain organizational thresholds.

Table 5 summarizes the above developments concerning the impact of interactions between entrepreneurs, business angels and venture capitalists on agency costs, cognitive costs and value and, hence, on venture performance.

[table 5 here]

3. Investor type, governance and value creation in entrepreneurial ventures

The combined framework presented above has several empirical implications for the process of entrepreneurial finance, the related arrangements in terms of governance, and their impact on the performance of young growing ventures created by relatively inexperienced first-time entrepreneurs. Knowledge has been shown to be a dynamic construct, and concepts of cognitive cost and value are consequently highly time dependent. The potential of agency problems can also be considered to be time-dependent, in as much as agency costs are positively related to a firm's size and complexity (Fama and Jensen, 1983). The respective roles of BAs and VCs in venture governance and their impact on performance may thus depend on the stages of venture growth and on the speed with which such growth is accomplished.

At a very early stage in venture growth, the entrepreneur's tacit knowledge is often crucial for the firm's further development and success. If the entrepreneur has no previous experience in founding a venture, he may find it difficult to fully communicate his perception of strategic opportunities to professional investors, since he does not "speak the same language" and does not necessarily reason according to predictive logic. In fact, entrepreneurs have been found to rely heavily on intuition and effectuation. So cognition should be considered as a highly relevant variable in the process of raising equity finance, especially at a very early stage of venture development. Strong differences in cognitive maps and processes between first-time entrepreneurs and professional VCs may hence lead to high cognitive costs, offsetting the venture's value creation potential². Business angels, especially when they are former

² The cognitive costs must of course be compared to the size of funds invested. Certain early stage deals may simply be too small for VCs compared to the absolute amount of cognitive costs (e.g. the total learning effort that has to be undertaken to fully understand and value the venture's strategic growth opportunities). Consequently, beyond the availability of capital, cognition may be one possible explanation for why VCs

entrepreneurs themselves, can be supposed to have a more intuitive and tacit understanding of an inexperienced entrepreneur's project and aspirations, without incurring the high costs of extensive formal due diligence. Furthermore, when they share with the founders a similar professional background in terms of industrial sector, technological and market knowledge, they can appreciate the strategic potential of a young venture at a relatively low cognitive cost. So the young growing venture may be able to attract BA funding without the (cognitive) cost of capital offsetting the venture's value creation potential. Informal direct interaction between BAs and entrepreneurs as events unfold, may then allow for mentoring to take place, where BAs can serve as a sounding board in strategy formulation and may share their own personal experience as entrepreneurs. Learning thus potentially creates cognitive value, increasing the chances of venture success. BAs with strong entrepreneurial experience of their own and an effectual approach to doing business are able to contribute critical financial and knowledge resources to young ventures at a low cognitive cost, hence proposition 1.

Proposition 1: BAs have a particularly strong impact on venture success and performance in the early stages of venture growth.

As the growth process unfolds, the entrepreneurial firm grows larger and more complex, leading to a heightened potential of agency costs. Professional VC firms are known to have developed a series of governance mechanisms (formal due diligence, board participation, incentive contracts ...) designed to keep agency costs at a low level. Beyond certain thresholds, a more formal approach to governance and a certain degree of financial discipline may become necessary to attract further growth capital. Furthermore, the nature of the primary cognitive challenges may change once a fast growing venture crosses certain organizational thresholds. Indeed, at more advanced stages of the venture process, it can be supposed that entrepreneurs learn to better externalize their initially tacit knowledge (maybe with the help of BAs), which helps reduce cognitive costs in relationships with professional investors. Whereas specific entrepreneurial capabilities, such as the discovery of strategic opportunities, are critical at the very early stages of the venture process, certain managerial and functional capabilities become a critical resource at the stage of expansion, sometimes referred to as a firm's adolescence. Empirical research has shown venture capitalists to assist firms in their portfolio when it comes to professionalizing managerial functions. Thus, as a venture grows more complex, agency costs are raised and coordination becomes more difficult. Hence venture success may crucially hinge on governance mechanisms which keep a check on agency costs while simultaneously allowing for a transfer of managerial know-how.

Proposition 2: VCs have a potentially strong impact on venture success and performance at an advanced stage of venture growth (adolescence).

Typically, in fast growing ventures founded by first-time entrepreneurs the above arguments lead us to expect the process of entrepreneurial finance to be sequential, the typical sequence being (1) funding from BAs at relatively early stages of growth and (2) funding from VCs at later stages of expansion (adolescence). In the process, cognitive governance (mentoring) and certification by BAs can be expected to prepare the next stage of finance. Previous research actually suggests that ventures having received previous financing from BAs have far more chances to attract funds from VCs (Madill *et al.*, 2005). A large proportion of VCs consider that a previous investment by BAs enhances the credibility of a business and is an indication

typically invest larger amounts than BAs. In fact, the larger the funds invested, the lighter the relative weight of cognitive costs can be expected to be.

that the entrepreneurs are willing to take account of outsiders' points of view (Harrison and Mason, 2000). Thus VCs may interpret the involvement of BAs as the sign of a lower potential need of monitoring and as a potential means to bridge the cognitive gap.

Proposition 3: Funding from BAs at an early stage of venture growth increases the probability of successfully raising funds from VCs at later stages of the growth process.

In the UK, 58% of the VC fund managers and 36% of the BAs surveyed by Harrison and Mason (2000) declare to have co-invested with the other category in at least one venture. VCs consider the main advantage of co-investing with BAs is that they fill gaps in knowledge, expertise and contacts (thus providing a cognitive value added), and BAs say that the main advantage of co-investing with VCs is that VCs provide steady, systematic and formal due diligence (i.e. providing formal monitoring). In certain cases, coinvestment by BAs and VCs does not occur sequentially but takes place simultaneously. When should we typically expect such simultaneous coinvestment by BAs and VCs and what is its impact on performance (growth, value creation)? With an increasing number of different investors (BAs and VCs), we can predict an increase in the number of potentially conflicting interests and, hence, a higher potential level of agency costs. On the other hand, BAs alone may have limited budgets and may be unable to provide all the funds necessary for firms with very large growth opportunities. So VC-finance may be the more appropriate answer to help the venture grow faster than what BAs could achieve. One may however wonder why one or several VCs do not invest alone but alongside BAs. The cognitive approach to governance contains one possible answer. In fact, it has been shown that VCs typically do not invest at very early stages in the growth process but at expansion stages when firms already have some track record. Cognitive gap is a possible cause. Consequently, simultaneous coinvestment by VCs and BAs has advantages for very young ventures where the cognitive gap between VCs and entrepreneurs is potentially large, but where a very fast pace of growth rapidly outgrows the financial capacity of BAs. Coinvestment thus takes place when the increase of agency costs induced by the growing dispersion of the ownership structure is set off by the combined effect of a reduction of cognitive costs and the value creation potential inherent in growth opportunities with capital needs which exceed BAs' budget constraints. Hence, we should expect the following.

Proposition 4: Coinvestment by BAs and VCs has a positive impact on the pace and speed of venture growth.

Conclusion

This article is intended to contribute to a better understanding of the process of entrepreneurial finance from a behavioral perspective. We specifically examine the cognitive features and interaction of three key-actors in entrepreneurial finance: entrepreneurs, business angels and venture capitalists and derive implications for performance (value creation and growth) when a young venture raises external equity capital. Two theoretical frames – agency theory and the cognitive approach to governance – are briefly reviewed as potential complements in explaining the dynamics of entrepreneur-investor interaction and its impact on venture performance and success. Combining the two theoretical frames yields a series of propositions which lend themselves to subsequent testing. These propositions help explain BAs' and VCs' respective roles in governance and influence on performance at different stages of venture growth. Concepts of cognitive cost and value enhance theoretical insight into why BA and VC intervention is typically sequential. We also predict in what specific

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situations one should expect simultaneous coinvestment by BAs and VCs and how investors can use cognitive levers to influence the speed of growth.

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Table 1 – Agency costs and cognitive costs in entrepreneur-investor relations

Agency costs (Jensen and Meckling, 1976)	Cognitive costs
Monitoring aims at reducing information asymmetry (e.g. through a well informed independent board of directors).	Mentoring aims at the transfer of knowledge and skills from business angels and VCs to entrepreneurs and may provide psychological support .. Mentoring can take the form of serving as a “sounding board”, giving strategic and financial advice, helping entrepreneurs to acquire new managerial capabilities ... It aims at reducing knowledge asymmetry.
Bonding is the activity whereby managers convey credible (and thus costly) signals that they will behave in accordance with external shareholders’ interests.	Externalizing tacit knowledge (Nonaka <i>et al.</i> , 2001) consists of an entrepreneur’s efforts to transform his tacit knowledge into explicit knowledge which can be communicated to and appraised by external investors. The costs of externalization are different from bonding costs. The latter’s role is to convince shareholders that the manager’s interests are aligned with shareholder interests, whereas externalization of a partially tacit mindset is aimed at convincing (potential) shareholders of the intrinsic quality of strategic projects.
Residual loss is due to the fact that information asymmetry can never be completely eliminated and that interest alignment is never perfect.	Cognitive heterogeneity persists because mindsets are specific and path-dependent and, thus, never perfectly aligned, in spite of mutual interaction. Thus, some degree of mutual misunderstanding may always persist.

Adapted from Wirtz (2010)

Table 2 – Stylized characteristics of first-time entrepreneurs, business angels and venture capitalists

	Entrepreneurs	Business angels	Venture capitalists
Knowledge base	technological, specific industrial sector and client market	technological, specific industrial sector and client market	financial, various industrial sectors (to a lesser extent)
Experience	former employee, entrepreneurial (recent)	entrepreneurial (strong)	as a professional VC sometimes with consulting or entrepreneurial experience
Cognitive process	intuitive effectual (non predictive)	intuitive predictive or non predictive (depends on BA)	quasi-rational predictive (consistent with a professional investment style)
Interests/utility	self achievement goodwill builders remuneration	return on investment goodwill builders challenge, fun, getting involved	return on investment over a predetermined horizon

Table 3 – Investment processes featuring business angels and venture capitalists

	Business angels	Venture capitalists
Deal sourcing <ul style="list-style-type: none"> • Sources • Deal flow 	Personal network BA clubs/networks VC referral Small	Spontaneous deal flow Other VC or BA referral Personal network Large
Deal screening <ul style="list-style-type: none"> • Deal type • Deal frequency and diversification 	Small, early stage (limited resources) Low	Large, expansion stage High : extensive resources plus contract with investors (time constraint to invest, minimal diversification)
Deal evaluation <ul style="list-style-type: none"> • Due diligence process • Selection criteria 	Informal and partial Use intuition, own judgment, industry knowledge Use trustworthy referers Entrepreneur (main criteria): fit, trust, competence Sector: link with experience and knowledge Financial : IRR, minimize risk of total loss Challenge/excitement/fun Possibility to “add value” to venture Social benefit (jobs creation...) Venture location (close)	Formal and extensive Use own judgment and consultants Certification by BA or other VC Entrepreneur: competence, experience, completeness of TMT, similarity Sector: part of fund objectives Business model Financial : maximize IRR/gain
Deal structuring	Contracts enabling BA to be hands on as events unfold Tighter contracts on exit and gain sharing when BA is more experienced Tighter contracts when syndication with VC	Pro-active deal making Contracts enabling information, monitoring, exit control, gain sharing Contracts used as protection to perceived agency problems
Post-investment	<i>“Offering help”</i> Close interactions with management Brings entrepreneurial experience Fills competence gap in TMT Preparation and accreditation for VC investment in later stage Being hands on reduces negative exits Exit timing is not a key issue	<i>“Checking up on you”</i> Influence and control on management Active in shaping strategy/business model Brings financial experience May initiate changes in TMT to fill gaps Exit timing is essential (contract with investors)

Sources: Boeker and Wiltbank (2005); Farrel (1998); Fiet (1995); Kaplan and Strömberg (2004); Kelly and Hay (2003); Landström (1992); Mason and Harrison (2002); Van Osnabrugge (2000); Wiltbank (2005); Wright et al. (1998).

Table 4 – Agency risks and governance mechanisms used by venture capitalists

Agency risk	Governance mechanism
Investor does not know entrepreneur quality/ability (adverse selection problem; increases if entrepreneur has limited experience)	Due diligence on management Compensation dependant on performance (good entrepreneurs will be more willing to accept) Staged funding Liquidation claims and anti-dilution provisions Certification by business angel
Entrepreneur may not work hard enough to create value in the post-investment phase	Active monitoring Compensation dependant on performance Staged funding
Conflict between VC and entrepreneur in the post-investment phase	Contract giving board control to VC Forced exit clause (because exit timing is key for VC)
“Hold up” by entrepreneur (threatens to leave)	Vesting entrepreneurs’ shares Non compete contracts

Mainly from Kaplan and Strömberg (2004); plus Barney *et al.* (1994), Madill *et al.* (2005).

Table 5 – Relationships between entrepreneurs and investor-types and their supposed impact on agency cost, cognitive cost and value

		Entrepreneurs	Business angels	Venture capitalists
Agency theory	Potential conflict of interests and agency costs	<ul style="list-style-type: none"> - Increases as the founders’ relative ownership stake decreases (Jensen and Meckling, 1976; Bitler <i>et al.</i>, 2006) - Increases with the number of different investors - Depends on investors’ typical incentive and control mechanisms (Baker and Wruck, 1989; Jensen, 1993): BA’s monitoring relies on strong involvement ex-post whereas VC’s monitoring is more formal and <i>ex ante</i> (contracts) (Kelly and Hay, 2003; Van Osnabrugge, 2000) 		
	Potential cognitive cost	Moderate (because of mutually consistent entrepreneurial attitude and cognition; Murneiks <i>et al.</i> , 2007)	Moderate (because of BA’s prior entrepreneurial experience and track record)	
Cognitive approach to entrepreneur-investor relations	Potential cognitive value	Transfer of entrepreneurial experience, filling competence gaps in management team	Transfer of sector knowledge by BA (Harrison and Mason, 2000)	
		Potential professionalization of managerial capabilities (increases with VC experience, Gompers <i>et al.</i> , 2006)		