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THE INVESTMENT PROCESS USED BY PRIVATE EQUITY FIRMS: DOES THE AFFECT  
HEURISTIC IMPACT DECISION-MAKING?

BY

David Blair Sinyard

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Executive Doctorate in Business

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY  
ROBINSON COLLEGE OF BUSINESS

2013

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## **ACCEPTANCE**

This dissertation was prepared under the direction of the David Blair Sinyard Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Executive Doctorate in Business in the J. Mack Robinson College of Business of Georgia State University.

H. Fenwick Huss, Dean

## **DISSERTATION COMMITTEE**

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## ABSTRACT

### **The Investment Process Used by Private Equity Firms: Does the Affect Heuristic Impact Decision-Making?**

BY

David Blair Sinyard

June 2013

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Major Academic Unit: International Business

Individuals utilize heuristics in order to simplify problems, which may lead to biases in decision-making. The research question of this study is: “How does the affect heuristic impact the investment process of private equity decision-makers reviewing proposals?” Through an exploratory multi-case analysis, insight is provided into complex private equity decisions by studying biases in the investment process. This is a study of private equity groups’ (PEG) decision-making process when they consider businesses for investment. Qualitative data was generated from semi-structured interviews with twenty private equity decision-makers. The deliberative heuristics applied in the teaser review are learned from process experience and guide the deliberation on whether to proceed. Simplifying heuristics are applied in the more informal review process. Organizational learning was exhibited as the PEGs have modified their investment structures based on previous experiences. The study indicates that experience and learning lead to the construction of an affect heuristic that subsequently impacts investments. It also confirms the need for strategic decision-makers to recognize their own biases and adjust their processes accordingly.

A significant practical implication of this study is the insight provided into the views of the PEG decision-makers as they anticipate the need to supplement the management team is helpful to business owners and their advisors. The study highlights the opportunities for biases in PEG decision-making processes. Accessing decision-makers at larger PEGs and approaching more middle market firms would broaden the results.

## INTRODUCTION

### I.I Research Domain

Most of the researcher's business career has been "deal-making" where he has been both an originator and a decision-maker. Gaining insight into how investment decisions are made is very important to his clients and to him personally. From a practical perspective, how does one determine whether my deal will be approved by the investment committee? Investors are interested in ensuring that their investment processes are effective, that good investments are not rejected, and that substandard deals are not pursued. Much of the academic literature regarding investment decision-making focuses on biases and recent work emphasizes how to reduce their impact. Decision-makers' biases are pervasive in industries and organizations. Where there is bias and it is unacknowledged, the results can be very costly.

The researcher has a professional interest in the question of how the affect heuristic impacts the investment process of private equity decision-makers reviewing investment proposals. He is an investment banker who has represented business owners in transactions with Private Equity Groups (PEGs). During a recent conversation with a principal at a PEG, this individual provided almost visceral feedback of his views of investing in family owned businesses. This background sparked an interest in the issue of decision-making by PEGs from both a professional and academic perspective, with a particular interest in family owned businesses as they represent an important investment opportunity for private equity firms.

Business owners face three alternatives as they approach retirement: pass on both the management and ownership of the business to the next generation, pass on the shares but bring in professional managers, or sell the business (PricewaterhouseCoopers, 2012). The PwC survey data indicated that 41% of the respondents intended to convey their stock and management of the

business to their children. More than half of these respondents were unsure whether the next generation had the requisite skills for this to successfully occur. Twenty-five percent planned to bring in professional managers due to the perceived lack of skill of the next generation. Twelve percent were undecided and the remaining 17% planned to sell the business. With results such as these, it is no surprise that succession planning in family firms has received significant attention from family business scholars and practitioners (Sharma et al., 1996).

Historically the focus of examination has been intergenerational succession. Much of the research has centered on factors that prevent intra-family succession (De Massis et al., 2008). Non-family transition opportunities have been the topic of some investigation (Howorth et al., 2004). Their work explored management buyouts (MBOs) and management buy-ins (MBIs) as an alternative solution to the family firm ownership succession issue. These MBOs and MBIs represent an important succession opportunity for family firms. MBOs and MBIs also provide an important deal source for private equity. Not only can private equity investors enable the resolution of succession problems, their involvement can lead to improved operating efficiencies in the firm (Scholes et al., 2009). Private equity is typically an asset class that consists of equity investments in non-publically traded companies. Private equity provides capital in exchange for an equity stake in a potentially high growth company. Much of the academic work has been focused on private equity buy-outs involving public companies, particularly focused on governance and returns realized by these transactions (Cumming et al., 2007).

## **I.II Research Perspective**

In order to process the significant amount of information available, individuals utilize cognitive heuristics in order to simplify the problem (Janis, 1989). While useful, these heuristics

may lead to biases in decision-making. Of particular interest is the impact on decision-making by investors. The decision-making criteria of venture capitalists have been researched from the perspective of various constructs including management, unique opportunity, and appropriate return (Hisrich & Jankowicz, 1990; Riquelme & Rickards, 1992; Gupta, & Sapienza, 1992). Research has shown that equity investors behave in a rational manner in the way they screen potential deals, evaluate those deals through due diligence, negotiate the terms of the investment and close their transactions (Tyebjee & Bruno, 1984). Strategic variables relating to firm targets and the industry within which they compete are also evaluated (Sandberg & Hofer, 1987). The use of cognitive heuristics, or mental shortcuts, in the decision-making of venture capitalists has been reviewed and can lead to biases (Zacharakis & Shepherd, 2001; Shepherd & Zacharakis, 2002; Shepherd et al., 2003; Franke et al., 2006).

Research into decision-making criteria and biases on the part of private equity investment regarding family firms has received little attention to date. Recently several papers have focused on biases in the decision-making criteria of private equity investors as they review family business opportunities (Dawson, 2006; Dawson, 2011). The affect heuristic has been studied in the context of judgment and decision-making (Finucane et al., 2000; Slovic et al., 2007). Affect is “the specific quality of ‘goodness’ or ‘badness’ (i) experienced as a feeling state (with or without consciousness) and (ii) demarcating a positive or negative quality of a stimulus” (Slovic et al., 2007). The experiential element of the response differentiates it from descriptive decision-making research that has focused on cognitive strategies (Finucane et al., 2000). While analysis is important in certain decision-making, individuals rely on affect and emotion as an efficient way to make decisions in circumstances of complexity. Dawson’s research did not extend to this heuristic (Dawson, 2006; Dawson 2011).

This issue of biases in decision-making has also found its way into the practitioner's world as several meaningful articles and research findings have been published (Hammond et al., 2006; Lovallo & Sibony, 2010; Kahneman, et al., 2011). While there is a clear acknowledgment that cognitive biases do exist and impact strategic decision-making such as investment decisions, the methods to minimize their impact are currently being explored (Kahneman et al., 2011). Practicing behavioral strategy – by incorporating psychology into the decision-making process – is believed to result in superior outcomes (Lovallo & Sibony, 2010). Indeed, the research indicates that improving the decision-making process results in a 5.3 percentage point increase in the return on investment (ROI) of those decisions. The better the process followed, the better the decision made (Lovallo & Sibony, 2010). Indeed, “contextual architectures that promote sound judgment can enhance firm performance” (Powell et al., 2011, p.1370). These findings support further study of the psychological architecture of private equity decision-making such as the affect heuristic and its possible impact on executive judgment.

Executive officers and board members rely on reports and analysis from teams regarding strategic decisions including mergers and acquisitions, the launch of a new product line, and major capital investments. Inevitably, biases will affect the team that is making the recommendation (Kahneman et al., 2011). The quality of the decisions ultimately made can be improved by focusing on the process that underlies the recommendations. The extent to which defects in thinking are vetted directly through the process positively impacts the value of the final decision. Cognitive biases in the decision-making process may result in rejecting a good investment opportunity or pursuing a substandard deal.

### **I.III Research Approach**

The research question of this study focuses on the use of heuristics by private equity groups' decision-making as they assess potential investments. Specifically, how does the affect heuristic impact the investment process of private equity decision-makers reviewing proposals? The basic premise is that private equity decision-makers who have personal business experience, or have learned experience from either working for, or investing in, a business, would be influenced by this and be better equipped to evaluate these opportunities. Do these decision-makers use an affect heuristic, shaped by prior experience, to make investment decisions?



## LITERATURE REVIEW

### II.I Private Equity Groups

Private equity is typically an asset class that consists of equity investments in non-publically traded companies. Capital is provided in exchange for an equity stake in a potentially high growth company. Investing entities are typically either a private equity firm, where majority control of an existing or mature firm is acquired, or a venture capital firm, which provides financing to early stage, high potential, high risk companies to allow them to grow (Kaplan & Stromberg, 2009). Capital for these entities is raised from pension funds, insurance companies, banks and other financial organizations (Mason & Harrison, 1999) who invest as limited partners in funds sponsored by general partners. These investment vehicles take on a variety of forms, including captive investment companies, independent limited partnerships and publically traded companies. The general partner then invests capital in various types and stages of businesses depending on the stated investment criteria of the fund. These funds provide a mechanism whereby the firm owners have a liquidity event and at the same time ensure the continued existence of the company.

There is a major difference between the type of investments that venture capital pursues and those that private equity seeks. The former are typically start-up or early stage. The leveraged buyout investment firms refer to themselves (and are generally referred to) as private equity funds, commonly known as PEGs. Private equity invests in ongoing, proven businesses that they can add value through management expertise and capital investment. They invest anticipating a five to seven year holding period, after which an exit is expected. In these transactions, the PEG generally buys majority control of an existing or mature firm (Kaplan & Stromberg, 2009). Private equity firms then apply three sets of changes to the firms in which

they invest – financial, governance and operational engineering. These changes are intended to improve the performance of the company (Kaplan & Stromberg, 2009). The deals are generally highly leveraged, the private equity investors take board positions (usually a majority), and they do not hesitate to replace poorly performing management. Their goal is to create economic value. In assessing potential investments, PEGs will review the attractiveness of the industry, determine the growth opportunities, consider what they add as value to the business, and decide whether there is an opportunity for an acceptable risk-adjusted rate of return.

The literature regarding private equity and leveraged buyouts has largely been focused on financial returns to investors and shareholders (Cumming et al., 2007). Productivity often increases with entrepreneurial effort by management that is provided operational support and financial incentives to do so by owners such as private equity. As Cuny et al. (2007) point out, value enhancements in private equity buyouts is largely attributable to improved operations. In that study the authors focused on the process of evaluating a potential turnaround of an underperforming business unit.

Often PEGs utilize a structured and disciplined process when they evaluate investment opportunities. The process involves the following steps: (1) review of business plan; (2) management meeting; (3) preliminary due diligence; (4) term sheet; (5) detailed due diligence; (6) investment decision; and (7) legal documentation, closing and funding (Kotak Private Equity Fund, 2012). At any point in the process, the PEG may decide not to proceed with the investment.

## **II.II Family Owned Businesses and Private Equity**

Leadership transitions within family firms have received much attention, although much of the focus has been on intergenerational progression (Sharma et al., 1996). Dreux (1990) conducted a general review of financial options available to family firms in addition to selling out or going public. These strategies could include recapitalizations, private equity, joint ventures, ESOPs, IPOs or spin-offs, and holding company reorganizations. Each option may have an effect on succession issues of family firms. Only a few existing investigations into private equity and family firms focus on investments associated with ownership change (Tappeiner et al., 2012).

A number of definitions exist regarding what constitutes a family business. The extent to which ownership and management are concentrated in a family unit, coupled with a desire to achieve or maintain intra-organizational family-based relatedness, determines whether a business firm may be considered a family business (Sharma et al., 1996). In this study, family business is “a business governed and/or managed with the intention to shape and pursue the vision of the business held by the dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families” (Chua et al., 1999, p.25). The family involvement in ownership, management and potential succession is not enough alone to distinguish family from non-family firms (Chua et al., 2004). However, dominant family ownership, combined with significant management involvement by family members may be enough to ensure that the vision of the firm is shaped and pursued by the family (Chua et al., 1999).

The financing of intergenerational transitions by venture capital was reviewed (Upton & Petty, 2000). They determined that venture capitalists are interested in financing transitions through the form of debt or preferred stock combined with warrants or conversion rights. Upton & Petty, (2000) reported the critical factor that influenced the investment decision was confidence in the successor. In 2001 Poutziouris (2001) conducted a U.K. based study of the family business and venture capital relationship. His findings confirmed that family firms were more dependent on internally generated funds for survival and growth than on external financing from investors, such as venture capital. The issue of loss of control when venture capital is brought in is relevant to family business owners. This would become more significant with a private equity firm obtaining a majority position as compared to the minority positions that venture capital generally takes.

Several private equity studies have been undertaken examining management buyouts (MBO) or management buy-ins (MBI) involving family businesses. Howorth et al. (2004) looked at MBOs and MBIs as alternative solutions to family business succession issues. The focus of their work was on the relationship between sellers and purchasers relating to information asymmetries. Scholes et al. (2008) extended this work empirically and highlighted the importance of information sharing. Their evidence suggested that the family owner may not always be in the strongest position when selling the firm given the expertise of venture capitalists in negotiating management buyouts. Management with greater access to information may affect the negotiation process because they can influence who is more likely to benefit from the price to be paid for the family business.

Research has also considered the view of the family firm as it considers capital investment from private equity. A recent study looks at the relationship between family

businesses and private equity firms from the point of view of the decision-making of owners of family firms (Tappeiner, et al., 2012). The pecking order hypothesis was used to test whether private equity was the finance choice of last resort. They found that managerial resources offered by private equity were often highly valued by the family owners. The impact of family specific factors on the financing decisions of family firms showed that the specific characteristics of the family had to be taken into consideration (Achleitner et al., 2009). Family firms' attitude toward financing with private equity is mainly driven by perceived value addition. The negatives of perceived loss of control and increased business risks were paramount in the family firm owners' decisions considering private equity investment (Brettel et al., 2009).

A study in Sweden showed that family firms that were transferred to external owners outperformed those that were transferred within the family (Wennberg et al., 2011). This is consistent with the finding that investment by private equity firms results in improved performance by the firm (Kaplan & Stromberg, 2009). Bloom et al. (2009) also found that private equity owned firms are significantly better managed than government, family and privately owned firms. They believe that this is a result of operational improvement in management.

An understanding of how entrepreneurs make decisions with a view to heuristics and cognitive biases provides insight into why certain types of buyouts occur (Wright et al., 2001). This finding may be relevant for family firms as they may provide insight into why a private equity firm would select a certain business for capital investment. Currently, academic research has largely focused on how venture capital investment decisions are made. With the current interest in anticipating and understanding the unseen traps inherent in decision-making, an

understanding of how private equity investors adjust for these distortions in assessing investments appears to be relevant.

### **II.III Individual Decision-Making**

Individuals are presumed to be rational decision-makers in neo-classical economics. A logical, step-by-step process is followed to arrive at the optimal solution (Miller et al., 1996). An issue is identified, information is collected, alternative solutions are considered and compared to pre-defined criteria, potential solutions are ranked and finally an optimal choice is made. This rational choice model formed the underpinning of the view of most strategic management scholars (Stubbart, 1989). Thus, strategic decision-making was seen as a rational activity wherein a firm's long term survival was predicated on its managers purposefully allocating resources.

However, these theories did not provide much insight into how individuals make decisions in conditions where there is incomplete knowledge, asymmetric information, or other conditions of uncertainty. The inevitable incompleteness of knowledge, difficulties with anticipation and the limited number of alternatives available indicate limitations to human rationality. For example, individuals often do not use all the information that might be available to solve a problem or make a decision because of their ability to only process some of the information available. Instead, people use cognitive heuristics, or mental shortcuts, that allow them to simplify the problem (Janis, 1989) and deal with potentially large amounts of data that are available to them, by focusing on a few key variables (Tversky & Kahneman, 1974). These less conscious routines allow us to cope with complicated information. Yet, using these mechanisms may lead to flaws in judgment and can ultimately undermine day-to-day decision-

making. This area of judgment under uncertainty has become known as the *heuristics and biases approach* (Tversky & Kahneman, 1974; Kahneman et al., 1982).

While useful, these heuristics can lead to errors or biases in decision-making. Lovallo and Sibony (2010) focus on the subset of biases they find to be most relevant for decision-making by executives and classify those biases into five business-oriented groupings. Action-oriented biases, such as overconfidence, are those that drive decision-makers to take action faster than they should. Interest biases are those that arise from conflicting incentives and would include misaligned individual incentives. Pattern-recognition biases, such as confirmation bias, cause people to recognize patterns even where there are none. For example, an individual may overweight evidence that supports a favored belief. Stability biases cause inertia. An example would be status quo bias. Social biases, such as groupthink, arise from the preference for harmony over conflict. This study explores the potential impact of the affect heuristic and its impact, possibly positive or negative, on PEG decision-making.

#### **II.IV Strategic Decision-Making – Corporate and Entrepreneurial**

A number of these cognitive simplification processes became the focus of research into strategic decision-making. Schwenk (1984) addressed the potential effects of utilizing cognitive psychology and behavioral decision theory on strategic decision-making. He subsequently proposed an integrative model of cognitions in strategic decision-making (Schwenk, 1988). Research on cognitive structures, processes and biases provides insights into how decisions are made regarding very complex matters with limited cognitive capacities. Importantly, insights into the types of errors made in strategic management due to these biases are garnered. In turn this provides recommendations for improved strategic management decision-making as an

understanding of the biases prevalent in the decision-making process may be tied to the resulting errors made (Schwenk, 1988).

Biases and heuristics in strategic decision-making processes between entrepreneurs and managers in large corporations were studied (Busenitz & Barney, 1997). The researchers asserted that entrepreneurs were more likely to use heuristics than were managers in large corporations as the study specifically focused on the two biases of overconfidence (overestimating the probability of being right) and representativeness (the tendency to overgeneralize from a few characteristics or observations). They found that entrepreneurs utilized biases and heuristics substantially more than corporate managers in decision-making rather than trying to obtain all the information necessary to make a decision. In fact, the researchers speculated that without the use of heuristics many entrepreneurial decisions would never be made. The window of opportunity would be gone by the time all the necessary information would be available for a corporate decision-maker.

Entrepreneurs' susceptibility to cognitive biases was studied in an effort to determine why and when entrepreneurs think differently than other people (Baron, 1998). Cognitive biases and risk perception have been examined from the view of how individuals decide to start companies (Simon et al., 2000). However, recent empirical investigations indicate that entrepreneurs and managers think alike with respect to identifying opportunities and starting new ventures (Corbett & Neck, 2006). This finding suggests that there is more to understand in the area as this appears to conflict with earlier findings. Entrepreneurial cognition has subsequently become the focus of academic research (Mitchell et al., 2002; Mitchell et al. 2007).



## **II.V Investor Decision-Making and Heuristics – The Role of Bias in Behavior**

The relevance of cognitive biases to the area of entrepreneurship has carried over to venture capitalists in their review of investment options (Zacharakis & Shepherd, 2001; Shepherd & Zacharakis, 2002; Shepherd et al., 2003; Franke et al., 2006). Venture capital is financing that is provided to early stage, high potential, high risk companies to allow them to grow. These investments are typically made in start-up or early stage businesses. Basically, the investments are made by financiers into entrepreneurial opportunities. The area of decision-making became of interest to researchers due to the high degree of failure of the investments made and the perceived need to improve the investment process (Zacharakis & Meyer; 2000).

The venture capitalists' analysis is similar to that made in mergers and acquisitions. Issues including valuation, quality and compensation of the management team, and quantifying market opportunities are inherent in the decision to make the investment. A capital investment is a major strategic decision that is made in situations that are complex, uncertain and involve more information than can be absorbed. Thus, these decision-makers utilize cognitive simplifying processes to deal with the complexity and ambiguity (Duhaime & Schwenk, 1985). Heuristics are therefore likely to become involved as part of the decision-making process (Tversky & Kahneman, 1974).

Venture capitalists' preferences for projects at certain stages of development were explored (Carter & Van Auken, 1994). Certain venture capitalists prefer early stage opportunities and others pursue later stage (more mature) companies. Venture capitalists were analyzed based on four potential differences that might exist among the firms (Elango et al., 1995). Specifically, the stage of development of the venture opportunity, the amount of management assistance provided by the venture capital firm, the size of the venture capital firm

and the geographic region where the investments are made were analyzed. Elango et al. (1995) confirmed the findings that certain firms prefer certain stages of investment. There were different levels of venture capital assistance post-investment, significant differences in firm size and geographic differences that tied to the preferred stage of investment.

Many heuristics exhibited by venture capitalists have been explored. For example, intuition, or “gut-feel” decision-making, was considered (Hisrich & Jankowicz, 1990). Start-up selection for financing was probed by Riquelme & Rickards (1992) who found that entrepreneur experience was the critical factor to get through the first level of evaluation. Venture capitalists are not homogeneous with respect to the intended market or product, so the portfolio strategy matters (Gupta & Sapienza, 1992). This allows for risk distribution amongst the venture capitalists’ investments.

The proposal that venture capitalists really do not understand their own decision process was reviewed and the post-hoc methodologies of capturing decision-making processes were challenged as cognitive psychology suggests that people, particularly experts, are poor at introspection (Zacharakis & Meyer, 1998). Venture capitalists’ assessment policies of new venture survival and why certain criteria are more important than others were analyzed (Shepherd, 1999 a). For example, new ventures that have lower market and industry uncertainty have a higher probability of survival. In another article (Shepherd, 1999 b) venture capitalists’ actual decision-making policy was compared to their “espoused” decision-making procedures. The results showed that there were differences between the two and indicated that entrepreneurs would be better served if they targeted their presentations to the attributes that venture capitalists do use, rather than those they claim to use.

Venture capital backed ventures survive at a much higher rate than those backed by other sources, yet the failure rates remain high – nearly 20% (Zacharakis & Meyer, 2000). An opportunity for improvement in the venture capitalists' investment process exists in order to ensure that as new proposals are screened the high potential investments are not unduly rejected in the screening process. The possibility of using actuarial decision models as a means of improving the investment decision was reviewed. Zacharakis & Meyer (2000) illustrate that actuarial models may help screen proposals because the models are consistent across different proposals and over time, whereas venture capital decision-makers may be biased by the availability of differing salient information at different times. Actuarial decision models decompose a decision into component parts and recombine those cues to predict the potential outcome. These models often outperform the very experts that they are meant to mimic.

Bootstrapping models were proposed as a means to aid venture capitalists' decisions (Shepherd & Zacharakis, 2002). While venture capital backed ventures survive at a higher rate than others, there appears to be room for improvement in their decision-making accuracy. These models were shown to have the potential to improve the venture capitalists decision-making. Evidence of an "availability bias" where venture capitalist decision-makers rely on how well a current decision fits with past successful or failed investments was found (Zacharakis & Meyer, 2000). Increasing experience of venture capitalists may not always lead to better results (Shepherd et al., 2003). This suggests that there is a specific point at which additional experience may not result in a better decision. Similarities between a venture capitalist and members of a venture team were shown to exist (Franke et al., 2006). Teams that are similar to the venture capitalists in type of training and professional experience will be favored by the venture capitalist.

The overconfidence of venture capitalists in their decision-making was reviewed (Zacharakis & Shepherd, 2001). This is the tendency to overestimate the likely occurrence of a set of events. Overconfidence is something that venture capitalists do not lack. The level of overconfidence depends on the amount of information, the type of information, and whether the venture capitalist strongly believes that the venture will succeed or fail. Although overconfidence does not by itself lead to poor decisions, this bias is likely to inhibit learning and restrict improvement of decision-making. The venture capitalist may not fully consider all the relevant information and may elect not to search for additional information with which to improve their decision.

The issue of overconfidence has also been reviewed from the perspective of strategic decisions made by corporate executives. Mergers and acquisitions have generated significant amounts of research regarding the transaction's success or failure. The role of the Chief Executive Officer (CEO) in a company's merger and acquisition strategy has been the subject of empirical research (Hayward & Hambrick, 1997), and in particular, concerning acquisitions that proved to be unsuccessful. Acquisition premiums, defined "as the ratio of the ultimate price paid per target share divided by the price prior to takeover news" (Hayward & Hambrick, 1997, p.103) were reviewed from the perspective of the role of the CEO's exaggerated self-confidence and the authors determined that the greater the CEO hubris and acquisition premium, the greater the shareholder losses. Several indicators of CEO hubris, including the acquiring company's recent success, recent media praise for the CEO, the CEO's self-importance (inflated views of one's abilities) and a composite factor of these three factors (Hayward & Hambrick, 1997) were shown to be highly associated with the size of the premium paid.

Similarly, Malmeidier and Tate (2005) examined corporate investment decisions through the lens of the personal characteristics of Chief Executive Officers (CEOs). Specifically; they studied the investment decisions of CEOs who overestimate the future returns of their companies. The analysis measured the willingness of these CEOs to divest company-specific risk in their personal accounts. The authors found a positive relationship between the sensitivity of investment to cash flow and executive overconfidence. In a later research study, the authors found that overconfident CEOs overestimate their ability to generate returns (Malmeidier & Tate, 2008). The result was that the CEOs' companies respectively paid a premium for acquisitions and often executed mergers that destroyed shareholder value.

The self-attribution bias has also been found to lead to overconfidence. Billett & Qian, (2008) found that CEOs develop hubris through acquisition experience. This in turn leads to more acquisitions. In addition to hubris, the role of CEO dominance, the ability to impose his or her overconfident views, is important as well (Brown & Sarma, 2007). The result is that the odds of making an acquisition, and in particular one that has a negative impact on shareholder value, is increased in situations where the CEO is overconfident.

These papers have indicated that there are indeed biases in the decision-making that may impact the outcome of the investments. In basic terms, the biases prevalent in the decision-making of venture capitalists may result in errors made in the analysis of the investment targets, which, in turn, may result in poorer performance that may lead to significant losses or even write-offs. Many of the studies examine start-up and early-stage firms that are typically funded by venture capital. Venture capitalists generally do not obtain majority control. A typical investment by private equity takes the form of a leveraged buyout wherein the private equity firm obtains majority control (Kaplan & Stromberg, 2009).

Dawson (2006) extended the analysis of decision-making criteria to private equity investors as they considered investments in family firms. There is little research on how the decision-making models differ when established family businesses are evaluated. Her research found that private equity investors consistently use a limited number of criteria as they evaluate potential investments: target firms are profitable, have professional managers and are in growing business segments. Later research assessed the role of human resources and agency costs in private equity decision-making (Dawson, 2011). Her findings indicate that family-specific criteria are taken into account by private equity investors. Additionally, professional management and a reduction in the family ownership post capital investment are important considerations to the private equity investors.

Private equity as a capital source may provide the finance and managerial expertise to help family businesses overcome the challenges associated with growth and succession. Many of the existing studies examine start-up and early-stage firms which are typically funded by venture capital. Private equity firms most often invest in established companies such as corporate divestitures through management buyouts. As Shanker & Astrakhan (1996) point out, family businesses are the dominant form of established companies. Yet, academic research into private equity in family firms is still in its infancy. Also, private equity decision-making has not seen the same attention as venture capital from academics. The link between documented use of heuristics and the potential for bias in PEG decision-making is the basis for this study.

## **THEORETICAL BACKGROUND**

Several literatures provide insight into the research question: “How does the affect heuristic impact the investment process of private equity decision-makers?” Behavioral Decision Theory sets forth the impact of cognitive limitations on decision-making and the resulting impact of heuristics (Slovic et al., 1977). Behavioral economics reveal how cognitive biases, which are the systematic tendencies to deviate from normative behavior, result from the utilization of heuristics by individuals and may lead to inferior decisions (Lovallo & Sibony, 2010). The affect heuristic has a major role in behavioral theories and the interaction of emotion and cognition continues to be explored (Finucane et al., 2000; Slovic et al., 2007). Learning and experience, particularly from the perspective of organizational learning, is of interest as the decision-making processes of the PEGs are reviewed (Bingham & Eisenhardt, 2011). The role of human capital is important as well as the skill, competence and experience of the decision-maker impacts the outcome of the investment (Gompers et al., 2008; Zarutskie, 2010; Smith et al., 2011).

### **III.I Behavioral Decision Theory**

The traditional theory of rational decision-making tries to incorporate actual decision-making patterns. According to the normative perspective, individuals are rational decision-makers who follow a step-by-step process to arrive at an optimal solution (Miller et al., 1996). These decision-makers would define the problem, gather as much information as possible about alternative solutions, compare these solutions to their underlying preferences, and then make a choice that maximizes value.

This rational decision-making model formed the basis of much of the strategic management research. The view was that strategic decision-making is intentional and rational (Stubbart, 1989). Therefore, in order to ensure long term survival of the corporation, managers make conscious decisions in order to determine how to most effectively allocate resources (Stubbart, 1989). However, research showed that individuals did not follow this ideal, but rather they are not completely rational in their decision-making approach (Simon, 1957). For example, individuals do not always make use of available information. Instead, individuals are cognitively limited information processors (Simon, 1978). In fact, individuals lack the cognitive capacity to make fully informed and unbiased decisions in complex situations (Kahneman et al., 1982).

One of the first scholars to examine the limits to human rationality was Simon (1957). He noted that perfect rationality needs complete knowledge and the ability to anticipate all possible consequences that follow a choice. Individuals have to function with incomplete knowledge and only a limited understanding of the consequences of their decisions. As individuals have limited skills of anticipation they must engage imagination. Also, they can only assess a limited number of alternatives.

Cognitive limitations result in limited rationality. A main limitation is partial information processing capability. As a result, individuals use mental shortcuts - cognitive heuristics - to allow them to simplify the 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 decision theory (BDT) is a descriptive theory of human decision-making (Slovic et al., 1977). Starting with a theory of rational decision-making, it then tries to



understand and incorporate actual decision-making patterns of individuals. BDT has two interrelated facets of analysis: normative and prescriptive. Normative theory focuses on prescribing courses of action that closely resemble the values and beliefs of the decision maker. Descriptive decision theory aims to describe how decision-makers incorporate these values and beliefs into decisions (Slovic et al., 1977).

Much research in BDT shows that individuals lack the cognitive capacity to make fully informed and unbiased decisions in complex situations (Kahneman et al., 1982). In order to simplify judgment, people use a number of heuristic principles to reduce complexity (Tversky & Kahneman, 1974). The use of simplifying heuristics to handle these situations is prone to systematic biases (Powell et al., 2011). Each heuristic comes with characteristic biases that arise in special circumstances. A better understanding of them will lead to better decisions (Tversky & Kahneman, 1974). The theory has been applied many times in the social sciences, including strategic management (Bazerman & Moore, 2008).

The application of BDT to strategic management is of current academic interest (Powell et al., 2011). To date it has not made a significant impact on strategy theory and is only starting in strategy practice. Rather than being limited to situated managers facing uncertainty, strategy research may better be applied to executive decision-making where the conditions faced are high-stakes, complex problem solving (Powell et al., 2011). Thus, behavioral strategy becomes the focus of applying realistic assumptions about cognitions, emotion and social interactions. Existing research has been categorized into three schools of thought: Reductionist; Pluralist, and Contextualist. Reductionism deals with the psychological character of economic decision-making. Pluralism in this context addresses the character of complex political judgments in large corporations. The Contextualist paradigm considers the character of management perceptions

and mental frames. The Reductionist view appears to be most relevant because it assumes that firms' decisions are made by top executives, entrepreneurs and top management teams and their decisions are subject to cognitive biases. This is the manner in which private equity decision-makers function.

### **III.II Behavioral Economics**

Traditional economics presumes the existence of 'Homo Economicus' where individuals are seen as self-focused value maximizers (Camerer et al., 2004). Behavioral economics emerged as a reaction to this view, and reflects the impact of psychology (like cognition and affective states) which highlight what happens when individuals show human limitations and complications (Mullainathan & Thaler, 2000). Thus, the basis of behavioral economics is "the conviction that increasing the realism of the psychological underpinnings of economic analysis will improve the field of economics *on its own terms*" (Camerer et al., 2004, p.3).

Behavioral decision research considers two categories: judgment and choice. Judgment focuses on the processes that people use to estimate probabilities and choice focuses on the processes people use to select among potential actions (Camerer et al., 2004). The heuristics and biases research of Tversky and Kahneman (1974), coupled with their work in the decision process known as *Prospect Theory* (Kahneman & Tversky, 1979), brought behavioral economics research into the mainstream (Laibson & Zeckhauser, 1998).

The decision-making heuristics, including representativeness, availability, and anchoring, while useful, can lead to errors (Tversky & Kahneman, 1974). Representativeness is a shortcut that delivers reasonable judgments with minimal cognitive effort. It is the "degree to which an event or object is representative of a class of events or objects" (Laibson & Zeckhauser, 1998).

Additionally, this heuristic can lead to the ‘law of small numbers’ where small samples are thought to represent the properties of the statistical process that generates them (Camerer et al., 2004). Availability refers to people judging the probabilities of future events based how easy they are to imagine or to retrieve from memory (Camerer et al., 2004). Anchoring is the when an individual roots to an initial value which leads to insufficient adjustments of subsequent estimates (Lovallo & Sibony, 2010).

People make decisions based on the potential value of gains and losses rather than the final outcome (Kahneman & Tversky, 1979). The decision process involves two phases: framing and evaluation. In the first phase, outcomes of the decision are viewed through a heuristic and the lesser outcomes are seen as losses and the greater outcomes as gains. Then, the decision-maker attributes a value to the potential outcomes and then makes a choice based on what is perceived as having the higher utility. Variations in the framing of the options (the gains or losses) by the decision-maker lead to different risk preferences (Tversky & Kahneman, 1986). The authors extended the theory to include cumulative decision weights for gains and losses and applied it to uncertain, and risky, outcomes (Tversky & Kahneman, 1992).

Thaler (1980) drew on Kahneman & Tversky’s work in heuristics and prospect theory (Tversky & Khaneman, 1974; Tversky & Kahneman, 1979) to show examples of consumers who are likely to deviate from the predictions of normative models. The existence of these anomalies, including underweighting of opportunity costs ignoring sunk costs, led to the development of a descriptive theory of consumer choice (Thaler, 1980). Thaler (1985) subsequently developed a new model of consumer behavior that combined cognitive psychology and microeconomics. This behavioral approach has been applied to the savings and financial markets as well as to law (Mullainatham & Thaler, 2000; Joles et al., 1998).

The contribution of behavioral economics to strategy reveals cognitive biases - the systematic tendencies to deviate from rational calculations (Lovallo & Sibony, 2010). The problem is that strategic decision-makers need to recognize their own biases. Research has shown that in addition to fact gathering and insights on the part of the decision-makers (the analysis and judgment), the process that turns the data and judgment into a decision is critical as well. In fact, “process mattered more than analysis by a factor of 6” (Lovallo & Sibony, 2010, p.3). Therefore, strategic decision-making requires putting in place a process that addresses specific biases in order to constrain their effects. By embedding practices in formal operating procedures intended to account for bias in strategic decisions, better outcomes will result.

### **III.III The Affect Heuristic**

As noted, decision-makers utilize heuristics under conditions of uncertainty. The affect heuristic, the reliance on feelings in making a decision, plays a major role in behavioral theories (Finucane et al., 2000; Slovic et al., 2002; Slovic et al., 2007). The affect heuristic is the positive or negative feeling associated with judging the risks or benefits of something. Typically it refers to the quality of the evaluation. As considered in the context of this research, does experience have an impact on decision-making by private equity decision-makers as they review investments? This heuristic is connected to the action-oriented biases as discussed by Lovallo and Sibony (2010) because it causes individuals to take action without thoroughly thinking through the consequences of the act.

In an article published in 1980, R. B. Zajonc challenged the prevailing view that affect was post cognitive. In fact, he found that affect and cognition are under the control of separate and partially independent systems and that they influence each other in a variety of ways

(Zajonc, 1980). He set out a number of considerations: (1) affective reactions are primary; (2) affect is basic; (3) affective reactions are inescapable; (4) affective judgments tend to be irrevocable; (5) affective reactions are difficult to verbalize; (6) affective reactions need not depend on cognition; and (7) affective reactions may become separated from content. In summary ‘affective responses are effortless, inescapable, irrevocable, holistic, more difficult to verbalize, yet easy to communicate and to understand (p.169). Zajonc later defended his view of affective primacy and independence (Zajonc, 1984).

The interaction of emotion and cognition continues to be the subject of academic research. For example, Peters et al. (2004) defined affect as “good or bad feelings toward an external stimulus” (p. 1350). In the context of stigma reactions to radiation sources the authors developed a model of *stigma susceptibility* in which affective reactions and cognitive worldviews activate predispositions to appraise and experience events in systematic ways that result in the generation of negative emotions, risk perceptions and stigma responses. Individuals can differ in the strength of their affective reactions which in turn suggests an important role for individual differences in risk perception.

The definition of affect has been narrowed to “the specific quality of “goodness” or “badness” (i) experienced as a feeling state (with or without consciousness) and (ii) demarcating a positive or negative quality of a stimulus” (Slovic et al., 2007). Affective responses occur rapidly and automatically. Studies indicate that people seem prone to use an ‘affect heuristic’ which improves judgmental efficiency in assessing risks and benefits (Finucane et al., 2000). They found that risk and benefit are linked to perception and consequently to people’s judgments.

Evidence indicates that affect mediates, at least in part, the relationship between an individual's cognitive evaluation of risk and his behavioral response to it. This is relevant to the PEG decision-maker as the inherent risks of assessing a potential investment are considered. When there is a divergence between the cognitive and the emotional reaction, the emotional reaction often drives behavior. Risk can be viewed in three different ways: (1) risk as feelings; (2) risk as analysis; and (3) risk as politics (Slovic et al., 2004). Reliance on feelings is the affect heuristic. While analysis is important in certain decision-making, individuals rely on affect and emotion as a more efficient way to make decisions in circumstances of complexity or uncertainty. They consult the 'affect pool' (all the positive and negative markers associated with the images in their minds) in the process of making decisions (Slovic et al., 2005).

Slovic et al. (2002) introduced a theoretical framework that outlined the importance of affect in judgments and decisions. They described two types of thinking. The experiential mode is intuitive, automatic and is based on images to which positive and negative affective feelings have been attached. The other type of thinking is analytic, deliberative and reason based. The 'affect heuristic' occurs when people use their affective feelings when making decisions. A later study (Slovic et al., 2007) continued to develop this theoretical framework. After a review of the development of the academic research regarding the affect heuristic, the authors went on to discuss some of the practical implications as it affects daily life. This heuristic works well when experience enables a person to anticipate how much they will like or dislike the consequences of a decision. It does not work well when the consequences are much different than anticipated.

The dual-process theory of thinking, experiential and analytic, continues to be researched (see Slovic & Peters, 2006). In 2006 the *Journal of Risk Research* published several articles on the issue of affect and risk perception. In his editorial, Sjöberg distinguished between the

concept of the severity of consequences and emotion (Sjoberg, 2006). He argued that the belief of affect playing an important part in risk perception was due to an incorrect usage of the word emotion. When affect is used to denote emotion it is of only minor importance in risk perception.

In his commentary, Wardman answered Sjoberg by saying that the latter's concerns were overstated and restated the view "that cognition and emotion operate as two distinct modes of reasoning to help guide risk judgements and decisions, and that not only does cognition influence emotion, but emotion in return may also influence cognition" (Wardman, 2006, p. 111). The author goes on to consider the overall affective evaluation of a stimulus. Research is interested in "the way in which risk responses can occur rapidly and automatically as a heuristic, the extent to which a person expends the mental capacity and energy evaluating a stimulus is a facet of whether experiential affect is the overriding mechanism for judging risk" (p.112).

Affect also helps decision-makers attach meaning to information, which in turn, influences their ability to use it during judgment. Wilson & Arvai, (2006) found that affective responses to a stimulus may overwhelm analytic computations that are necessary during decision-making. The need to combine affective and analytic evaluations of risk information is necessary to ensure efficient and sound responses to risk (Finucane & Holup, 2006). This 'risk-as-value' model implies that differences in perceived risk may arise from an analytical review of a risk, an affective evaluation of the risk, or a combination of the two. The valuation of risk information is necessary to achieve the desirable outcome.

### **III.IV Learning and Experience**

Of particular interest to this research is the arena of organizational learning and how it would affect the private equity groups while they review potential investments. One approach to the issue was to apply four constructs, namely knowledge acquisition, information distribution, information interpretation, and organizational memory (Huber, 1991). The area of knowledge acquisition is further subdivided into congenital learning, experiential learning, vicarious learning, grafting, and searching and noticing (Huber, 1991). Inherent in this perspective is that organizational processes are learned from experiences (Bingham & Eisenhardt, 2011).

Organizations learn by encoding inferences from history into routines that guide behavior. Direct experience and the experience of others are both sources of learning (Levitt & March, 1988). Organizational routines emerge from organizational experience. These processes are subject to limitations as organizations attempt to balance developing new knowledge (exploring) with exploiting existing competencies. The balancing of these two, and the explicit and implicit choices involved because they affect finite resources, is essential to organizations (March, 1991). Simplification and specialization are used in an effort to balance this dynamic. These approaches contribute to ‘learning myopia’ due to the tendencies to overlook distant times, places and failures (Levinthal & March, 1993).

Research regarding organizational learning has reviewed the influence of acquisition experience by a company on subsequent acquisition performance. This has direct application to private equity investors because their investments are effectively acquisitions. Haleblian and Finkelstein (1999) analyzed the impact of prior organizational experience on the performance of acquisitions. They found that when a firm’s specific acquisition was unlike prior acquisitions,



acquisition experience had a negative effect on performance. Interestingly, the best performers were either those firms who had no experience and therefore did not make inappropriate generalization errors or those who had a significant amount of experience and thus chose better. Acquisition experience had a positive influence when the acquisitions resembled prior targets. Additionally, acquisitions increase the viability of a firm's later expansions (Vermeulen & Barkema, 2001). The authors argued that acquisitions increased the firm's knowledge base, helped break inertia and helped develop new knowledge.

In a later study Haleblian et al. (2006) analyzed the effects of routines derived from experience, performance feedback and their interaction from the perspective of U.S. bank acquisitions. They found that acquirers were more likely to acquire additional companies as they gained experience. Further, performance feedback was used by the firms to adjust their behavior because recent acquisition performance increased the likelihood of future acquisitions.

Recently, Bingham and Eisenhardt (2011) developed a theoretical framework suggesting that companies learn heuristics. Their research addressed the question of "what do firms explicitly learn as they gain process experience?" (p.1438). Explicit learning is defined as "what firm members collectively articulate as having been learned from their experiences" (p.1438). They combined work from organizational knowledge, organizational routines and heuristics. The authors noted that routines differ from heuristics due to the fact that routines provide detailed responses to particular problems while heuristics provide a common structure for a range of similar problems. They found that firms: (1) learn portfolios of heuristics; (2) learn heuristics with a common structure that relates to capturing opportunities; and (3) learn these opportunity-heuristics in a specific developmental order; and (4) engage in simplification cycling in which they add and prune heuristics (Bingham & Eisenhardt, 2011, p.1457-1458). The

simplification cycling produces a small set of cognitive heuristics that are better remembered by the members of the firm.

### **III.V Human Capital and Investment Decision-Making**

Inherent in the analysis of venture capitalists, private equity groups, or other investors is the role of human capital. The skill of the decision-makers is seen as fundamental to the potential success or failure of the investment. Zarutskie (2010) examined whether the human capital of first-time venture capital fund management can predict fund performance. Data were collected focused on the educational and work histories of venture capitalists that start a first venture capital fund. The teams that had more task specific human capital defined as past experience as venture capitalists or as executives in start-ups, manage funds with greater fractions of portfolio company exits. This exit was the measurement point of whether a fund was successful. She found that industry specific human capital in strategy and management consulting also leads to greater fractions of exits. Thus measures of task- and industry-specific human capital are stronger predictors of fund performance than are measures of general human capital.

The issues of skill, competence and experience have been the focus of academic research. Gompers et al. (2008) found that venture capitalists with the most industry experience increase their investments when the public market signals become more favorable. The most experienced venture capital firms generally record the best performance. They determined that industry-specific human capital is important and so are network contacts in the industry. The importance of venture capital firm skill as a factor in fund performance was analyzed by Smith et al. (2011) who found that firm experience in the same industry is positively related to fund performance. Their research specifically looked at a firm's prior experience in the sector on which the fund

was focused and found that a one-investment increase in experience is associated with a 0.042 percentage higher IRR.

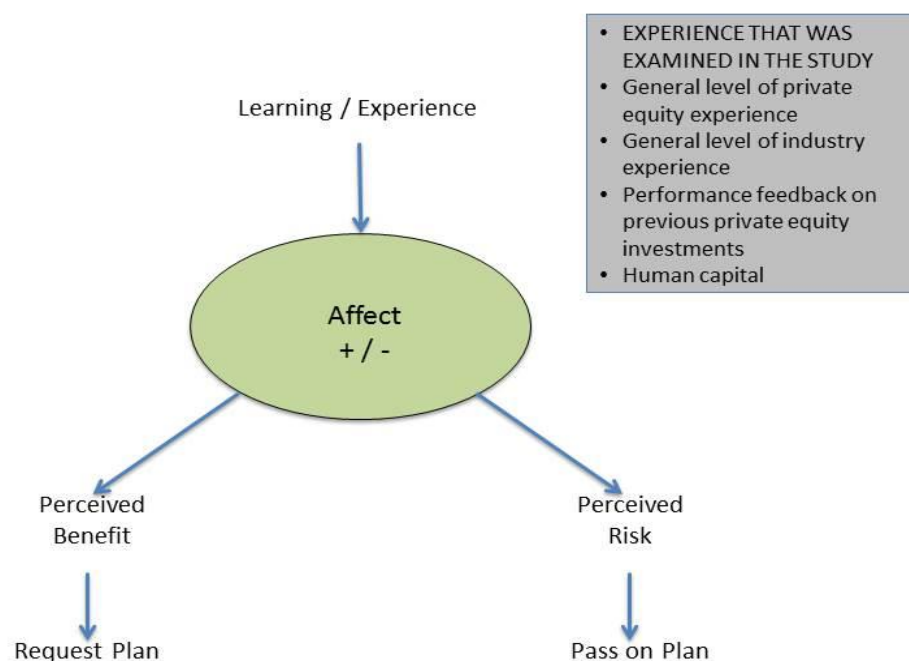
Venture capital firms with partners who have prior business experience are more active in recruiting managers and directors, fundraising and interacting with portfolio companies (Bottazzi et al., 2008). They showed that the strongest predictor of whether a venture capital firm adopts an active investment style is whether the partners have prior industry experience. This in turn led to the success of portfolio companies. Their study highlights the economic importance of human capital for financial intermediation. This would tie to the findings of Acharya et al., (2009) who found that the abnormally positive performance of certain private equity funds was at least in part due to active ownership and governance that the general partners engaged in. Additional research has shown that more experienced venture capitalists are better at monitoring and managing the companies that they have invested in. Further, the more experienced the investors, the more likely it is that the firm will go public (Sorensen, M., 2007).

Graham et al. (2009) investigated the “competence effect” wherein people are willing to bet on their own judgments when they feel skillful or knowledgeable and whether this influences trading frequency and home bias. They posited that educational background and other demographic characteristics made some investors feel more competent than others in understanding financial information and opportunities available to them. They found that the competence effect predicts the likelihood that a person will invest according to his own judgment increases with perceived knowledge of investing. If the investor feels more skillful, they should be more willing to act on their judgments. This is because of the fact that people in general are more willing to bet on their own judgment when they feel skillful or knowledgeable; thus,

investors tend to act more boldly when they perceive themselves to be competent investors. This perception would appear to be an affective heuristic.

### III.VI A Theoretical Framework

The framing of the research question is whether the PEG decision-makers use an affect heuristic shaped by prior experience, to make their decisions. In summary, the behavioral, heuristics and learning literatures provide perspectives on the decision-making processes of PEGs regarding potential investments. Figure 1 illustrates the conceptual framework explicated by these literatures.



(Adopted from Finucane et al., 2000)

Figure 1  
The Affect Heuristic Conceptual Framework

The grey box outlines the experiences considered in the study and their impact, either positive or negative, with the resulting perceived benefit or risk by the decision-maker. Specifically, do PEG decision-makers use an affect heuristic, shaped by their experience/learning, to make this decision? The areas of interest and comparison are the PEG decision-makers personal or learned experience and feedback on the PEG's experience with investments.

## METHODOLOGY

### IV.I Research Design

Qualitative research is often undertaken in situations where the topic is new and there is little existing research (Myers, 2009). Moreover, when a study involves an in-depth examination of a topic, qualitative studies are recommended (Myers, 2009; Miles & Huberman, 1994). A multiple case study was undertaken in order to address the research question, “how does the affect heuristic impact the investment process of private equity decision-makers?” The use of multiple case studies “typically yields more robust, generalizable, and testable theory than single case research” (Eisenhardt & Graebner, 2007, p. 27). The result is a variety of empirical data that lends itself to contrast and comparison.

This study addresses to what extent learning and experience influence the decision-making process of PEGs when evaluating investment opportunities. Of particular interest was family owned business because of the large number of potential transactions available to PEGs as business owners approach retirement. Does this experience shape the affect heuristic and thus impact the decision-making of the PEG? A sample size of 20 decision-makers was selected in an effort to obtain data from a population that reflected diversity in: fund experience; size; investor base; geographic location; targeted investments and investment size. Appendix D in the Appendix illustrates the PEG decision-makers used in this study. The table reveals the level of diversity across our variables of interest, such as education, private equity experience, and functional experience.

Through an exploratory multi-case analysis, insight is provided into complex private equity decisions by studying biases in the investment process. This type of research can be used to discover the “relevant features, factors or issues that might apply to other similar situations”

(Myers 2009, p.72). This design allowed for replication logic so that each case can confirm (or not) inferences drawn from the other cases (Yin, 2009). As Yin points out “appropriately developed theory also is the level at which the generalization of the case study results will occur” (Yin, 2009, p.38). Case studies are then about *analytic* generalization “in which a previously developed theory is used as a template with which to compare the empirical results of the case study” (Yin, 2009, p.38). He adds that if two or more cases are shown to support the same theory, replication may be claimed. As the number of cases that show replication increases, the greater the rigor of the study.

As noted earlier, PEGs often utilize a structured and disciplined process when they evaluate investment opportunities. In a formal process the following steps would be followed: (1) review of business plan; (2) management meeting; (3) preliminary due diligence; (4) term sheet; (5) detailed due diligence; (6) investment decision; and (7) legal documentation, closing and funding (Kotak Private Equity Fund, 2012). Firms seeking private equity capital generally engage an investment banker who prepares a detailed investment memorandum outlining the business plan and opportunity that the business offers. He then prepares a one or two page summary, the “teaser”, which is used to introduce the opportunity to the PEG. This teaser is sent, typically by e-mail, to targeted PEGs as a precursor to providing the investment memorandum. As the PEGs receive significant numbers of these teasers, certain criteria are applied by the business development officer to identify potential transactions that merit further review. This evaluation results in the decision to continue with the review and request that the information memorandum be forwarded. The business development officer’s review of a teaser determines whether a prospective deal progresses through the gatekeeping mechanisms that PEGs have in place to review prospective investments.

This is a study of PEGs' decision-making process when they consider businesses as candidates for investment. The teaser, each describing a potential investment, is the unit of analysis. What do the PEGs look for in the one or two page summary of the investment opportunity, known in the industry as a "teaser" that indicates to them to pursue a potential investment? What characteristics of the decision-maker: experience or learning, determines whether a specific investment opportunity is progressed to the next step? By examining the process and the use of the affect heuristic in private equity investment decisions, the researcher develops testable propositions on specific behavior and outcomes.

This research is a process study from the perspective of a developmental sequence (Van de Ven, 2007). The focus is on the progressions of activities or events. The specific focus is on the nature and sequence of decision-making as a private equity firm reviews the first step in its investment process. From the perspective of engaged scholarship (Van de Ven, 2007), this study falls into the grouping of informed basic research. The researcher acts in an advisory capacity as he conducts the study activities. In this type of scholarship, advice and feedback is solicited from various stakeholders and informants. Insight will be gained from investment bankers who work on behalf of their firms seeking capital as well as the private equity decision-maker. Practitioners will be able to learn from this research as they will be able to assess whether certain PEGs are candidates to provide investment into the businesses that they represent. The researcher remains in control and directs all research activity (Van de Ven, 2007).



## IV.II Data Collection

Qualitative data was generated from semi-structured interviews with twenty private equity decision-makers (see Appendix A Interview Protocol). A database of 712 business development contacts associated with 637 PEGs is maintained by the researcher's company. These PEGs are primarily interested in the middle market – defined as “firms with sizeable annual revenues, ranging from \$50 million to \$1 billion. As the term implies, such a firm is one that straddles the "middle market" between the smaller companies and the billion-dollar giants” (PrivCo, 2013). These contacts including the individual's name, e-mail address and name of the PEG are kept in an excel spreadsheet where each is identified in a separate numbered line. A random integer generator was utilized ([www.randomizer.org](http://www.randomizer.org)) to identify potential respondents. An initial list of 100 was created. These individuals were contacted by email to request their participation in the research study and follow up e-mails were forwarded approximately one week later. Eight individuals responded from this list. A subsequent list of 125 was generated from the remaining 612 contacts and these individuals were contacted by email in the same manner as the first set. Twelve respondents were sourced from this group. Telephone interviews were arranged with the 20 who were willing to proceed. This resulted in a response rate of 8.8% to the emailed invitation to participate in the survey.

As noted, our data was generated primarily by semi-structured interviews with the PEGs. These telephone interviews were arranged with the respondents, lasting from 25 to 40 minutes. We also collected archival data on the PEGs from the websites of each private equity firm. We obtained such data in order to determine background information about the respondent and the PEG prior to the interview. Data such as the size of the firm, the number of investment

professionals, the position that the respondent held and the type of preferred investments were drawn from this review.

The interviews took place in January and February 2013. Prior to the interviews the respondents were provided with an electronic copy of the four teasers, identified as Teaser A, B, C, and D (Appendix B). Each teaser represented an actual investment opportunity that has been provided to PEGs in a business context. The teasers contain a brief summary of the business, including the industry, ownership, management, location, and financial summaries. A summary of the teasers is presented in Table 1.

	A	B	C	D
<b>Summary of Business</b>	Manufacturer of Industrial Lighting Products	Home Health Care	Wholesale Grocery/candy/Tobacco Distributor	Heat Exchange Manufacturer
<b>Location</b>	Southeast US	Northeast US	Southeast US	Not stated
<b>Ownership</b>	PEG owns 71%, Management owns 5% Others own 24%	Family owned	Family owned – 60+ years	Not stated
<b>Staff</b>	55 full-time in US 250 full-time off-shore	250 professionals paid hourly or by the visit	30 full-time	41 Full-time employees
<b>Financials</b>	Revenue \$22 M EBITDA \$2.76 M	Revenue \$5.2 M EBITDA \$1.14 M	Revenue \$46 M	Revenue \$8.1 M EBITDA \$1.44 M
<b>Reason for Sale</b>	Controlling investors wanted to realize their return on investment	Owners wanted to transition to new challenges	Absentee owners wanted to exit for estate planning purposes	Ownership seeking financial partner to enable growth

Table 1  
Summary of Teasers

Each interview took between 25 and 40 minutes and was recorded with the respondent's approval. The initial questions focused on the background, in terms of size and general

investment criteria, of the PEG. Subsequent questions explored the PEG's decision-making process. The teasers were then discussed with the respondent asked to review each in turn and to indicate whether the offering memorandum would be requested. The reasons for proceeding or declining were explored. The respondents were then asked to rank the teasers in preferential order of potential investment. The PEG's typical investment structure was discussed. Finally, some demographic information about the respondent was collected. This information related to experience in private equity, background in other businesses, and direct or indirect involvement in business by the respondent and other investment professionals at the PEG.

#### **IV.III Data Analysis**

Multiple-case analysis begins with synthesizing the data for each PEG into an individual case history (Eisenhardt, 1989). These case histories are then utilized for two types of analysis, with-in case and cross-case (Bingham & Eisenhardt, 2011). From the perspective of Miles and Huberman (1994), data analysis consists of three concurrent activities: data reduction, data display, and conclusion drawing and verification. The three types of analysis and the data collection form an interactive, cyclical process.

The first step of data reduction was to transcribe the interviews verbatim. Then the process of selecting, coding, simplifying, abstracting, and transforming the data was undertaken (Miles & Huberman, 1994). A coding scheme based on the interview protocol was developed (Appendix C). Individual transcripts were then coded according to this scheme. The coding system for this study used both descriptive and inferential codes to identify words and text at varying levels of complexity. Trends and themes between the interviews were tracked and compared. This data was transcribed onto comparative grids to establish patterns. The first grid

focused on the details of the respondents' answers to the interview questions regarding experience, the role of the management team, learning, decision-making, human capital, other biases and the results of the teaser reviews as outlined in Table 2.

<b>Respondent's Business Experience</b>	<b>Private Equity Group Experience</b>	<b>Role of Management Team</b>	<b>Organizational Learning</b>	<b>Investor Decision-making Process</b>	<b>Human Capital</b>	<b>Other Biases</b>	<b>Teaser Review</b>
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Table 2  
Grid of Respondents' Answers

This review resulted in the development of a number of themes which became the basis of the analysis from which the propositions were developed.

Inter-rater reliability statistics are a quality indicator of measurement reproducibility. Two additional raters were asked to read three interview transcripts and then score the interviews with the designated coding scheme. Kendall's coefficient of concordance was used to quantify the extent to which the raters agreed in their assessment. (Gwet, 2012). Overall the results indicate a very strong degree of agreement and are significant as can be seen in Table 3.

	<b>Interview 1</b>	<b>Interview 2</b>	<b>Interview 3</b>
<b>Kendall's W</b>	.788	0.917	0.9188
<b>ChiSq</b>	106.4914	123.7896	151.5995
<b>df</b>	45	45	55
<b>p</b>	<0.0001	<0.0001	<0.000

Table 3  
Kendall's Coefficient of Concordance

When the SPSS predictive analytics software is utilized to assess the distribution, the results set forth in Table 4 substantiate the hypothesis that the distributions of the three interview coders are the same.

**Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of R, A and B are the same.	Related-Samples Kendall's Coefficient of Concordance	.441	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 4  
SPSS Analytics Results

Miles and Huberman (1994) outline a variety of means to display the data. These include matrices and charts that are created in the process of the analysis and enables the information to be assembled in organized and compact formats. Qualitative research is an iterative process. As the data are being reduced and displayed, preliminary conclusions are drawn and verified. Patterns, regularities, and propositions from available data inevitably form the basis for preliminary conclusions. In turn, these conclusions become increasingly grounded and explicit throughout the process (Miles & Huberman, 1994).

## RESULTS

### V.I Data Description

**v.i.i Background of the private equity groups.** The demographic background of the 20 PEGs provides a good cross section of private equity (see Appendix D). Twelve are institutional limited partnerships where the principals of the PEG are general partners in the fund. Four are “fundless” sponsors who invest their own money and selectively approach other capital sources on an as needed basis. One is the private equity investment group of a major commercial bank. One is a publically traded business development company. Another is a Small Business Investment Company. The last is the private equity investment vehicle of a sovereign wealth fund.

The diversity of respondents is reinforced by the varying hierarchical positions held at the PEGs by the individuals interviewed. Seven hold relatively junior positions: two are Directors of Business Development, two are Vice Presidents, two are Senior Vice Presidents, and one is a Principal. Thirteen are partnership level or equivalent, and of these seven are founders or co-founders of their respective funds. These partners have their own capital at risk and thus are co-investing with the PEG’s investors in the various transactions.

The investment criteria of PEGs set forth the targeted size of the prospective companies. The respondents firms indicate a range from \$1 million to \$20 million of EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization). When the respondents review prospective investments one of the initial benchmarks applied is the EBITDA of the company. These financial criteria are important filters used by the PEGs to decide whether to proceed with the review of a potential transaction. The range of EBITDA of the companies represented by the four teasers (Appendix B) was \$1 - \$2.5 million.

The deal origination process varies very little between PEGs. Nineteen PEGs receive prospective investments from intermediaries representing the sellers. These include investment bankers, lawyers, accountants, and in some cases the principal of the firm. The majority of proposals, up to 90%, are sourced from investment bankers. Only one PEG focuses on utilizing buy-side investment bankers as the means of originating investment opportunities.

The number of deals reviewed on an annual basis by the 19 PEGs that accept inquiries from representatives of the seller has a wide range, from a low of 50 to a high of 3000. There appears to be no pattern of consistency between either type of fund and the size of investment impacting the number of investments reviewed on a preliminary basis.

The majority of PEGs typically close on 2-4 deals annually. There is a great deal of time and work involved in reviewing and ultimately deciding which deals to pursue. As the closing ratios are small, and the pursuit costs can be expensive, selecting the correct investments to chase is critical. The process of how these proposals are reviewed quickly by the various business development officers provides insight into the decision-making at each of the PEGs.

**v.i.ii Teaser review.** The four teasers (Appendix B) represented a variety of businesses, and, as previously noted, two were family owned and two had other ownership structures. The respondents were asked to review each in order and 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. The results are set forth in Appendix E.

Seven (35%) of the respondents rejected proposals that indicated existing private equity ownership immediately. 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)<sup>1</sup> As the founder of one PEG stated: “we have never bought any successful company from a private equity firm.”(5) A Managing Director 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) Only one respondent, a firm’s business development officer, was encouraged by the existing private equity ownership as he felt that the result of their involvement would be professionalized management. (17)

None of the proposals was rejected because of the existing family business ownership. Indeed, it was never mentioned as part of the review. This was not anticipated by the researcher. On the contrary, there was a stated preference for these types of businesses. Family owned businesses are seen as attractive businesses to buy because of the opportunities to bring in management and improve the operations. The theme of capitalizing on “a lot of low hanging fruit to make them better” (1) was discussed. As a vice president stated in reference to family business owners: “you’ve got to believe that in most instances it hasn’t been professionally run or as efficiently run... (owners) don’t want to take risk so there’s probably some money left on the table.”(10)

One principal stated that he believed the family business owners are less sophisticated than other sellers so the PEGs will get a better deal when they invest in family firms. (16) His view was that if he were presented with two identical potential investments via a teaser, except one had PEG ownership and the other was a family owned business, he would always choose the

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<sup>1</sup> The number following the quotations refers to the respondent from the PEG as set forth in Appendix D where each has an identifying number in the first column.



latter. The issue of his views of privately held companies that were not family businesses was not discussed.

As the PEG decision-makers reviewed each teaser, the major reasons for accepting or rejecting each proposal were stated quickly. The respondents are used to reviewing many similar teasers regularly. Three a day is not uncommon. This leads to great familiarity with the presentation format and the ability to quickly search for relevant information from which to make the decision to proceed or not.

Only seven of the PEG decision-makers were willing to proceed after having reviewed Teaser A. The company is a manufacturer of lighting and industrial products. The issue of existing PEG ownership was cited as a major reason for not proceeding by seven of the twenty respondents. The issue of financial performance and the offshore operations were cited four times as a reason not to proceed as noted in Table 5. Those that expressed an interest predominantly focused on the opportunities in the industry.

Teaser A - YES		Teaser A - NO	
Meets financial criteria	2	Private Equity Owned	7
Industry knowledge and experience	5	Financials – lost money	1
		Offshore operations	2
		Location	1
		Industry	1
		Too small	1
Total	7	Total	13

Table 5  
Respondents Primary Reason to Proceed or Decline Teaser A

Teaser B is a business that provides home health care. As such, it relies on Medicare and state reimbursement to generate revenue. Only two respondents were interested in the business

either because they were in the industry or perceived an opportunity in the future. The majority cited the healthcare reimbursement as the reason for not proceeding as reflected in Table 6.

Teaser B - YES		Teaser B - NO	
Industry – sees opportunity	2	Government reimbursement	8
		Industry – healthcare	4
		Size of business – too small	5
		Location	1
Total	2	Total	18

Table 6  
Respondents Primary Reason to Proceed or Decline Teaser B

Teaser C represents a wholesale grocery, tobacco, and candy distribution company. Five Decision-makers would have proceeded further and their reasons varied between fitting investment criteria and interest in the industry as set forth in Table 7. Others declined due to the industry, its physical location and financial performance.

Teaser B - YES		Teaser B – NO	
Meets financial criteria	1	Industry	11
Industry	3	Location	1
Owners are not involved in the business	1	Shareholder dynamics	1
		Size – too small	1
		Financials	1
Total	5	Total	15

Table 7  
Respondents Primary Reason to Proceed or Decline Teaser C

The business represented by Teaser D is a heat exchange manufacturer. Nine of the respondents indicated an interest in proceeding to the next level as noted in Table 8. Their reviews generally focused on industry and financial performance. Those that declined did so largely due to the size and cyclicity of the business.

Teaser D - YES		Teaser D - NO	
Industry	6	Too small	5
Financial Opportunity	3	Industry	3
		Financials	3
Total	9	Total	11

Table 8  
Respondents Primary Reason to Proceed or Decline Teaser D

In addition to financial performance, industry preference is a major factor in the criteria applied by the decision-maker. In summary, the decision to proceed or decline based on the review of each teaser is reflected in Table 9.

A		B		C		D	
YES	NO	YES	NO	YES	NO	YES	NO
7	13	2	18	5	15	9	11

Table 9  
Respondents Decisions Regarding the Four Teasers

## V.II Decision-Making Processes – Deliberation Heuristics

As noted, the PEG business development officers review a significant number of proposed transactions per year. Generally they seek to cast a wide net so as to ensure that they review as many opportunities as possible. The volume can easily be 700-1000 proposals reviewed annually. The following are excerpts from the respondents regarding their approach towards the review process. The “whole idea for our model is to source broad and close on a very small number of these transactions.”(7) The business development officers “sign NDAs (Non-Disclosure Agreements) and take more information, simply because I’d rather make an informed decision than not.”(20) The process will cull the number of proposals to 150 – 250 that will receive a serious review. Generally, the PEGs look seriously at 10-15% of the proposals submitted and ultimately pursue 1-5%.

This necessitates the ability to quickly and deliberately review the teaser, applying the investment criteria of the firm, in order to determine whether to proceed. The decision-maker would quickly review the material and provide his/her initial feedback and rationale. This process only takes a few minutes.

The procedures utilized by the various PEGs differed significantly and ranged on a continuum from a very formal process to an informal review practice. Only four indicated that they follow a formal process. “We have a very formal process in place. A teaser comes in and if it meets criteria, a confidentiality agreement is executed, the Confidential Offering Memorandum (CIM) is requested.”(12) The teasers are reviewed by specific individuals responsible for this function whose deliberation on the information contained determines whether to proceed. “My boss has a weekly, sometimes several times a week, discussion about what we are looking at.”(10) “Then we talk about it at a formal Monday meeting, and we’ll go through a regimented step-by-step process of peeling back the onion skin...” (3) These PEGS have formal evaluation criteria. 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)

Varying degrees of informal review processes were used by the majority of the PEGs. Comments range from business development officers stating “we just kind of know whether it’s something of interest”(17) to “I’ve been here close to eight years now and there is just not much controversy in our team in terms of whether something is going to fit or not.”(9) These views are reflected by the partner level responses such as: “We don’t have a formal investment committee because we’ve been partners for so long but we will all sit together and talk about the

deals at one point or another and we are always updating each other throughout the entire process.”(14) One respondent made the offhand comment; “to say we have a process would be an overstatement.”(16)

Evaluations of specific criteria appear to exist for every deal, but the decision-makers do not clearly state them all. This leads to a particular interest in the “rules of thumb”, heuristics, that are applied in the decision-makers’ deliberations. “We are looking for businesses with a 30% margin.”(20) Another business development officer noted that they are looking for the same key points: “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) He stated that these criteria have been established over history. In their case, he felt that there was not much controversy because they were not making investments on growth scenarios but on stability of earnings.

Another indicated, “Whoever does the first screen checks to make sure that it fits five or six different criteria that are kind of big boxes that we would check, on which there is not a lot of flexibility; maybe little bit, but not a lot.” (8) This is reinforced by the existence of very informal deal progression techniques: “if all those things continue to line up or there are no big flags, we will try to arrange a meeting.”(9) Many state that they are ‘industry agnostic’ as they review potential investments. Instead they are looking for a sustainable advantage in the industry or some other variable that will jump out at them as they review the teaser. However, the results of the respondents’ reviews of Teasers B and C where the deal was rejected would suggest that there are at least certain industries that they will not consider.

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) This PEG has three partners “and for the most part we all know what we are looking for.”(13) They seek investments in businesses that can control their own destiny or have a relevant intellectual component. Another founder put it this way: “Do we agree that there’s a way to grow this company, and do we agree that there’s an opportunity here that makes sense to go after... This is a piece of art. It’s not a science.”(5) A partner stated: “It’s not black and white but more of a guideline, so there is definitely some thinking about it.” (11)

Negative experiences affect the criteria as well. “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)

Another business development officer 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) These comments indicate that there are other decision-making biases involved in the respondents’ reviews of potential investments.

The prior acquisitions experience of these PEGs results in the improvement of the performance of their process. The PEGs use certain deliberative rules to choose particular

opportunities. A partner reflecting on the firm's investment criteria stated:

So, that's our business model: we look to grow our businesses by a factor of three to five over a four to five year period... If a business does not have an opportunity, we are probably not going to be interested... But we do look at the fundamental nature of the market, and find that the internal growth factors are really limited, and you would be required to do it through acquisitions: that is probably not going to be compelling for us. (13)

A founder added; "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) Another's experience led him to believe: "We would rather go where other people are afraid to go because if you don't have our type of background you are going to go broke bringing in the professionals to outsource that type of due diligence for you." (18)

These findings suggest:

***Proposition 1: Private Equity Groups utilize deliberative heuristics that guide selection decisions during teaser reviews.***

### **V.III Role of Management – Selection Heuristics**

A number of interesting themes emerge from the data regarding the role of management. The practitioner's view is that the quality of the management team is a fundamental issue in a proposed transaction. This perception is reinforced by academic research that indicates "Findings at both individual and aggregate levels indicate that the most important criteria associated with likelihood of investment are target firm profitability, industry growth and presence of professional managers (Dawson; 2006, p.7).

The PEGs show flexibility regarding the quality of the management team. There is a continuum from those who see the existing management team as being very important to others who are far less concerned. A managing partner noted: “the businesses must have good management in place.”(6) A senior vice president stated:

Equally important to us is that a company has a very solid management team on the inside of the company, somebody besides the primary business owners, who have been with that company for some period of time, where you can tell they have really been a contributor to the success of the business. (9)

The depth of the management team was relevant to several PEGs: “the more in-depth the team, the better.”(4) The relationship between the management team and the PEG is also important: “we are very much focused, not only on the quality of the management team but also the chemistry between our group and management.”(17) A partner commented: “Building a partnership is where you create value and that’s the tough part and how we earn a return.” (14) Another commented: “The real struggle, to be honest with you, in all this stuff, is just whether the ownership culture is willing to embrace change.” (3)

Other PEGs expressed less concern with the existing management: “we don’t have to have a deep management team. We just need a competent management team.”(5) As a fund founder noted: “we are loathe to enter into a transaction and just rely on past management to take us to the promised land. We don’t do that, because we have learned our lesson that if they haven’t done it before, they are not going to do it on our money.”(3)

Most PEGs do not expect any business that is acquired to have a perfect management team. This group generally needs to be supplemented and upgraded. A business development officer mentioned that they look “to supplement and plug in gaps in management, so we don’t expect any business that we acquire to have a perfect management team that doesn’t need any supplementing.”(11) In fact; “We will buy a business knowing full well that we need to change



out the management team...if you look back at every investment that we've ever made, we've had multiple changes in senior management.”(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)

Other comments included “we don't get involved in a deal unless we augment the senior management team.”(3) Clearly, if the teams are not strong, the PEGs will replace them. The usual function that is most focused on is finance as the incumbent typically will not have the qualifications and skills to handle the role. The PEGs will put in new CFOs to upgrade the position, in particular, in terms of reporting. Additionally, the PEGs anticipate the need to invest in information systems and putting professional processes in place.

The data indicates that the importance of retaining the existing management team varies from firm to firm. “Management is not the most important issue although they need some continuity. One person, not necessarily the CEO or CFO, needs to stay.”(12) The point about knowing who was going to lead after the transaction closed was reinforced by other decision-makers. A vice president noted the following preference: “a number of key senior management team members that have been around for a while and that would stay and participate during our ownership.”(11) Most PEGs really desire an understanding of who is going to lead the company forward. It can be the founder, an heir, someone in the organization already, or someone that needs to be recruited.

The PEGs do expect the management team to have a major equity position in the business: “management owns what we don't. We will subsidize management's buy-in on the front end.”(13) This position can range from as little as 5% with the majority looking at a range of management ownership of 20-40%. In the case of family-owned businesses, the role of the

family going forward is important as well: “if there is not equity rollover with the family, there is no deal.”(20)

This issue of management owning equity in the business may vary from the expectations of the founder. Many family businesses have not extended equity participation beyond the founder and his family. Giving senior managers an equity position may be a difficult decision, particularly sharing financial and strategic information may prove to be an issue to many family businesses.

The findings suggest:

***Proposition 2:** Private Equity Groups utilize procedural heuristics that guide decisions on post transaction management.*

#### **V.IV Affect Heuristic**

The interviews were structured so as to gain insight into the respondents’ career history, particularly as it related to work experience in a family business. Additional questions were directed at the PEGs’ investment experience, and in particular, with family owned businesses.

All but one of the PEGs had investment experience with family owned businesses. The respondent from that firm stated that this was because that PEG only looked at rapidly growing companies. None of the teasers provided in the research fit this profile. In order to meet this investment criteria most of their investments were in companies between five and eight years old where the owners wanted to take some liquidity out of the business and at the same time position it for continued rapid growth. Speaking of the PEG’s investments: “Almost all of ours are entrepreneurial. I would not call them family businesses.”(4) That leaves 19 PEGs that had

investment experience with family owned businesses. Of those, 13 had decision-makers with personal experience working in family owned businesses.

The interview was conducted to determine first whether the respondent had personal experience in family owned businesses, and if so, had that involvement been positive or negative. As a result, was the interviewee predisposed to either a positive or negative perception of family owned businesses? Then the respondent was asked whether this experience made it more comfortable to assess family owned businesses. Nine respondents had personal work experience with family owned businesses. Then the respondent was asked about the backgrounds of the other decision-makers and the same questions regarding predisposition towards, and comfort in assessing, family owned businesses were asked. Four respondents indicated that other decision-makers at their firms had such work backgrounds.

Without exception the nine respondents who had personal experience stated that the experience had been positive. Differences exist between the perceived influences of these events. None of the respondents stated that the impact was a negative perception of a family business. Most stated that it had no impact, that it made the business development officer “more or less insightful” (9) which included the realization of the complexities of family businesses. A partner stated that he would “just take it into account” (13) and another partner said “I don’t know if it necessarily impacts my judgment of an investment opportunity.”(15) It seems that there possibly is a lack of awareness of the impact of these experiences. As one partner noted: “I’ve never thought about it. My first reaction is I don’t think so. And then I just thought about some specific examples... So although my initial reaction was no, it probably gives me a little more understanding.”(14) Only one, a partner in a PEG who had run his family’s business,

stated that his positive experience predisposed him to a positive view of family businesses, and in particular, how he related with the owners. (19)

The majority of the respondents concluded that this experience made them more comfortable with assessing family businesses. A partner stated: “in my experience with my family’s business which is closely held and other business owners I know and how they think about their employees and it’s not always about the investment return.”(15) This could provide insight into the financial statements provided in the teaser in terms of margins and overhead.

A vice president who sat on the board of a family business noted: “Since I’ve sat in the chair, absolutely. I could definitely assess it and know the questions to ask and can figure out pretty quick if they’re getting ahead of potential pitfalls or if they’re just going to get blindsided.”(10)

This adds to the ability to quickly review the information provided in the teaser and determine whether unresolved issues exist. This also helps in the later stages of the due diligence process.

The consensus was that experience enabled the decision-maker to feel more comfortable in assessing family businesses. The results were similar when other decision-makers at the PEG had personal experience with family businesses in their background.

Several respondents stated that they “prefer privately owned businesses to private equity-owned businesses or to corporate divestitures.”(11) The insight goes further with the founder of one of the firms referring to private companies: “we have a huge favorable bias toward those types of companies.”(18) He added that his firm had made investments in probably 100 companies of which 80-90% were family owned. This favoritism is due to the understanding of the dynamic of the interpersonal issues, the family’s name on the door, and the loyal customers that trade with the firm. It leads in some cases, as reflected above, to significant commitment to

family owned business. As a vice president stated that over one half of his firm's acquisitions were family owned businesses: "We like to think that we know what to look for, know the signs of when it is working and when it's not."(11)

Several PEGs stated the desire to be the first institutional capital in the business. "We tend to like to come in as a control investor and be the first institutional capital."(17) Another noted: "Our sole focus is partnering with owner-managed and family-controlled businesses, so we're the first institutional capital into the business."(2)

A major theme that emerged was that the PEGs view these investments as opportunities to earn better returns than other ownership sponsors. As was noted:

We feel like in general, it's a less professional management team. They have fewer formal systems and procedures in place, less investment in corporate development initiatives, organic book, organic growth, and acquisitions, so we feel like there is more opportunity in what we call 'brokenly run businesses. (11)

There is a strong view that these businesses are not efficiently run, that the owners are risk adverse and that the necessary capital investments have not been made:

You've got to believe that in most instances it hasn't been professionally run or as efficiently run as it could be so there's probably some money left on the table. You sort of get fat, cash fluid, that's enough. You don't want to take risk so there's probably some money left on the table. (10)

Another partner offered the view that "there's a lot of low hanging fruit to make them better." (5)

Awareness that family business owners make decisions that may not maximize shareholder value provides opportunities for operational improvement. One partner noted: "understanding that a family owned business has most likely been held for 20 to 30 years" (15) results in an understanding of how the business has been managed and the ability to implement a strategic plan to grow it. The goals of these managers are different than those of PEG owned firms who are seeking an exit within a five to seven year period. In order to facilitate these exits,

the business needs to double or triple in size during the hold period. This view was taken further by the principal of one PEG to the perception of a lack of sophistication on the part of the family owners which allows the opportunity for a better acquisition price by the PEG.

The findings suggest:

***Proposition 3:** The Private Equity Groups utilize affect heuristics when reviewing business opportunities.*

## **V.V Organizational Learning**

The respondents noted a number of particular insights that they have been exposed to in the process of investing in family owned businesses. These include nepotism, personal expenses being run through the business, and what was termed ‘lifestyle businesses’. As one business development officer noted: “The major problem has been nepotism. This results in difficulty professionalizing the business.”(12) This often results in pushback from the families. Another commented: “Having been through these many, many times we just understand what is potentially out there.”(9) The experience allows the decision-makers to understand what distinct features there are in dealing with a family business owner.

A number of the respondents noted an evolution in how their view of deals to pursue has changed. A founder 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, because we’re trying to build a business for four or five or six years. (4)

Another respondent noted: “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, but we’re going to want certain features within the structure of the transaction that will allow us to, one, fire and hire top

leadership.”(3) These comments underscore organizational learning as it affects investment structure.

There is also evidence for learning about management and other elements of the business.

I think we used to be cocky about being willing to buy a company from a retiring entrepreneur who was really retiring, thinking that the number two guy would be good enough, and we could augment him ourselves, or that we could recruit someone. I think that it's not as easy as we used to think it was. (1)

A senior vice president noted that: “there are lots of things, like what family type things people run through their businesses, and just other elements of dealing with a private business owner. Having been through these many, many times we just understand what is potentially out there.”(9)

The findings suggest:

***Proposition 4:** Repeated investment experiences lead to learning heuristics that guide adjustments to the Private Equity Group's business models and investment decisions.*

## **V.VI Human Capital**

Human capital may be viewed from several perspectives, including business education, industry experience, functional experience, and general private equity experience. The respondents have extensive experience in private equity. The median experience level is 10 years in the industry, and 7.5 years with their firm. The mean experience levels are 12.3 years and 10.2 years respectively.

The respondents' academic and business backgrounds were discussed as part of the interview and additional information was obtained via the PEGs website (see Appendix D). All but two of the respondents have multiple degrees, sixteen of which are MBAs. Four are CPAs, two hold law degrees, and there are two CFAs. Prior business experience is dominated by

finance functions performed for other financial services firms such as investment banks. A

Managing Director commented on his career path:

I went into commercial banking and corporate finance and I spent about a decade doing that. Then I kind of kept working my way toward more leveraged structures and leveraged finance groups and specialty finance companies that were also doing more mezz[anine] and equity co-investments and ultimately (employer) where we are doing solely mezz and equity type transactions. (7)

Another respondent stated that prior to reaching the current position: “I started out in commercial banking doing primarily acquisition financing, then was an investment banker working primarily in the capital markets and to a lesser extent M&A work... I was involved in an angel fund that was making early stage investments.” (17)

Several decision-makers indicated a willingness to rely on others within their firm who had experience in particular industries to provide insight into whether to proceed further after reviewing the teaser. “If something comes in that I feel that one of my partners has more affinity for a particular opportunity, I’ll shoot it over to him and say what do you think?” (5) This expertise may be developed through experience with portfolio companies. As a partner noted: “we generally divide it up in terms of portfolio companies.” (14) Another partner commented; “we have segregation where I handle five of the portfolio companies and he handles two so we’ll split it up that way.” (8) Experience with the portfolio companies adds expertise and insight into reviewing the teasers. Other firms have operating partners with specific industry experience who assist in the review of proposed investments.

Functional experience adds value as well. A decision-maker whose career included many years in public accounting noted: “I guess the other competitive advantage we have is it’s much harder to do the financial due diligence for a closely held business because they are typically unaudited. We typically come from big four accounting firm backgrounds, we do it ourselves,



we don't outsource it.” (18) A PEG that focuses on investments in manufacturing businesses had been started by “partners, when I joined the firm, were all from that manufacturing company... We're in the manufacturing space.” (15) While most of the respondents' firms were financial investors that relied on management to run the business, several stated that they were more operationally oriented. “We have a different business model than most firms in a sense that we are a very focused fund, hands on, we have a complicated investment model and we are not desiring to be an asset manager.” (13) This partner's undergraduate degree was in engineering and his career included many years in manufacturing, engineering and product development. Another PEG that was started in 1985 is “very operationally focused in terms of how we invest. So we are much more ‘roll up your sleeves’, investing in troubled situations or smaller businesses that need help growing; something where we feel we'll add some operational value.” (14)

The findings suggest:

***Proposition 5: Human capital impacts the Private Equity Group's business models and 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. The teaser review highlighted the speed with which the respondents review a large number of proposals. These individuals rapidly apply a series of pre-established criteria and decided whether or not to proceed to the next level. These deliberative heuristics, the rules of thumb applied in the teaser review, are the ‘simple rules’ that are learned from process experience (Bingham & Eisenhardt, 2011). These rules guide their deliberation on whether to proceed with detailed due diligence based on the information outlined in the teaser, as well as selection on post-transaction management.

The explanations offered by the respondents as they reviewed the teasers identified several key criteria employed in the decision to proceed with or decline the investment opportunity. The importance of the industry in which the company was operating was cited as both a positive and a negative factor. In some cases the respondents’ prior industry experience, such as in the case of the manufacturer of lighting and industrial products, was noted as a positive reason to proceed after reading the teaser. For the most part, the respondents indicated confidence as a result of their previous experience. However, prior industry experience may also be the reason not to proceed. In the case of the home health business, the healthcare industry, and in particular the government reimbursement revenue model, was the major reason for declining to proceed beyond the review of the teaser. In this case the healthcare industry was identified as one that the respondents indicated a strong desire to avoid. This does not bode well for a major industry that is currently the focus of much scrutiny.

Several other factors were often mentioned as reasons to proceed further or not. Financial criteria of the PEG were mentioned as grounds to continue to the next step and were also cited as the reason to not go any further. Shareholder dynamics were also noted as positive and negative factors in the decision to proceed.

The continuum between formality and informality of many of the review processes of the PEGs was insightful. The respondents utilize a number of simplifying heuristics as they apply the more informal review process. Organizational learning was exhibited in several situations, particularly as the PEGs reviewed prior deals and have subsequently modified their investment structures. This is also reflected in their evolution of the assessments of the acquired management teams. Feedback on these issues through the acquisition process, and subsequently working with the acquired businesses, provides the opportunity to learn and apply the insight gained in ensuing investments (Haleblian et al., 2006). This also supports the view that processes are a central feature of capabilities. In the case of these PEGs, prior acquisitions resulted in the improvement of the performance of their process. This explicit learning from process experience supports the view that these PEGs do indeed learn portfolios of heuristics (Bingham & Eisenhardt, 2011). These can be seen in the processes utilized by the firms as they review teasers and process these potential investments.

The application of specific criteria to the review of the proposed investment represented by the teaser led to the development of the first proposition that PEGs utilize deliberative heuristics that guide selection decisions during teaser reviews. Whether these criteria are specifically stated as part of the review process varies between PEGs. However, all the PEGs appear to apply these heuristics as they review the teasers.

The role of management as perceived by the PEGs appears not to be consistent with general practitioner perspectives or with existing research (Dawson, 2006; Dawson 2011) . Current beliefs are that the quality of the management team is fundamental in a proposed transaction. Dawson (2006, p. 7) found that “the most important criteria associated with likelihood of investment are target firm profitability, industry growth and presence of professional management.” The data provided by the respondents does not completely support this. While several of the PEGs stated that the existing management team was very important, the majority indicated that they expected to supplement management as part of the transaction. What appeared to matter more was that someone be identified who would remain with the firm post transaction. The differing approaches of the PEGs regarding post transaction management led to the development of the second proposition that PEGs utilize procedural heuristics that guide decisions on post transaction management.

The research question asked: “how does the affect heuristic impact the investment process of private equity decision-makers?” The study indicates that experience and learning lead to the construction of an affect heuristic that subsequently impacts investments made by PEGs. In the cases of personal experience of having worked for a family business, the respondents indicated that the result was a greater degree of comfort with making these kinds of investments. They had a positive view of assessing these businesses and expressed more comfort in doing so as a result of their personal experience.

In turn, this perception of a “good” experience with family owned businesses, either through having worked for one or having invested in them, appears to have improved the PEGs’ efficiency in assessing risks and benefits (Finucane et al., 2000). These experiences had been positive overall and have resulted in a preference towards investing in family owned businesses

as compared to corporate divestitures or private equity sponsored deals. In this manner, affect helps the PEG decision-makers attach meaning to information and to use it during judgment. Investors do use the affect heuristic, shaped by prior experience, to make decisions. There is a link between explicit experiences and private equity investment.

The research provided an understanding that many of the PEGs have a stated preference for investing in family owned businesses. The PEGs believed that they understand what family owned business investments entail in terms of working with management and taking advantage of opportunities. The data also provided insights that the PEGs view the family owned business as offering significant financial returns due to the belief that these businesses offer the opportunity to easily improve operations by providing capital, adding processes, or enhancing management. In fact, they prefer to be the first institutional investors in these businesses. As one respondent subsequently noted as he confirmed these findings: “PEGs may prefer family businesses but they pay a lot more for secondary purchases of companies that are currently PEG owned, probably by a turn or two of EBITDA.” (17) These experiences support the proposition that PEGS utilize affect heuristics when reviewing business opportunities.

Several additional decision-making heuristics are utilized by the PEG decision-makers. Overconfidence may play a role as may other biases such as the ‘competence effect’ due to the respondents’ self-perceived investment skills (Graham et al., 2009). Representativeness is visible. Deals may be accepted or rejected because of past experiences of one member of the firm in that industry. Mining deals being precluded almost by definition is relevant here. So is the view expressed by so many PEGs that they would not invest in a deal that already had been owned by a private equity firm. The finding that 35% of the respondents would decline a potential investment because of prior private equity ownership was not anticipated. Hence, PEG

decisions on teaser reviews are overly representative of the group's prior investment experiences. To a certain extent, the decision progresses beyond the teaser as a result of past performance. This may prove to be a suboptimal decision-making process.

The PEGs exhibited organizational learning through their experiences with certain types of businesses. Nepotism in family firms was highlighted as an issue. The evolution of deal structure and changes in strategy further support the proposition that repeated investment experiences lead to learning heuristics that guide adjustments to the PEG's business models and investment decisions.

Human capital plays a significant role as well. The respondents had extensive private equity experience. Their academic backgrounds reinforced these sophisticated finance positions. These decision-makers either had functional familiarity or the ability to utilize individuals in the firm who had the experience for additional insight into whether to proceed with an opportunity. These insights support the proposition that human capital impacts the PEG's business models and investment decisions.

## CONCLUSION

### VII.I Contributions to Theory

This study contributes to the literature in a number of areas. It adds to Behavioral Decision Theory as it examines the role of the affect heuristic in strategic decisions. This topic has not been addressed in the BDT literature. The investment decisions of PEGs are complex and are made without complete information. The results indicate that as decision-makers learn from experience from private equity investments, they are positively disposed to investing in such businesses.

The decision to invest in a particular company certainly represents high-stakes complex problem solving (Powell et al., 2011). Their paper provided a definition of behavioral strategy and identified several unsolved questions including whether behavioral strategy can explain complex executive judgments. This study outlines actual executive judgment through decision-making in real situations. This study adds empirical support for the application of the affect heuristic to strategic decision-making.

The results of this study also confirm the need for strategic decision-makers to recognize their own biases and adjust their processes accordingly. The findings support the idea that the process of investment review is as important as the data that is collected (Lovallo & Sibony, 2010). None of the respondents appeared to recognize the biases in their decision-making processes which suggest that the PEGs would benefit from an understanding that biases exist and are part of their decision-making processes. As Kahneman et al. (2011) point out, steps can be taken by adjusting review processes so that the effects of biases can be reduced. As strategic decision-making requires limiting biases, these firms may benefit from refining their processes in

order to ensure that specific biases are addressed. In turn, this may increase the returns realized by the PEGs on their investments.

The outcomes regarding learning and experience complement the results of Bingham & Eisenhardt (2011). Their work looked at processes as a central feature of capabilities and suggested that firms learn heuristics. The propositions developed in this study support the view that firms do learn heuristics. For example, as the PEGs complete more acquisitions the result is additional learning which leads to the evolution of investment structure and others parts of the transaction. The teaser review reflects articulated processes used by the PEGs. As noted by Bingham and Eisenhardt (2011), there is a developmental order: decision-makers move from “less cognitively sophisticated heuristics that address single opportunities (selection and procedural heuristics)” to “sophisticated heuristics (priority and temporal heuristics) that relate to several opportunities at once” (p.1458). As experience accumulates, heuristics may expand in complexity. Such adaptation is evident in decision-making procedures as well.

## **VII.II Contributions to Practice**

A significant practical implication of this study is the insights provided into the views of the PEG decision-makers as they consider management teams. Understanding that PEGs anticipate the need to supplement the management team, and in particular the finance function, is helpful to business owners and their advisors. This reduces the need to recruit and train professional managers in an effort to close a transaction. The understanding that someone has to stay will be of value as decisions are made on the post transaction management team.

The view that PEGs anticipate attractive purchasing opportunities is also very useful. These owners will be well instructed to retain professional bankers, lawyers and other



consultants to ensure that their interests are well represented. From the practitioner's perspective, this would appear to be very valuable.

From the perspective of the PEGs, the study highlights the potential existence of biases in their decision-making processes which may have a deleterious impact. The almost automatic decision to rule out investments that have existing private equity investors may exclude excellent investment opportunities from being examined. Similarly, the decision to decline a proposed transaction because of a negative prior experience in that industry may have the same effect. The PEG review processes would likely be improved by ensuring that biases are recognized and addressed in the way that prospective investments are reviewed.

### **VII.III Limitations and Further Research**

This study has several limitations that may provide a basis for additional research. Limitations of the multiple case method, specifically the problem of generality and credibility, do exist. The number of respondents and the issue of non-response from the PEG decision-makers who did not respond suggest the potential for bias in the findings. Additionally, several respondents confirmed the validity of the characterizations after reviewing the themes suggested in the study.

As Trochim and Donnelly (2009) point out, qualitative research is often undertaken in order to understand a phenomenon well enough to form some initial theories or hypotheses about how it works. Five propositions have been suggested based on the study. The next step would be to derive hypotheses from these propositions and conduct more research via a more detailed instrument and a larger scale study. In addition to the affect heuristic, a more comprehensive study of other biases, such as representativeness and overconfidence as identified by several

respondents in this study, could be undertaken. These are the beginning steps in understanding the phenomenon of the decision-making process and the role of biases in the private equity industry. There are significant opportunities for future research.

The issue of transferability of these findings to other contexts would be the basis for additional research. Whether or not the findings hold in another context (say, large-scale PE fund investments) is an empirical issue. Limiting the number of interviews to twenty rendered the initial research manageable. However, this represents a small percentage of the approximately 774 private equity firms that predominantly target mid-market companies in the United States and Canada (Perqin, 2013). This is from a total of 1914 active private equity firms headquartered in the United States. An opportunity for a survey of significantly more private equity groups and to approach a number of individual decision-makers in each of these firms would add significantly to the findings. The size of the PEGs and the transactions that they pursue places them in the small end of the middle market. Accessing decision-makers at larger PEGs would broaden the results. An analysis of international private equity firms would extend the findings as well.

## REFERENCES

### APPENDIX A: INTERVIEW PROTOCOL (PRIVATE EQUITY DECISION-MAKER)

#### Atmospherics/Rapport/Context

- 1) Tell me a little about the Private Equity Fund
  - a. How large is the fund? How much capital has been raised?
  - b. When was the capital for the fund raised? I.e. what year did it close? Has the Fund funded any transactions? If so, what types of deals have they done? Are they looking for platform or add-on investments?
  - c. Is this the first fund?
    - a. How many other funds has this group sponsored?
    - b. Have they been involved with other funds with different sponsors?
  - d. What are the investment criteria of the PEG?
    - a. Targeted size of transaction
    - b. Industry focus
    - c. Geographic focus
    - d. Type of transaction
      1. Buy-outs
      2. Mezzanine debt
      3. Majority or minority investments

#### Core Interest

- 2) What is the investment decision-making process?
  - a. How does a potential transaction progress through the PEG's investment decision-making process?
  - b. Are there established criteria that the first screener has to apply? If so, what are they? (examples would be deal size, industry focus, geographic focus)
  - c. Who establishes them?
- 3) I would like you to review four teasers (deal summary sheets) that represent four potential investments.
  - a. Based on your review would you request the offering memorandum for additional information?
  - b. Why or why not?
    - a. Industry focus?
    - b. Geographical location?
    - c. Financial performance?
    - d. Management?
    - e. Similarities to deals that the fund has done before?
    - f. Size of the prospective investment?
    - g. Ownership?

- 4) Investment structure
  - a. How would they approach valuation in each scenario?
    - a. Would there be any differences between the various deals
    - b. If so, on what grounds?
  - b. What issues in particular would they be interested- concerned with?
    - a. What would the role of management be going forward
    - b. Would the fund take a control position?
    - c. Would they want board representation? Board control?
  - c. Any differences in the deal structure?
    - a. More/less cash?
    - b. Earn-out or not?
    - c. Seller note?

### **Demographic background**

- 5) Tell me a little about yourself
  - a. What previous business experiences have you had?
    - a. What types of businesses? What industries and where located? How large were they in terms of revenues?
  - b. What role(s) did you have? Operational, financial, legal etc.?
  - c. Do you have experience with family owned businesses? If so, how much?
    - a. Did you have direct personal experience in your family's business?
      1. What type of business was it?
      2. What was your role?
      3. How long were you there
      4. What was your relationship to the CEO or other senior managers?
      5. Was the firm owned by the founder?
    - b. Have you worked for family business that was not owned by an immediate family member?
      1. If so, what type of business was it?
      2. Who owned and managed the business?
      3. What was your role?
      4. How long were you there?
      5. Was the firm owned by the founder?
    - c. Where these experiences positive or negative? Why? To what extent do you believe that your experience with a family firm predisposes you to a positive-negative perception of family-owned businesses?
    - d. To what extent does your prior experience make you more comfortable assessing family owned businesses?
  - d. What experience do you have in the private equity world?
    - a. How many years?
    - b. How many deals have you done?
- 6) Information on other decision-makers at the private equity group
  - a. Do any other executives of the fund have backgrounds in family business, either through their own families or having worked for another family business

- a. What percentage (number) of the executives has family-owned business experience?
  - b. Is this through their own family's owned business or working for a third party family business?
  - b. Does he/she have learned experiences from either having worked for a family business or having invested in a family business
  - c. How many investment opportunities does your firm review per year?
  - d. What percentage would be family-owned firms?
  - e. Of these, what percentage of these get through the teaser review and are put through the full review process?
- 7) Is there anything that you would like to ask me?

I would like to thank you for spending so much time with me. Your insights will prove to be very helpful and I appreciate your answers. I would be happy to provide an executive summary of my findings if you are interested.

## APPENDIX B: TEASERS OF THE FOUR COMPANIES

### Teaser A

#### Manufacturer of Lighting Products & Industrial Switches

- SUMMARY:** The Company manufactures industrial lighting products and switches for use in a variety of industries, including instrumentation, automotive and gaming.
- LOCATION:** The Company is based in a large city in the Southern USA. The city is served by daily non-stop flights to all major US cities and many European capitals. The Company also operates an off-shore assembly facility in a low-cost country located in close proximity to the Company's headquarter location.
- OWNERSHIP:** The Company is controlled by a Private Equity Group and Management who owns 71% and 5%, respectively, of its shares.
- FACILITIES:** The Company operates out of a 27,000 sq. ft., leased facility at its headquarters. They also lease two buildings totaling approximately 38,000 sq. ft. at their off-shore location.
- PRODUCTION:** The Company does injection molding, electronic assembly, surface-mount printing & board population at their main facility. Their off-shore facility is used for assembly operations as well as injection molding and wire processing. They have 17 injection molding machines ranging in size from 40T to 260T as well as seven robotic and automatic wire processing machines.
- PRODUCTS:** The Company manufactures and sells a variety of products including: LCD, LED, and OLED lights, indicator lamps, lamp holders, and switches. The products are used by automotive, marine, off-road, industrial, gaming, and other OEMs. Several of the Company's products are branded and proprietary. They recently launched a line of tamper-proof LED lights & fixtures designed for niche industries.
- SALES/  
MARKETING:** The Company has one full-time sales person and three manufacturer's reps who call directly upon OEM customers. Automotive customers generate 45% of total sales. The Company generates approximately 15% of its total sales from its proprietary products.
- MANAGEMENT  
& STAFF:** The Company employs approximately 55 full-time employees at its US facility and 250 full-time employees at its off-shore facility. None of the employees are members of a trade union. Employees receive various Company-sponsored insurance benefits. All employees and the management team desire to remain after a transaction. Management would be interested in an equity position, if available.
- FINANCIAL:** The Company had financial issues in 2007, requiring the business to be recapitalized with its (now) current investors/owners who invested their capital as senior & junior debt. In 2009, the investor group replaced management with a new team who has turned the Company around and returned it to operational profitability.

## Synopsis Income Statement (000) s deleted; 31 December year end

	<i>Audit</i> <u>2007</u>	<i>Audit</i> <u>2008</u>	<i>Audit</i> <u>2009</u>	<i>Audit</i> <u>2010</u>	<i>Projected</i> <u>2011*</u>	<i>Projected</i> <u>2012</u>	<i>Projected</i> <u>2013</u>
Net Sales	17,283	18,640	14,853	22,619	19,439	24,984	28,939
Gross Profit	852	2,437	3,026	4,098	4,745	6,241	7,850
Gross Profit %	4.9%	13.1%	20.4%	18.1%	24.4%	25.0%	27.1%
Operating Expenses	2,602	2,722	2,322	3,054	2,476	2,604	2,858
Operating Income	(1,750)	(286)	704	1,044	2,269	3,637	4,991
<b>Adjusted</b>	<b>(756)</b>	<b>783</b>	<b>1,984</b>	<b>2,760</b>	<b>3,061</b>	<b>4,429</b>	<b>5,784</b>
EBITDA %	-4.4%	4.2%	13.4%	12.2%	15.7%	17.7%	20.0%

\*Note: Projection for 2011 is "likely case scenario." However, based on several pending orders, 2011 results potentially may be much stronger.

## Synopsis Balance Sheet (000) s deleted; as of 31December year end

	<i>Audit</i> <u>2007</u>	<i>Audit</i> <u>2008</u>	<i>Audit</i> <u>2009</u>	<i>Audit</i> <u>2010</u>
Current Assets	3,687	3,103	4,708	7,045
Net Fixed Assets	5,024	4,906	4,362	4,038
Other Assets	296	283	281	347
Total Assets	9,007	8,292	9,350	11,431
Current Liabilities	2,900	2,508	2,260	1,834
Long Term Liabilities	430	264	124	45
Total Liabilities	3,330	2,772	2,384	1,879
Shareholder's Equity	5,677	5,520	6,966	9,552
Total Liabilities & Equity	9,007	8,292	9,350	11,431

Note: Balance Sheet is shown on a cash free/ debt free basis. The Seller assumes an asset sale and the delivery of a cash free/ debt free balance sheet.

**REASON  
FOR SALE:**

The controlling investor group seeks to sell the Company to realize a return on its investment as well as to match the Company with a strategic or financial partner better suited to assist the Company with its growth opportunities.

## Teaser B

### Home Health Care

#### Medicare Certified/Mental Health Licensed Child & Family Services - Northeast

##### Products/Services

##### Child and Family Services Division (72% of revenue)

The Company's licensed behavioral health professionals work with families of children diagnosed with mental illness, behavioral issues, developmental disabilities, and other specialized needs. Clinicians follow a treatment plan that is designed to develop the child in several specific areas including behavior management; life and social skills; motor, physical, and psychological development; and self-awareness.

##### Home Care Division (28% of revenue)

The Company is Medicare Licensed and provides skilled medical services to post acute care patients in their home. Patients range in age from medically complex children to the elderly. The Company provides registered nurses, licensed practical nurses, certified nurse's assistants, occupational therapists, physical therapists, and medical social workers to assist the medical needs of acute care children and the elderly. Additionally, the Company provides a variety of personalized healthcare services to clients in the privacy of their homes. The Company's personal support specialists assist the non-medical needs of acute care children and the elderly with a range of personal care services that do not require licensed assistance. These services may include bathing, housekeeping, picking up medications or groceries, and other tasks that are difficult for the patient to do themselves. All of the Company's services are billed on an hourly basis or by the visit and reimbursed by two state-funded insurance programs as well as the United States Federal Government Medicare program.

##### Organization

The company employs non-union personnel consisting of approximately 250 employees, which varies according to workloads. The Company's experienced team of health care professionals includes licensed clinicians, behavioral health professionals, registered nurses, licensed practical nurses, certified nurse's assistants, physical therapists, occupational therapists, medical social workers, home health aides, and personal support specialists. All of the Company's professional staff are paid hourly, or by the visit.

##### Markets/Customers

The Company serves a statewide patient base comprised of approximately 325 children, families, and seniors. The Company receives all patients by referral directly or through State healthcare programs. The Company excels in providing its treatment services to children and families in underserved communities throughout the state.

##### Competitive Advantages

Significant competitive advantages include:

- State License - mental health service provider
- Top Provider - two specific treatment services
- Zero Deficiencies - regulatory compliance
- Federal License - Medicare provider



- Statewide Professional Team - trained/certified clinicians
- Rural Provider - serves rural communities throughout state

### Reason for Sale

The owners are at a point in their lives where they want to transition into new challenges and career interests, and are planning an exit strategy. The owners are willing to remain involved with the Company for a period of time through an employment contract or on a consulting basis.

### Historical Income Statement - FYE December 31

	Internal 2009	Reviewed 2008	Reviewed 2007	Reviewed 2006
Total Revenue	\$ 5,212,937	\$ 4,506,370	\$ 4,700,889	\$ 4,889,789
Total Operating Expenses	4,383,982	4,378,620	4,305,474	4,388,666
Net Income	828,955	127,750	395,415	501,123
Total Adjustments	312,094	332,817	333,189	322,171
Recast EBITDA	\$ 1,141,049	\$ 460,567	\$ 728,604	\$ 823,294

### Balance Sheet - December 31, 2009

Current Assets		Current Liabilities	
Cash	\$42,232	Line of Credit	\$340,000
Accounts Receivable	929,392	Accounts Payable	9,086
Prepaid Expenses	76,829	Accrued Expenses	70,233
Security Deposit	2,427	Provider Tax Payable	13,316
Other	104,094	Other	17,803
<b>Total Current Assets</b>	<b>1,151,974</b>	<b>Total Current Liabilities</b>	<b>450,438</b>
<b>Net Property and Equipment</b>	<b>127,467</b>	<b>Long Term Liabilities</b>	<b>18,247</b>
<b>Net Other Assets</b>	<b>435,410</b>	<b>Total Liabilities</b>	<b>468,685</b>
<b>Total Assets</b>	<b>\$1,714,815</b>	<b>Total Stockholders' Equity</b>	<b>1,246,166</b>
		<b>Total Liabilities and Stockholders' Equity</b>	<b>\$1,714,851</b>

## Teaser C

### Wholesale Grocery/Candy/Tobacco Distributor-Southeastern USA

- SUMMARY:** The Company distributes tobacco, candy and other grocery products to the convenience store market place within a two-state region in the Southeastern USA.
- HISTORY:** Founded more than 60 years ago and under continuous family ownership since inception. The owners are absent and not involved in day-to-day management.
- LOCATION:** The Company is located in a mid-size city in the Southeast situated approximately 45 minutes from a major metropolitan area. The Company is near two major Interstate highways and several US Highways. There is adequate low-cost labor supply to continue to grow the business.
- PRODUCTS:** Tobacco products, candy and various other grocery products for the convenience store market. The Company also sells refrigerated and frozen products.
- SALES & MARKETING:** The Company utilizes a direct sales force of five outside sales people to call on trade accounts within a 100 mile radius of the warehouse. The sales people are supported by two inside customer service representatives.
- FACILITIES:** The warehouse is 65,000 sq.ft. situated on 4.5 acres permitting, allowing for expansion up to double its current size. It is a metal building with broad span and high side walls; it is leased from a related entity at a fair market rent. The building presently has approximately 850 sq.ft. of cooler space and 1,725 sq.ft. of freezer storage. The Company owns and operates 8 straight trucks each rated at 25,000 GVW with boxes ranging in length from 18' to 22'. The warehouse and real property are owned by a related third-party and leased to the Company on a fair-market basis.
- FINANCIAL:** Sales for FY10 (June 30) were \$46 million (an increase of 9.5% from FY09) with EBITDA increasing by 200% from the previous year. Sales for FY11 are on track to be in line with or higher than the previous year. They have a very strong balance sheet and consistently have AR in excess of \$1.0 million and inventory in excess of \$1.0 million. Acquiring the warehouse could add considerable leverage.
- STAFF:** The Company has approximately 30 employees, none of whom are members of a trade union. Most staff members have been with the Company for many years and have extensive industry experience. The management team will stay with new owners.
- REASON FOR SALE:** The Company is owned and controlled (100%) by absent shareholders who seek to sell it for estate planning purposes.

## Teaser D

### Heat Exchange Manufacturer Products/Services

The Company is a leading designer and manufacturer of high-quality engineered heat exchangers and coolers, that meet the most critical of requirements. A heat exchanger is a device used to transfer heat from a fluid (liquid or gas) on one side of a barrier to a fluid on the other side without bringing the fluids into direct contact. As a Tier 1, ISO 9001:2000 certified supplier, the Company provides products directly to global OEMs for use in recreational boats, commercial marine vessels, on- and off-road trucks, industrial equipment, and agricultural equipment. The Company's products range from small oil coolers for low horsepower engines to units for engines with more than 10,000 horsepower. Products include:

- Charge air coolers
- Engine oil coolers
- Engine water coolers
- Fuel coolers
- Hydraulic oil coolers
- Polymer oil coolers
- Power steering oil coolers
- Transmission oil coolers
- Combination coolers

### Organization

The Company employs all non-union personnel consisting of 41 full-time employees. The Company's key staff members have tremendous amounts of industry experience and their ability to manage daily operations of the Company and consistently deliver quality products in a timely manner has earned the confidence and respect of customers and suppliers. Currently, the Company operates one full shift from 6:00am to 2:30pm Monday through Friday, and a limited second shift from 2:30pm to 7:00pm Monday through Friday.

### Markets/Customers

The Company maintains a customer base of approximately 100 accounts, and its largest customer contributed 18.5% to 2010 revenue. Management has always placed a special emphasis on customer service, and its high level of repeat business (nearly 100%) speaks to the quality of its customer relationships. The Company's superior customer service, uncompromising dedication to quality, and unparalleled engineering and manufacturing expertise has cemented their standing as the preferred supplier for several customers. The Company's customer base is comprised of OEMs in the following markets: On- and Off-road Trucks (49% of revenue); Marine (40%); Industrial (5%); Agricultural Equipment (2%); Aftermarket parts (1%); and other (3%).

### Financial Notes

Sales declined in 2007 and 2008 primarily due to downturns in the marine industry. In late 2008, the Company took deliberate steps to diversify its customer base and added several customers in the on-road truck, agricultural, and other markets; however, in 2009, the economic recession caused customers to reduce orders, delay receipt of product, and cancel orders. In 2010, revenue increased by 80% as many customers began increasing orders. Additionally, sales from a newly added product line bolstered growth and improved profit margins. In 2011, sales were up by nearly 10%.

### Facility

The Company operates out of a 58,000 square foot facility on 3.2 acres. The facility is owned separately by a related entity and leased to the Company. The facility is approximately 65% utilized and there is ample room for expansion. The real estate may be included as part of the sale or leased at fair market rates.

### Reason for Sale

Ownership believes the Company has excellent prospects for future growth and is concerned their conservative nature may prevent (has prevented) the Company from realizing its full potential. Ownership feels that growth would be best achieved with a financial or strategic partner, and is open to a sale, recapitalization, or partnership. In any event, ownership desires to stay with the Company for the long term and is committed to helping the Company grow to its full potential.

### Income Statement—FYE September 30 (C Corp)

<b>Assets</b>		<b>Liabilities and Equity</b>	
<b>Current Assets</b>		<b>Current Liabilities</b>	
Cash	443,372	Current portion of LT Debt	55,100
A/R trade	1,391,312	Accounts payable	740,832
Inventories	1,180,919	Customer deposits	-
Prepaid expenses	53,143	Loan payable - line of credit	-
All Other Current Assets	10,720	Income taxes payable	-
<b>Total Current Assets</b>	<u>3,079,466</u>	Accrued expenses	260,505
<b>Net Fixed Assets</b>	1,515,580	<b>Total Current Liabilities</b>	<u>1,056,437</u>
<b>Other Assets</b>		<b>Long Term Debt</b>	
Patents	19,733		2,026,095
Less: Accum depreciation	(3,909)	<b>Deferred Income Taxes</b>	
Security deposit-JansCo	30,000		133,340
Long-term investments, cost	-	<b>Total Equity</b>	
<b>Total Other Assets</b>	<u>45,824</u>		<u>1,424,998</u>
<b>Total Assets</b>	<u>4,640,870</u>	<b>Total Liabilities and Equity</b>	<u>4,640,870</u>

### Balance Sheet—September 30, 2011 (FYE 9/30; C Corp)

	FYE 2011	FYE 2010	FYE 2009	FYE 2008	FYE 2007
Sales	\$ 8,170,764	\$ 7,465,782	\$ 4,136,889	\$ 7,823,190	\$ 8,955,650
Total Cost of Sales	<u>6,285,920</u>	<u>5,615,785</u>	<u>3,816,760</u>	<u>6,432,475</u>	<u>7,209,935</u>
Gross Profit	1,884,844	1,849,997	320,129	1,390,715	1,745,715
GP %	23.1%	24.8%	7.7%	17.8%	19.5%
Total G&A Expenses	<u>1,854,516</u>	<u>1,671,056</u>	<u>656,619</u>	<u>1,254,294</u>	<u>1,538,087</u>
Operating Income	30,328	178,941	(336,490)	136,421	207,628
Total Other Income (Exp)	<u>61,963</u>	<u>(6,545)</u>	<u>55,785</u>	<u>(40,955)</u>	<u>(141,875)</u>
Pre-Tax Income	92,291	172,396	(280,705)	95,466	65,753
Total Adjustments	<u>1,350,240</u>	<u>975,485</u>	<u>150,536</u>	<u>420,421</u>	<u>759,048</u>
<b>Adjusted EBITDA</b>	<u>\$ 1,442,531</u>	<u>\$ 1,147,881</u>	<u>\$ (130,169)</u>	<u>\$ 515,887</u>	<u>\$ 824,801</u>

## APPENDIX C: CODING SCHEME

<u>Coding Scheme</u>
1 Private Equity Fund Background
1.1 Size of the Fund
1.2 Prior fund experience
1.3 Structure of Fund
1.4 Investment criteria
1.5 Type of transactions
2 Investment Decision-Making Process
2.1 Formal - informal
2.2 Criteria
2.3 Responsibility for establishing criteria
3 Deals
3.1 Go
3.1.1 Founder involvement
3.1.2 Industry preference
3.1.3 Financial performance
3.1.4 Management
3.1.5 Other ownership
3.1.6 Previous industry experience
3.1.7 Other
3.2 No Go
3.2.1 Founder involvement
3.2.2 Other ownership involvement
3.2.3 Industry preference
3.2.4 Financial Performance
3.2.5 Size
3.2.6 Location
3.2.7 Other
3.3 Ranking of teasers
3.4 Role of management
3.4.1 Founder
3.4.2 Management team retained
3.4.3 Bringing in new team
3.5 Control / Board
4 Experience
4.1 Prior business experience
4.2 Personal experience working in family business
4.2.1 Positive
4.2.2 Negative

4.3 Other's PEG decision-maker personal experience w/FOB
4.3.1 Positive
4.3.2 Negative
4.4 PEG learned experience from investing in FOB
5. Organizational Learning
5.1 Processes
5.2 Heuristics
5.3 Previous acquisition experience
6 Deal flow
6.1 Number of deals received
6.2 Number of deals reviewed in detail
6.3 Number of deals closed
6.4 Percentage family owned
7. Investor decision-making
8. Other biases
9. Human Capital

## APPENDIX D: BACKGROUND OF PRIVATE EQUITY GROUPS

#	Private Equity Group Type	Title of Informant	Educational background	Years at Fund	Years in PE	Functional Experience	Target Company Size EBITDA	Deals Reviewed/ Closed
1	Institutional LP Fund	Managing Partner – Founder	BBA, JD, CPA	24	24	Investment banking and legal counsel	\$1 - \$4 M	2,000 deals CIMs on 20%
2	Institutional LP Fund	Managing Partner – Co-Founder	BA	10	15	Consulting and CFO	\$4 M +	250 1 – 2 Closed
3	Institutional LP Fund	Managing Partner – Founder	BA, MBA	10	24 *14 as a private equity investor	Financial services	\$2-\$10 M	50-60 3 closed
4	Institutional LP Fund	Managing Director - Co-Founder	BS, MBA	32	32	Commercial banking	\$5 - \$20 M	300 CIMs on 10% 4 closed
5	Institutional LP Fund	Managing Partner – Co-Founder	BBA, MBA	6	18	Strategic planning and investment banking experience	\$1.5 - \$6 M	1,000 CIMs on 10% 0 closed
6	Institutional LP Fund	Managing Director	MBA, CPA	20	20	Public accounting, entrepreneurial start-up	\$2-\$5 M	Use buy side IBs –10-15 deals a year 1-2 Closed
7	Institutional LP Fund	Managing Director	BSBA, MBA	7	7	Corporate, commercial banking, and other lending experience	\$5-\$50 M	700-1000 CIMs on 15% 5-6 Closed
8	Institutional LP Fund	Partner	BSBA, MBA, CFA	6	6	Financial analysis	\$2-\$20 M	500-1000 CIMs on 10% 3 Closed
9	Institutional LP Fund	Senior Vice President	MBA	8	10	Equity research at investment bank and consulting	\$1.5 - \$10M	500-600 deals CIMs on 15-20% 3-5 close
10	Institutional LP Fund	Vice President	BA, MBA	7	7	Corporate finance experience	\$2-\$20 M	400 CIMs on 15-20% 2 Closed

11	Institutional LP Fund	Vice President	BS Business, MBA	6	6	Corporate development positions	\$7-\$25 M	780 deals CIMs on 50% 2 Closed
12	Institutional LP Fund	Director – Business Development	B.S.	4	4	Business development and boutique investment banking	\$4 M +	1000 deals 2 Closed
13	Fundless Sponsor	Partner – Co-Founder	B.S. Mechanical Engineering, MBA, CFA	7	15	Operations experience in manufacturing and engineering	\$2 - \$10 M	75- 100 CIMs on 30% 1 Closed
14	Fundless Sponsor	Partner	BA, MBA	10	11	Equity analysis and consulting	\$1-\$7 M	3000 deals CIMs on 10% 4 Closed
15	Fundless Sponsor	Partner	CPA, Master of Accountancy, MBA	6	6	Public accounting and corporate M&A experience	\$5-\$15 M	50-100 reviewed CIMs on 10% 1 Closed
16	Fundless Sponsor	Principal	BS Business Admin, MBA	1.	2	Investment banking	\$2 - \$20 M	200 1 closed
17	Bank PE Funded Group	Director – Business Development	BA, MBA	8	8	Investment banking, venture capital and commercial banking	\$3 - \$10M	1000 deals 2 Closed
18	Business Development Company	Chairman & Chief Executive Officer Founder	CPA, JD	16	16	Extensive public accounting experience	\$4-\$8 M	1000 deals 10 + Closed
19	SBIC	Director – Co-Founder	BSE Electric Engineering MBA	10	10	10 years as president of business	\$1 - \$3 M	400 4 closed
20	Sovereign Wealth Fund	Senior Vice President	BA, MBA	6	5	Investment banking	\$4- \$12 M	500 250 CIMs 2-3 Closed
				Median 7.5 years Mean 10.2 years	Median 10 Years Mean 12.3 years		\$1 -\$20 M	Average of 700 deals reviewed 2.5 closed



### APPENDIX E: RESULTS OF TEASER REVIEWS

<i>Teaser</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>Order</i>
1 Institutional LP Fund	Yes Owned similar business	No Medicare reimbursement	No Industry	Yes Financial opportunity	A-D
2 Institutional LP Fund	No Existing PEG ownership	No Too small	No Shareholders want to exit	No Too small	
3 Institutional LP Fund	No Location	No Location	No Industry	No Financial	
4 Institutional LP Fund	No Industry	No Too small	No Industry	No Too small	
5 Institutional LP Fund	No PEG ownership	No Industry - healthcare	No Financials – margins too thin	Yes Financials	D
6 Institutional LP Fund	No PEG ownership	No Industry - healthcare	No Industry	Yes Financial opportunity	D
7 Institutional LP Fund	Yes Financial opportunity	No Industry- Healthcare	No Industry	Yes Industry	A-D
8 Institutional LP Fund	No PEG ownership	No Too small	No Industry	Yes Industry	D
9 Institutional LP Fund	No Financials- lost money	Yes Industry-sees opportunity	Yes Industry	No Financials	C-B
10 Institutional LP Fund	Yes Industry	No Medicare reimbursement	No Industry	Yes Industry	A-D
11 Institutional LP Fund	No Too small	No Medicare reimbursement	No Industry	No Industry	
12 Institutional LP Fund	Yes Financial	No Medicare reimbursement	Yes Financial	No Too small	A-C
13 Fundless Sponsor	No PEG ownership	No Medicare reimbursement	No Industry	No Too small	
14 Fundless Sponsor	No PEG ownership	Yes Industry	Yes Industry	No Industry	B-C
15 Fundless Sponsor	Yes Industry	No Healthcare	No Industry	No Industry	A

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16	Fundless Sponsor	No Offshore operation	No Healthcare	Yes Owners not involved in the business	Yes Industry	D-C
17	Bank PE Funded Group	No Offshore operations	No Too small	No Too small	No Financial	
18	Business Development Company	Yes Industry	No Medicare reimbursement	Yes Industry	Yes Industry	D-A-C
19	SBIC	No PEG ownership	No Medicare reimbursement	No Location	Yes Industry	D
20	Sovereign Wealth Fund	Yes Industry	No Too small	No Industry	No Too small	A

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## VITA

David B. Sinyard is a thirty year finance executive. Born in New York, he lived in Canada until 1984. He holds a B.A. (Hons.) in Political Science and joint LL.B. / M.B.A. degrees from McGill University, Montreal, P.Q., Canada. While at McGill he was the Captain of the McGill Rugby Team, was a member of the Scarlett Key Society, was awarded the James McGill Award, was the Managing Editor McGill Law Journal, and received the Graduate Society Award for Student Leadership. He has recently completed an EDB at Georgia State University, Atlanta, Georgia.

During his career he has held a number of executive finance and operations positions. Early in his career David was involved in commercial mortgage production winning the President's Club Award as nation's largest financial producer. While at a major hotel company he facilitated the domestic and international expansion of a chain of six internationally recognized brands. He was responsible for determining and managing risk involving domestic and international growth. He was instrumental in the consolidation of twelve mechanical contractors acquired over a three year period. He later partnered in the successful leveraged buy-out and turn-around of a business that was later merged with a Fortune 25 company.

He has been a Managing Director and Principal in a middle market investment bank for the past 10 years where he maintains a number of securities licenses and holds real estate brokerage licenses in Georgia and Florida. David has also been an adjunct instructor at the University of North Georgia for the past two years where he teaches Principles of Finance.

His research interests include behavioral finance, entrepreneurship and family business. He co-authored a paper entitled "*All in the family: avoiding succession planning may mean the end of the family-owned firm*" which was presented at the 2012 Family Enterprise Research Conference Doctoral Consortium held at Concordia University, Montreal, P.Q., Canada.

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