AFFECT HEURISTICS IN INVESTMENT DECISIONS: A MULTI-CASE ANALYSIS OF PRIVATE EQUITY GROUPS

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Abstract: This study utilizes an exploratory case analysis to examine the specific activities and decision-making processes surrounding private equity investments. Qualitative data was generated from semi-structured interviews at twenty private-equity groups. Rather than relying on a retrospective review of prior decisions, our multi-case analysis presents each decision-maker with *teasers*, a summary document that introduces an investment opportunity. Following prior research, our results indicate that decision-makers utilize various heuristics that guide selection and execution of their investments. We also uncover the role of affect: strong positive or negative responses to specific stimuli in the teasers. This partially reflected learning and feedback on investment experiences that lead to the construction of affect heuristics. Furthermore, affect, despite occurring rapidly and automatically, enhances decision efficiency in complex environments.

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This study utilizes an exploratory case analysis to examine the specific activities and decision-making processes surrounding the investments of private equity groups (PEGs). The analysis focuses on understanding how these investors draw inferences from their experiences in investing and/or professional management to make decisions. Our research assumes that this decision-making entails the use of cognitive heuristics, given the level of complexity. Extant research has noted the use of heuristics in various contexts, such as entrepreneurship, venture capital, and internationalization (Bingham & Eisenhardt, 2011; Busenitz & Barney, 1997; Simon et al., 2000; Zacharakis & Shepherd, 2001). Applying this framework in the context of private equity may lead to further insight and so theory modification and refinement. Furthermore, our research attempts to explore the extent of affect in private equity: intuitive, automatic responses of positive or negative feelings to certain stimuli. Affective reactions may activate predispositions to appraise and experience events in systematic ways that result in the generation of specific emotions and so risk perceptions (Peters et al., 2004).

Research into heuristics and biases on the part of private equity investment has received little attention to date, focusing largely on financial returns to investors (Cumming et al., 2007).[i] Private equity is an asset class where majority control of an existing or mature firm is acquired (Kaplan & Stromberg, 2009). PEGs include a variety of forms, such as captive investment companies, independent limited partnerships and publically traded companies. Value is enhanced by private equity through improved operations (Cuny et al., 2007). In this setting, we sought to examine the initial investment review referred to as the *teaser*, a one-to-two page summary of the investment opportunity. A positive decision at this step would entail requesting the information memorandum to progress. Our results indicate that PEGs utilize a variety of rules that guide selection decisions and execution of post-transaction management. Furthermore, our findings illustrate the speed with which the PEGs review a large number of proposals, made possible by the affective response to specific information in the teaser.

THEORETICAL BACKGROUND

Rather than presume the existence of 'Homo Economicus,' our research seeks to understand decision-making in high-stakes, complex situations by agents with cognitive limitations (Powell et al., 2011). In these conditions, individuals may use mental shortcuts - cognitive heuristics - to allow them to simplify the complex problems they are addressing (Janis, 1989). By focusing on a few key variables, individuals are able to deal with the large amounts of data available to them (Tversky & Kahneman, 1974). Behavioral economics has posited a variety of these heuristics, such as representativeness, availability, and anchoring (Camerer et al., 2011). Research in strategy has illustrated the use of selection, procedural, temporal and priority heuristics (Bingham & Eisenhardt, 2011). Although heuristics economize on deliberation costs, such use may reveal cognitive biases, such as overconfidence, that lead to inferior decisions (Lovallo & Sibony. 2010).

A further role in behavioral theories on judgment and choice is the affect heuristic (Slovic et al., 2002). Affect is the positive or negative feeling associated with judging the risks or benefits of something. Peters et al. (2004) defined affect as "good or bad feelings toward an external stimulus" (p. 1350). By demarcating a positive or negative quality of a stimulus, affective responses occur rapidly and automatically (Slovic et al., 2007). Evidence indicates that affect mediates, at least in part, the relationship between an individual's evaluation of risk and behavioral responses (Finucane et al., 2000). When there is a divergence between the cognitive and the emotional reaction, the emotional reaction often drives behavior. Furthermore, the use of affect, which occurs rapidly and automatically as a heuristic, contrasts with a more analytic, deliberative process (Slovic et al., 2002). This is relevant to the PEG decision-maker as the inherent risks of assessing a potential investment are considered.

Learning and experience is of interest in the decision-making process of PEGs and the development of heuristics. Theories of learning are critical in understanding cognition and decision-making. Knowledge acquisition entails congenital, experiential, and vicarious learning (Huber, 1991). For example, the development of routines that guide behavior reflects the encoding of inferences from history (Levitt & March, 1988). Inherent in this perspective is that heuristics are learned from experiences. Bingham and Eisenhardt (2011) illustrate that firms learn portfolios of heuristics, which relate to capturing opportunities, and that they learn these heuristics in a specific developmental order, while engaging in simplification cycling where heuristics are modified. Hence, learning is partly inductive: experiences serve as examples for the formation of heuristics (Thagard, 2005).

RESEARCH PROJECT

The purpose of this research is theoretical elaboration and modification by drawing on and extending existing theories on decision-making under uncertainty. Specifically, we address the role of experience and human capital in the decision-making process of PEGs when evaluating investment opportunities. The empirical basis of this analysis is a multiple case analysis of twenty PEGs, completed between January and February 2013. The sample was selected in terms of theoretical relevance, approaching PEGs purposefully to reflect diversity in fund experience, fund size, investor base, geographic location, targeted investments, and investment size. By utilizing a replication logic, our objective was to illustrate support for emergent themes across cases and so promote analytic generalization (Yin, 2009). Hence, further cases were added until saturation emerged.

Qualitative data was generated from semi-structured interviews with twenty private equity decision-makers. Rather than focus questions on prior investments, the unit of analysis was the *teaser*, a one-to-two page summary of an investment opportunity that is standard in initial reviews. Prior to the interview, the respondents were provided with a copy of four teasers, representing actual investment opportunities. The focus of our questions was on the decision-making process and investment rationale on each teaser. Specifically, we asked whether an offering memorandum would be requested, as well as exploring the reasons for proceeding or declining. Our objective was to formulate a coherent narrative of this process by key decision-makers (Rubin & Rubin, 1995). Finally, we collected archival data on each PEG, such as the size of the firm, the number of executives, professional background, etc. By utilizing multiple data sources, a broader range of attitudinal and behavioral issues can be addressed (Yin, 2009).

Following the perspective of Miles and Huberman (1994), data analysis consisted of concurrent activities. The initial step of data reduction entailed transcribing the interviews verbatim, and then selecting, coding, and transforming the data. To facilitate coding, individual case histories were developed to synthesize the interviews and archival evidence (Eisenhardt, 1989). These case histories were then utilized for two types of analysis, within-case and cross-case (Bingham & Eisenhardt, 2011). Constructs and themes were developed during within-case analysis to describe the decision-making process. Emergent themes were then subjected to cross-case analysis by examining similarities and differences across multiple cases. With replication, these themes were transcribed onto comparative grids to establish patterns across a variety of characteristics. We also utilized two additional raters to assess inter-rater reliability, which subsequently yielded a significant degree of agreement.

RESULTS

Themes. Although our interview questions explored general investment processes at these PEGs, the unit of analysis was the *teaser* review. The respondents reviewed four teasers and were asked whether, based on the information provided, they would request additional information, such as a Confidential Information Memorandum, so as to move the transaction to the next step. Each teaser represented different industry, ownership and target characteristics.[ii] A variety of responses were noted across the teasers, or investment opportunities. Individual preferences varied considerably: decisions to proceed or pass were based on stated industry, financial, or ownership criteria. However, the emergent themes reflected a decision-making rationale heavily skewed towards the use of rules that delineated specific selection criteria, as well as affective responses to specific information in the teaser.

Table 1 illustrates some of the emergent themes noted in our research. These themes illustrate the use of “rules of thumb”, or heuristics, as applied in PEGs' deliberations. For example, rules on investment characteristics emerged. One PEG noted: "We are looking for businesses with a 30% margin."(20)[iii] Another business development officer noted that they are looking for the following: "we seek companies with stable histories of earnings, year in and year out. The other thing that we like is that there is someone on the inside that is capable of running it." (9) The founder of one PEG stated: "our focus is really on owner situations more than anything else…we look to buy businesses…with management teams that are still hungry to grow the business."(13) Other PEGs commented on the importance of the industry: "we're a firm that focuses on investing in high growth businesses … we invest in three areas: business services, health care and government services. We like service businesses because they can grow at great rates and self-fund". (4) In summary, investment decisions by PEGs are based partly on specific rules that delineate opportunities, leading us to the following proposition:

> ***Proposition 1:*** *Private Equity Groups utilize selection heuristics that guide decisions during teaser reviews on which investments to pursue.*

Although specific rules guide selection, these PEGS also utilize formal evaluation procedures to guide execution. One fund had a list of 25 criteria on a checklist that was reviewed for each submission. If the proposed transaction scores above 65% in the process, it's worthy of more time" and they will continue with the review. (20) Another relied on "our criteria is posted …in the limited partnership fund. We only invest in companies that have these sets of criteria." (5) In addition, many of these PEGs have guidelines for post-transaction management. A managing partner noted: "we don't expect any business that we acquire to have a perfect management team that doesn't need any supplementing."(11) One partner stated that "in every deal that we have done in 10 years, there's always been an addition to the management team."(14) The PEGs also expect management team to have an equity position: "management owns what we don't. We will subsidize management's buy-in on the front end."(13) These themes led to the following proposition:

> ***Proposition 2:*** *Private Equity Groups utilize procedural heuristics that guide deliberation on post transaction management and structure.*

In addition to selection and procedural heuristics, PEGs relied on affective judgments to guide their decisions. For example, strong responses were noted on ownership structure. Those that rejected the deals with existing PEG ownership would not consider investing in such companies because, as one remarked: "by definition, they are cashing out and going to the beach".(13) As the founder of one PEG stated: "we have never bought any successful company from a private equity firm."(5) Another reflected on the PEG's investments: "none of them are PEG-back. We're not interested in that."(4) Others were less blunt: "we're really not investing in anything where another private equity firm already owns it."(8) In other cases, prior family-business ownership triggered affective responses. For example, "we have a huge favorable bias toward those types of companies."(18) This theme suggests the following:

> ***Proposition 3:*** *Private Equity Groups utilize affect heuristics that evaluate the risks and benefits when reviewing business opportunities.*

Origins. In exploring how these themes emerged, we probed the respondents to explain the reason behind their rules on teaser selection or their strong affective responses to specific aspects. Our findings suggests a process of induction: the construction of these heuristics were drawn from prior investment and business experiences. For example, one PEG executive noted: "Our founding partner got whacked in a mining deal so you're not going to have any luck in a mining deal in our shop. We've had some automotive experience that did not go well. I think any automotive deal would have a hard time."(10) Consider the following on how one PEG explained his list of investment rules:

> "These criteria have really been set over the last 10 to 12 years based off of what common criteria are or deals that everyone in the firm likes and even if they're negative criteria… so if X then the deal is a pass, a clear pass. And so those, those kind of negative criteria are set because either one partner has a particular issue with something where he has gotten burned before or we as a firm…"(13)

Further replications were evident in the data. For example, one PEG noted the difficulty with prior investments in family-owned businesses: “The major problem has been nepotism. This results in difficulty professionalizing the business.”(12)

The comments found in the data indicate that heuristics reflect the PEGs' investment experiences, where performance feedback shapes the construction of subsequent rules for investing. This process however is iterative in that PEGs re-construct their heuristics as new experiences challenge prior rules guiding behavior. As the founder of one PEG noted:

> “When we started in the business, it was all about growth. Then it evolved into services. Then it evolved into these three sectors. Over time, we realized that using less debt, that was a much better strategy. We realized that really using strategic planning is a better strategy. We realized that not worrying about earnings in the first and second year is a good strategy ....”(4)

Furthermore, consider the following quote: “We have shifted a bit over the course of the last few years, where we’ll buy a less than economic controlling stake in the business ....”(3) These comments underscore the role of organizational learning as it affects investment heuristics:

> ***Proposition 4:*** *Repeated investment experiences lead to learning heuristics that guide adjustments to the Private Equity Group’s investment decisions.*

DISCUSSION

This study examined the decision-making of PEG business development officers as they reviewed potential investments. A number of distinct themes emerged on specific investment characteristics, ownership structure, and post-transaction management. We used these themes to demonstrate the existence of selection and procedural heuristics in PEGs' decision-making, as found previously in alternative contexts (e.g. Bigham & Eisenhardt, 2011). For example, we noted the use of rules for selecting opportunities based on specific characteristics. In addition, our results show how deliberation is guided by execution on post-transaction management. These rules appear to be learned from the process experience of the PEG decision-makers, which raises the issue of possible bias. Respondents’ reviews of potential investments may limit opportunities to specific industries or firm characteristics that may have less bearing on subsequent returns (i.e. insensitivity to sample size).

Our results also illustrate the use of affect heuristics. PEGs were able to demarcate a positive or negative quality to information in the teaser. For example, “... those kind of negative criteria are set because either one partner has a particular issue with something where he has gotten burned before ….”(13) In essence, the affect present in PEG investment criteria will impact the evaluation of risk and so the teaser response, regardless of other characteristics. Interestingly, the emotional reaction may well drive behavior (e,g, no "mining deal"). Hence, our results shed light on the dual process of thinking: intuitive, automatic (system 1) versus analytic, deliberative (system 2) (Kahneman, 2011; Slovic & Peters, 2006). Both processes of thinking are evident, but affective responses may well dominate.

The use of affect heuristics also present two further insights. First, utilizing such heuristics on teasers is potentially efficient decision-making, given the high volume of investment reviews conducted by PEGs (easily 700-1000 proposals reviewed annually). This volume necessitates the ability to quickly and deliberately review the teaser. In this context, affective responses allow the PEG decision-maker to quickly come to a conclusion; a process that may only take a few minutes. Second, affect heuristics by PEGs create ties to companies for sale based on salient characteristics. Firm characteristics, such as geographic position and industry presence, create *homophilous* relations. Given that PEGs provide an important source of capital for ongoing businesses, bankers representing companies for sale may more efficiently target teasers based on PEGs' experiences.

Table 1: Themes in PEG Investment Decision-Making

Vignettes	Heuristics / Rules	Representative Quotes
Theme 1: Investment Characteristics Specific characteristics on financial performance, industry involvement, geographic location, and government interaction were used to delineate the attractiveness of investment opportunities.	• Investment must be in select industries • Business must achieve at least X% in margins • Set performance metrics (revenue, earnings, cash flow) must achieve a minimum level • Stable growth in sales and/or earnings	"We are looking for businesses with a 30% margin."(20) "We seek companies with stable histories of earnings, year in and year out." (9) "Positive cash flow between \$2 million and \$10 million"(19) "Our founding partner got whacked in a mining deal so you're not going to have any luck in a mining deal in our shop."(10) "... we invest in three areas, business services, health care and government services."
Theme 2: Ownership Structure In addition to the specifics of the targeted business' financial performance and industry, PEGs also assess prior ownership structure to determine which teasers will prompt further review.	• Business should not be previously owned by private-equity • Target entrepreneurial firms • Prior family-owned businesses are ripe for enhancing operations (lack of professionalism)	"Our sole focus is partnering with owner-managed and family-controlled businesses, so we're the first institutional capital into the business."(2) "Almost all of ours are entrepreneurial. I would not call them family businesses."(4) "... prefer privately owned businesses to private equity-owned businesses or to corporate divestitures."(11) "And so those, those kind of negative criteria are set because either one partner has a particular issue with something where he has gotten burned before …"(13)
Theme 3: Post-transaction Management Although specific rules on the investment characteristics and ownership structure guide selection, PEGs were also found to deliberate on the post-transaction structure of management. These procedural rules guide the execution of managing the business moving forward.	• Consider how current management would need replacement • Consider the managerial role internally that requires supplementing • Assess the relative fit between our team and current management • Management owns some portion of equity in the business post-transaction	"We are loathe to enter into a transaction and just rely on past management to take us to the promised land."(3) " ... the businesses must have good management in place."(6) "We are very much focused, not only on the quality of the management team but also the chemistry between our group and management."(17) "In every deal that we have done in 10 years, there's always been an addition to the management team."(14) "Management owns what we don't. We will subsidize management's buy-in on the front end."(13)

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[i] Dawson (2006, 2011) has focused on biases in the decision-making criteria of private equity investors as they review family business opportunities.

[ii] The teasers are available from the authors by request (no room in the Conference submission format to provide here).

[iii] A table of the PEGs used in this study is available from the authors. Case numbers are from this table.