

Back to the Future: Adaptation and Precognition in Venture Capital

Rodney R. D'Souza
Northern Kentucky University

John E. Clarkin
Northern Kentucky University

The Venture Capital industry absolutely depends on entrepreneurs and entrepreneurial activity in the world, yet it is the least entrepreneurial industry that exists. (First Round Capital, 2011)ⁱ

Adaptability and effective strategy are cornerstones of most successful entrepreneurial ventures. Arguably, organizations in the venture capital (VC) sector that provide access to capital and strategic advice to entrepreneurs should be among the most proficient at adaptability and implementing strategic change. At the forefront of new venture creation, VC firms (VCF) advise entrepreneurs who must quickly and effectively adapt as new industries emerge and once promising ones fall out of favor. It begs the question: do VCFs practice what they preach?

On the surface, it appears that some VCFs are better at adapting their strategies than others. The overall performance of the sector reveals that the stellar returns once produced by most VCFs are now confined to a select few. Little is known, however, about what differentiates successful VCFs from others. Further, how strategic processes are implemented among VCFs, and how the overall industry adapts to change is largely unexplored.

To explore VCF strategies, we focused on two vital determinants of success: adaptation to changing conditions; and an ability to predict future trends. We conducted semi-structured interviews with ten VCFs, examining their investment strategies and their views of the future. Specifically, we examined the stage of companies in which they invest, their industry focus, and other factors that affect their fund performance. Using industry data from the 2012 National Venture Capital Association (NVCA) Yearbook, we compared interview results with findings published by the NVCA. We found that the firms in our sample were undertaking different approaches with potentially far-reaching effects on the entrepreneurial landscape.

INTRODUCTION

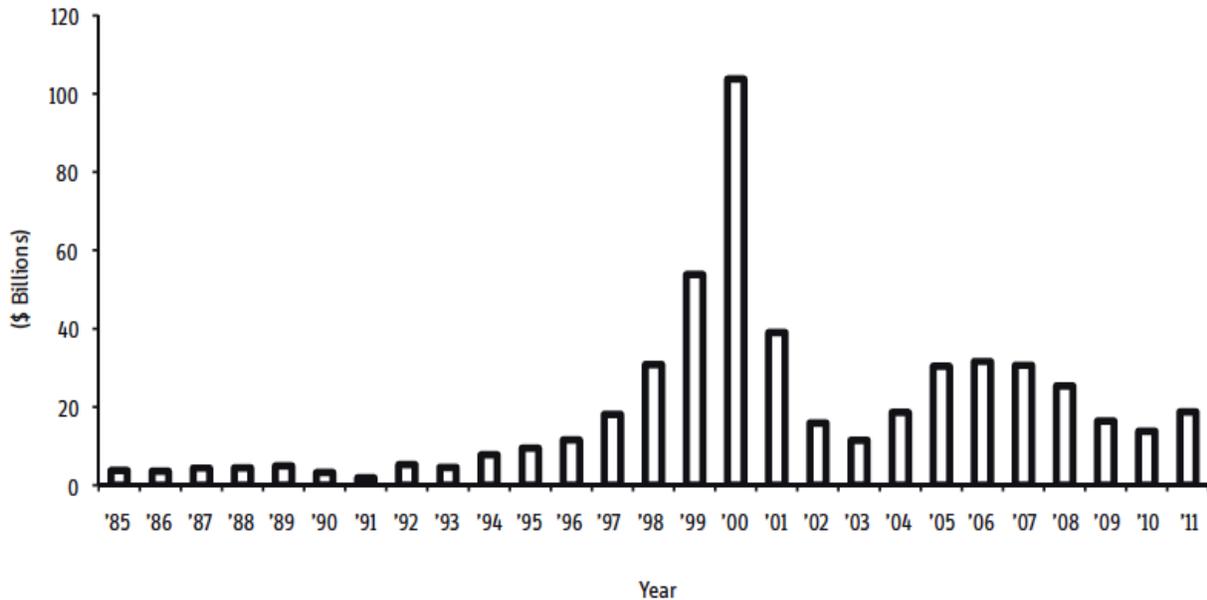
The role of venture capital firms (VCFs) in shaping the entrepreneurial landscape is widely known (e.g. Gorman & Sahlman, 1989, Timmons & Bygrave, 1986) and well documented (e.g., Sapienza, 1992, Chou, 2008). The industry's beginnings in 1946 can be traced to a small group of investors led by MIT President Karl Compton and General Georges F. Doriot, who started the American Research and Development (ARD) (Gompers & Lerner, 2001). ARD made high-risk investments in emerging companies using technology developed for World War II.

The first VCFs were set up as closed ended funds.ⁱⁱ The risks associated with this type of investment meant that investment was primarily restricted to individual investors (Gompers & Lerner, 2001; Liles, 1977). In response to increasing demands for venture funding, the industry evolved and the first venture capital limited partnership of Draper, Gaither, and Anderson was formed in 1958. Unlike earlier closed ended funds, these partnerships had predetermined finite lifetimes (usually ten years), providing additional liquidity and exit certainty for investors. Under this structure, a VCF's management team (general partners) could raise capital from investors, who then became limited partners. Fees were charged by general partners, typically based on a percentage of the fund, which provided compensation for finding appropriate deals and fund management. Successful investments usually exited through private sale, acquisition, or public offering. At the end of the fund's life, general partners (GP) were required to return all assets remaining in the fund to the limited partners. In addition to the returned capital, limited partners (LP) also got a percentage of the profits, called *carried interest* from successful investments, typically split on an 80 percent (LP) to 20 percent (GP) basis (Metrick & Yasuda, 2009).

Following the *prudent man* rule enacted by the U.S. Department of Labor in 1979, investments in venture funds were expanded to include pension funds and other institutional investors. Subsequently, the number of institutional investors quickly rose from 15% to more than 50% (Gompers & Lerner, 2001). The broader source and additional capital led to an increase in investment in new ventures by VCFs. The stellar returns produced by many VCFs in the early to mid-1990s fueled continued growth through the Internet boom, where investments increased from \$11 billion in 1996 to \$104 billion in 2000 (Metrick & Yasuda, 2009).

The years of VC industry growth were followed by substantial contraction, where investments declined between \$20 and \$30 billion per year, reaching only \$12.3 billion in 2010. The National Venture Capital Association (NVCA) Annual Yearbook provided evidence of the dramatic changes in the VC industry. The industry’s activity level in 2011, as measured by the number of firms and the amount invested, was roughly half that of its peak in 2000 (NVCA & Reuters, 2012a). Rapid changes in the economy, in the availability of capital from investors, and in the dynamic business climate faced by firms in which VCFs invest are among the factors contributing to suggest that VC firms must adapt and make strategic changes in order to survive or succeed in this industry. An example of the dramatic changes in the VC industry is evidenced in the variations in capital commitments to VC funds, as depicted in Figure 1 below.

Figure 1: Capital commitments made to VC funds, 1985-2011



Source: National Venture Capital Association (NVCA) Yearbook (2012)

Figure 1 illustrates that capital commitments made to US venture firms varied widely since 1985. In times of rapid capital growth (from 1996 to 2000), VCFs must find an increasing number of ventures in which to invest, while a rapid decline in capital (from 2000 to 2003) means that entrepreneurs will face a highly constrained landscape for financing their ventures. Wide variations in capital commitments mean that VCFs face challenges on both the investor and investment aspects of their business.

One way to view the challenges faced by VCFs is to consider that in order to be successful, they must effectively manage and compete on both the supply (investor) and the demand (entrepreneur) sides of their business. The supply side of a VCF involves managing the fundraising activities of the firm, competing with other VCFs and alternative investments for capital from individual and institutional

investors. The demand side of a VCF is characterized by the demand for capital by entrepreneurs, often called *dealflow*. In addition to managing applications from entrepreneurs seeking capital investments, VCFs must also manage the ongoing capital needs of their current portfolio of companies. Although investor- and entrepreneur-related activities differ, they are inextricably linked to one another within each VCF, and an ability to effectively adapt to changes in both supply and demand will likely differentiate successful firms from others.

VCF SUPPLY SIDE

For VCFs, the supply side is often regulated by capital availability, which is largely determined by the willingness and ability of institutional and individual investors to provide funds. Investors view VC investments as an investment in an asset class, with the attractiveness determined by a collection of unique preference and aversion factors. Investors compare VC investments with available alternatives that are then translated into a relative cost, which is then compared with the potential returns for bearing these costs. The expected returns, net of its associated costs, often determines whether or not an investor would be willing to invest in a given asset class, and the amount investors are willing to be put at risk.

The attractiveness of VC investments to individual and institutional investors is largely dependent on their expected rate of return, and is compared to that from alternative investments in other asset classes. Factors such as capital gains tax, higher GDP growth, the supply of substitute funding, a VCF's reputation and track record, stage of funding, and the LPs loyalty to a particular geographic area have all been found to influence investment or re-investment in VC firms (Gompers & Lerner, 2004; Gompers, Lerner, Blair, & Hellmann, 1998; Grinblatt, Titman, & Wermers, 1995). Some factors are systemic in nature, and are explained by models such as the Capital Asset Pricing Model (CAPM) (Sharpe, 1964). Other factors, such as reputation, stage of funding, geographic area etc., are non-systemic, and are largely unexplained by available formulas. These *non-risk* factors have been shown to be more important to investors than the risk characteristics of an asset (Ibbotson, Diermeier, & Siegel, 1984). Despite the important role of economic factors and various government regulations, Jeng and Wells found that Initial Public Offerings (IPO) were the strongest driver of total VC investments in their 21 country sample (2000). When viewed as an asset class, most investors in private equity and venture funds have historically realized substantial returns, outperforming alternative equity investments as measured by the S&P 500 index (Kaplan & Schoar, 2005).

VCF DEMAND SIDE

The importance of the VC industry to the entrepreneurial landscape is widely accepted among academics and practitioners, producing quantifiable measures of impact in the US economy. Groh and von Liechtenstein (2011) noted that capital provided by a vibrant VC sector is a "cornerstone for commercialization and innovation in modern economies" (p. 533). Since the industry's inception, VCFs have provided investment capital for young, high-growth potential companies, has played a vital role in the startup and growth of a number of successful companies, and has served as a catalyst for innovation and job creation (Sohl, 2003; Timmons & Bygrave, 1986). Familiar names like Google, Hotmail, Paypal, Yahoo, Microsoft, Apple computers, and Starbucks are some of the more notable companies that achieved success through VC investments. An NVCA report quantified the impact on the US economy made by of VC-backed companies, revealing that VC-backed firms had revenues equal to 21 percent of US GDP, and were responsible for nearly 11 percent of all private sector jobs (NVCA & Reuters, 2012b) Considering that total investments in VC funds during the same period were less than 0.2 percent of US GDP, the overall impact of and return on investment provided by the industry on the US economy is both substantial and noteworthy.

The demand side of VCFs is also affected by activities in the informal venture capital or *angel capital* markets. Individuals or angel investor groups often provide equity capital to earlier stage entrepreneurial ventures, enabling some young firms to grow sufficiently with smaller equity capital infusions than typically provided by VCFs. Total investments by angel investors in the US totaled more than \$22.9 billion in 2012 (CVR, 2013) with a median investment round size in 2011 in excess of \$700K (Bank & Institute, 2012). Total angel investment activity and the size of funding rounds provide important indicators of investor sentiment and the overall venture investment climate. Equally important is the stage at which investments are made by both VCFs and angels. As VCFs seek to provide higher returns for investors, they may be willing to invest in earlier-stage but potentially higher risk ventures. Earlier-stage ventures may require smaller capital investments but can be problematic for VCFs with large investment funds, as their ability to properly manage their investments may be limited by the size of the firm's staff.

In addition to the financial management activities associated with existing and prospective ventures, VCFs also have technical advisory responsibilities that often require high levels of industry-specific expertise. The industries targeted for investment by VCFs are diverse and dynamic, with some quickly emerging and others rapidly falling out of favor. For example, in 2007 more than 31 percent of total VC investment capital was directed toward firms in the life sciences industry, while investment in software companies represented 18 percent of the total \$30 billion invested by VCFs (Association, 2008). Just five years later, 31 percent of the total VC funds invested were committed to software companies (Association, 2013). A decision to change industry focus would have potentially far-reaching implications in staffing, marketing, and management of a VCF, requiring the firm to have these skills *a priori* to assure the best chance to be successful (Feeser & Willard, 1990).

VENTURE CAPITAL FIRM (VCF) STRATEGY

According to Markides (1999), "Strategy underpins the success of the company", a view that is likely as applicable to VCFs as it is to the companies in which they invest (p. 6). In a study of strategic decision making, Eisenhardt (1999) argued that to create a flow of evolving competitive advantage in rapidly changing environments, excellent firms develop dynamic capabilities in their decision processes. When we considered the investment and entrepreneurial environments in which VCFs operate and the competition among firms in their industry, an exploration of the decision-making performance processes of VCFs appeared needed. As a gatekeeper in the funding process of new ventures, VCFs are generally believed to be adept at predicting new venture performance (Shepherd, Ettenson, & Crouch, 2000), but how decisions are made within VCFs is not well understood.

We considered the importance of the venture industry, the dynamics of the companies and industries in which firms invest, and the challenges faced by VCFs in raising, allocating and managing capital, and developed the following central question to guide this research: *How do VCFs effectively adapt and change their strategies?*

To gather information relevant to our central question, we focused on the following five factors as a framework to formulate our research questions. These factors serve as indicators of strategic adaptation of VCFs:

1. Changes in the stage of companies in which invested are being made.
2. Changes in the industries in which investments are made.
3. Changes in the size of the funds being raised.
4. Other indicators of changes in strategy as it pertains to raising and investing capital.
5. Changes in strategy based on their perceived investment climate and industry trend outlooks.

CURRENT STATE OF THE VC INDUSTRY

Since its inception, the VC industry has played a pivotal role in the entrepreneurial ecosystem, as described in the previous sections. Despite its well-established history of success in funding some of America's fastest growing companies, firms in the VC industry face a number of challenges. In a report published by the Ewing Marion Kauffman Foundation, Kedrosky (2009) stated, "The US venture capital industry is at an inflection point." (p. 1), citing a need to offer investors competitive returns on investment if the industry is to remain a viable source of capital for entrepreneurs. He concluded that in order to do so, the industry "must shrink considerably" in response to a decline in investing expected to be only half that of the past (Kedrosky, 2009b, p. 8)ⁱⁱⁱ Those working in the VC industry also expressed concerns about their future. A poll by Polachi Inc. of more than 100 venture capital executives (70% of which were partners or managing partners) found that 53% believed that the industry was broken.^{iv} Although there is agreement among academics and practitioners that the industry will continue to be a catalyst for growth in the capital-intensive and risky sectors, there is no consensus on just how or if the VC industry will adapt to many of the challenges it now faces.

To better understand how VCFs adapt, we explored four distinct yet interrelated challenges currently facing the industry. The first challenge focuses on a firm's ability to raise investment capital. Although annual VC investment in dollars grew by 23 percent in 2011, this growth was based on a 2010 level that was 37 percent lower than the previous year (NVCA & Reuters, 2012c). An ability to raise investment capital is largely influenced by the relative attractiveness of VC investments compared to other asset classes, as measured by their financial returns and the perceived risk associated with the investment. Table 1 presents a 10-year overview of annualized returns by VC investments compared to returns produced from investments in other asset classes.

Table 1: *Venture Capital Performance Comparison*

Asset Class	1-Year		5-Year		10-Year	
	Total	Annualized	Total	Annualized	Total	Annualized
NASDAQ	-41%	-41.0%	-21%	-4.7%	-28%	-3.2%
S&P 500	-38%	-38.0%	-19%	-4.1%	-27%	-3.0%
Russell 2000	-35%	-35.0%	-10%	-2.2%	18%	1.7%
Venture Capital		-21.0%		6.2%		16.0%

Source: National Venture Capital Association/ Thomson Reuters (2012)

Although the 10-year total returns from VC investments depicted in Table 1 were an impressive sixteen percent, when the record number of venture-backed IPOs in 1999 is removed, the overall return for the 10-year period is negative. A number of contributing factors potentially explain this relatively poor performance. There was a dramatic shrinking of the IPO and M&A activity, largely the result of an economic downturn. Concurrently, a maturing of the IT and other technology sectors, largely responsible for the attractive returns prior to 1999, no longer delivered the stellar returns of the past (Kedrosky, 2009a). Further pressuring the comparative attractiveness of VC investments was a fundamental change in the IPO market, substantially reducing the liquidity of the asset class. IPO activity that grew dramatically through the 1990s dropped precipitously in 2001, partly in response to the *dot com* bubble. In contrast to the robust appetite for IPOs of 1990s, there were few strong IPO exits (NVCA & Reuters, 2011) and only 12 venture-backed companies went public in 2009 and 21 in 2010.^v In order to attract investors, VC firms had to find ways to enhance returns on investment.

One way to increase returns for investors in this asset class is to seek out earlier stage companies for VC investment. Although early-stage firms represent higher potential returns, they are also likely to expose investors to greater risk than firms in later stages of development. If VCFs are actively adapting their strategy to increase returns to investors, they may invest in earlier stage companies. This leads us to the first research question:

Question 1: Are VC firms changing their strategy to invest in earlier stage companies in order to increase returns for investors?

Consistent with the life cycle of products and industries, returns from investment in products or industries decline as maturity is reached. As new technological opportunities emerge, it is reasonable to assume that VCFs will adapt their investment strategy to focus more on emerging sectors and less on maturing ones. Changes in sector focus are evident in VC industry over time when it is examined in aggregate. The shift away from the once emerging telecommunications sector, which represented 11 percent of the total VC investments in 2007 yet accounted for only 2 percent of total investments in 2011, is an example of the shift in industry focus (Thomson Reuters, 2013).

Although changing focus away from maturing and toward emerging sectors sounds rational in theory, in practice it represents a potentially difficult adaptation for VCFs. Many VCFs are built with industry-specific talent, networks, and expertise (Berglund, 2011) and their knowledge of customers and suppliers within specific industries (Sapienza, 1992) is not likely to transfer readily into another industry. A change in industry focus may also create issues with the ability of VCFs to effectively manage and provide technical assistance to companies in their existing portfolios. In his editorial, Mason (2009) addressed the complex decisions faced by VCFs that considered a change in sector focus and asked, "How do VCs evaluate their existing commitments?" (p. 284). The number of possible strategies and potential options suggested that we could not develop a comprehensive *a priori* approach to this question. As such, this leads us to the following research questions:

Question 2: How are VC firms changing the sectors in which they invest?

Question 3: What other steps are being taken to adapt to changes in the VC industry?

METHODODOLOGY

As previously stated, the purpose of this study was to gain insights into the strategies of firms in the VC industry, exploring their strategic decisions, behavior, processes and their ability to adapt in a dynamic and competitive environment. As such, our research design required an empirical approach in which observations were gathered from a purposive sample of willing participants. Specifically, our design adopted a content analysis tactic of formulating research questions and sample selection (Hsieh & Shannon, 2005) using a design to gain an *emic* or "insider's perspective," consistent with organizational research methods that emerged from anthropology (Morey & Luthans, 1984). Although a questionnaire would have been far more convenient, our goal was not to establish generalizations or precise measurements, but rather to discover unexpected elements of thought undertaken in developing VCF strategy, and compare those insights to overall industry trends.

To implement our research design, we chose an ethnographic approach using semi-structured interviews, an approach that satisfies three requirements of human subject research: 1) need for an empirical approach; 2) need to remain open to elements that cannot be codified *a priori*; and 3) connecting the data against the backdrop in which the study takes place (Baszanger & Dodier, 1997). Factors affecting strategy and organizational behavior are complex, dynamic and inter-related, and our

goal was to capture this rich data in real time to minimize retrospective bias. Our method also provided an opportunity to gain insight and solicit perceptions through open-ended questions, which may have potential use in future theory building. Berglund (2011) noted in his comparison of Scandinavian- and US-based VCs that geographic and institutional differences were often overlooked in the quantitative studies typically conducted in venture capital. He highlighted the roles of coaches and investors often undertaken by some VCs, with some actually assuming the role of partner in one or more of their portfolio companies, noting that "...quantitative studies can only speculate about the underlying reasons..." (p. 120). Our approach to this study hoped to tease out some of these underlying reasons.

In the study by Berglund (2011) noted previously, he found that semi-structured interviews revealed insights and improved his understanding of VC behavior beyond that possible in a quantitative study. Based on our preliminary interviews, we added new categories and subcategories for the statements that did not fit our initial framework, and explored themes as well as concepts common to these two interviews. This process of discussion, reflection, and scrutiny of the interview instrument, notes, and coding scheme helped to refine our coding scheme.

In order to better connect the data collected from interviews with the backdrop of the overall VC industry, we followed Hartley's (2004) assertion that since the context is a deliberate part of the research design, we could use secondary data on the industry in this study. Johnson & Onwuegbuzie (2004) argued that the methodological pluralism of mixed methods frequently results in superior research when compared to that of a single method approach. Since our goal in this study was to collect data and analyze themes, behaviors, and patterns as well as obtain a basis for industry comparison, our use of both case studies and secondary data was consistent with Creswell's (2003) approach to research design.

Although there is no strict criterion in a qualitative study, and no statistical test to check for significance, previous research (Eisner, 1991, p.39; Morse, 1994; Patton, 1990) suggested that a sample size of six is sufficient when a study is centered on discerning the essence of experiences. To more closely examine the strategies of VCFs, we conducted semi-structured interviews in the summer of 2010 with ten VCF representatives, each of whom were general partners in their firms. In aggregate, interviewees more than 108 years of combined experience in the VC industry. Discussions with two practicing attorneys in the VC industry were held prior to the interviews, which provided both insights into the selected firms and introductions to the general partners. On average, the interviews lasted 45 minutes each, consistent with the subject matter and context of the study (Patton, 1990). Two researchers conducted the interviews, one serving as the primary interviewer and the other focused on detailed note taking, although each took notes during the interviews. These notes were later checked for consistency and merged after the interviews concluded.

DATA COLLECTION

Interviews were conducted over several months, and were structured around a set of root questions for each interviewee, specifically directed toward their experience and perspective as it pertained to our research questions. Each root question was followed by a number of probing questions to flesh out additional insights and perspectives from the interviewees. Each interview question had its underpinnings in the literature. The matrix provided in Table 2 summarizes the literature used to develop the interview questions. We also used the insights gained through our discussions with the attorneys, whose role was to facilitate transactions between investors (both individual and institutional) and VCFs. Their information was not, however, included data collection and analysis, nor were they included in the interview sample.

Table 2: *Literature Employed in Interview Question Development*

<i>Literature Reference</i>	<i>Interview Question</i>		
	<u>1</u>	<u>2</u>	<u>3</u>
(Gompers & Lerner, 2004)	✓	✓	
(Goetzmann & Ibbotson, 2006)	✓		
(Sirri & Tufano, 1998)		✓	
(Doyle, Parker, & Fairchild, 2010)		✓	
(Kedrosky, 2009a)	✓		✓
(Mason, 2009b)			✓

We chose a purposive sampling approach, choosing willing participants from the pool of VCFs to provide a broad representation of firm size, desired investment stage, and industry focus. Interviews were conducted with VCFs across the US, in an attempt to reduce regional differences and enhance the future generalizability of the study's findings (Merriam, 1998, p.207), and are summarized in Table 3 below.

Table 3: *Venture Capital Firms Interviewed*

<i>Firm</i>	<i>Stage</i>	<i>Industry</i>
VCF 1	Seed to Growth	IT and Other
VCF 2	Seed	Life Science
VCF 3	Seed	IT & Life Science
VCF 4	Growth	Manufacturing, Software
VCF 5	Seed and Growth	Water Technology
VCF 6	Seed	IT
VCF 7	Growth and Seed	Internet Businesses
VCF 8	Growth	IT and Healthcare
VCF 9	Seed to Growth	IT and Healthcare
VCF 10	Seed	IT

Since this portion of the study is qualitative in nature, we also considered the issue of reflexivity, and proactively attempted to eliminate biases by being conscious of our interactions with participants, keeping in mind our role as researchers in the study (Rossman & Rallis, 2003, p.51). Consistent with this concern, we made every effort to remain unbiased in collecting the data and reporting the findings. Data were analyzed using a qualitative descriptive approach (Sandelowski, 2000). All interviewees providing information for this study were General Partners (GPs) of the firm. We contacted lawyers and other representatives within some firms to assist us with introductions to the firm's GPs and to provide us with other demographic data.

To provide the backdrop for insights gained through our interviews, we examined overall industry adaptation and changes on a national level. To do this, we chose the 2011 and 2012 National Venture Capital Association (NVCA) Annual Yearbooks. The NVCA collects and analyzes data and publishes research on venture capital and private equity investments with three research partners: Thomson Reuters; Pricewaterhouse Coopers, and Cambridge Associates.^{vi} The NVCA Yearbook summarizes venture capital activity in the US, including investments in current portfolio companies; capital managed by general partners, fundraising from limited partners, valuations and exits through IPO or M&A activity (Thomson, 2013). Tracking activity since 1985, the NVCA Yearbook provides a broad and longitudinal perspective of VC activity in US and quantifiable data gathered from its base of more than 400 members.

RESULTS

RESEARCH QUESTION 1

Research Question 1 addressed the supply side of a VCF's activities, focusing on the strategy used by VCFs to attract investment capital. In order to attract sufficient capital, VCFs may attempt to boost returns on investment for existing investors in order to entice additional investors. One way to boost returns is to make investments in earlier stage companies. Although these investments may include higher levels of risk, the higher potential returns of earlier stage investments are one way to attract investors. Specifically, we asked:

Is your firm changing its strategy to invest in earlier stage companies in order to increase returns for investors?

All VCs interviewed recognized the dearth of early stage investment capital, and that investment in early stage companies is important. Industry trends have indicated that VCs have gradually moved away from early stage investments, in large part because they were viewed as more risky by limited partners (LPs), and it was easier to syndicate investment activities at later stages (Lerner, 1994). VCFs typically raised large investment funds to meet the needs of the larger investments required by companies in their later stages of growth. In order to effectively manage investments in earlier stage companies, we would expect VCFs to raise smaller funds, reflecting the smaller investments required by earlier stage companies. One VC described this strategy in the following way:

"There is a new segment emerging in the venture market. Angels are institutionalizing while VCs are raising micro funds to fill a market need. This smaller type of fund is easier to manage and what entrepreneurs are looking for."

Another VC clarified the need for early stage investment capital and some of the risks and rewards associated with investments in early stage companies, stating:

"Part of the rational for investors investing in seed and early stage companies is that the companies can do something to become more valuable and then when they raise a subsequent round of funding, the early investors get a step up in valuation. And that is basically their reward for having taken that earlier risk. But we observed between 2001-2006, 2007 there really wasn't a big step up in value incurring between early and expansion stage deals. The early stage investors weren't being compensated for the risk they were taking at early stage investors... what we observed that a series B usually at expansion stage round was being done at approximately the same valuation as a series A round. Which meant you were taking less risk for basically the same valuation, so there wasn't a lot of reason to stay in the early stage. Now, I think from 2007 till now, it's been very hard to borrow money. There has been relatively less capital for relatively younger companies, and you know, it's a cyclical process so I think it's inevitable, that money will migrate toward some early stage deals. When we raise our next fund, which will presumably be a larger fund, then we will be able to do a combination of early and expansion stage funding."

Another perspective on a change in strategy toward smaller funds was provided by another VC, who noted the reduced demand for large sums of capital by early stage firms:

“Thanks to enhancements in infrastructure and changes in technology, most IT firms are now using open source systems. Instead of traditional marketing, they are making use of social networks to get their word out. This means that they are doing a lot more with a lot less, and don’t really need much in term of funds. If we want to get to these potentially high growth companies early enough, we have to start investing earlier and with smaller amounts.”

In addition to the potential for increased returns, a change in strategy to investments in early stage companies with smaller funds has potential benefits for VCFs. Smaller funds are also easier to manage, and smaller investments make it easier to raise subsequent rounds of capital as the company grows. Summarizing the views expressed by many participants in our sample, one VC opined:

“We don't have to take big risks early on in a company's life. It is a lot easier to write checks like a quarter to half a million and let those companies develop into winners. If and when that happens, we can write the three or five million checks.”

RESEARCH QUESTION 2

Research Question 2 focused on the capital demand side strategies of VCFs, examining the industry and type of business conducted by the companies in which VCFs invest. In addition to capital, many VCFs provide valuable industry and business knowledge to entrepreneurs, which may include how to effectively grow companies, how to build a distribution network, how to attract a top management team, and insights into the existing and potential market. VCFs help entrepreneurs to better understand the life cycle of products and companies, how to successfully get acquired, or how to go through the initial public offering process (Cumming, Fleming, & Suchard, 2005; Sapienza, 1992) and other exit strategies. Since much of this knowledge is industry-specific and many VC firms have very specific industry expertise, invest only in businesses engaged in these specific industries. It follows that changes in this aspect of VCF strategy may take considerable time and effort, or could require major changes in personnel. Specifically, we asked:

Is your firm changing the type of company and industry in which the firm invests?

When asked about a change in industry focus, one VC conveyed a lesson learned from the recent past:

“Yes, and we regretted it. If you look at our portfolio, 95% of the companies are covered by the healthcare umbrella. The outlier has been areas where we struggled... We will not do that again.”

Another VC highlighted the challenges associated with changes in industry focus, stating:

“Our focus has been on technology, healthcare, and software companies, but we invested in a restaurant in the past. Even though [we] didn't have any experience in that industry, we invested. I don't see that happening again.”

One explanation for changes in industry focus is that some VCFs may seek to diversify their portfolio to mitigate risk, an approach consistent with portfolio theory (Markowitz, 1991). Chou presented two categories for this strategy: VCFs can make a number of investments in industries where they have expertise and be actively involved with those investments, adopting what has been called the *batting average model*, or make investments in industries where they have little or no expertise, letting others worry about the development of those firms, known as the *spray and pray model* (Chou, 2008). VCFs that adopt Chou's *spray and pray model* are more focused on providing capital than the

coaching and mentoring aspect of equity investments, which may be inconsistent with the needs of earlier stage companies. This perspective was borne out by one VC, who stated:

“In the previous fund, we had a few investments here and there where we didn’t have that much expertise, and in a way the whole fund was built around folks who had moderate levels of expertise in the area that they were targeting...[Now we don’t invest in firms where our] experience is more than one degree removed. My partners and I do come from LinkedIn, about.com and eBay; so I would consider that like our core, those kinds of businesses. I would consider SAP one layer removed – Understandable but not exactly what we did.”

The insights related to industry focus gained through our interviews are consistent with empirical studies that revealed decreases in efficiency, valuation, and performance of companies that have adopted diversified strategies. For example, Berger and Ofek (1995) examined the market valuation of focused, single segment firms as compared to diversified firms and found that diversified firms sell at a discount to comparable single segment firms. Further, Berger and Ofek (1999) found that the performance of diversified firms improved after they divest unrelated divisions and focus.

RESEARCH QUESTION 3

Our final question focused on other steps VCs were taking to adapt to changes in their industry environment. When compared to alternative asset classes, the VC asset class is somewhat unique, in that VCs are engaged in an information flow with investors and companies to an extent not found in other asset classes. Because of their advisory relationship with the companies in they invest, VCs have timely and unique access to information from both investors and companies, and are positioned to both control for and selectively provide information on non-risk investment factors to potential investors. Despite their information advantage, returns provided to investors in VC funds have been underperforming in recent years. Specifically, we were curious about how VCFs could increase the appeal of the asset class to potential investors at a time where the returns have not been enticing.

All VCs we interviewed agreed that persuading institutions and individuals to invest is probably their toughest job. Consistent with the work of Goetzmann and Ibbotson (2006) and Ibbotson, Diermeier, and Siegel (1984) the VCs in our sample confirmed that investors base their investment decisions on both *risk* and *non-risk* characteristics of the investment. Although investors evaluate risk characteristics, such as fund track record, deal flow, and access to transactions when deciding on a VC fund, they also consider non-risk characteristics, such as team member reputation, match of team strategy with investment strategy, and market experience.

VCs in our sample provided the following examples of changes they are making in their strategy to address some of the non-risk factors to more effectively attract investors:

According to one VC:

“To raise money in the current environment, you have to be able to make the case that you are somehow different from the stereotypical venture fund. Because the stereotypical venture fund has not been particularly successful over the last decade. There are funds that have made money but you look across the whole asset class you can’t say that the rising tide has raised all ships. So you have to be able to differentiate... If you have a skillful fund manager who is well connected and networked in the region, and can get access to good deal flow, ...and can make smart decisions because of the inefficiencies in the market, it should be possible to make money. That’s part of the message that has to be told.”

Similarly, another VC stated:

“Part of it is that the model is very different. Just by virtue of our fund size, we can tell the story that a lot of the dilution of returns came from the fact that early stage investors had gotten really big, and had gone out of their core stage of investing by doing later stage deals and so forth which they could not handle. The second is the fact that we have a different investing model, so our follow on strategy is different, and our seed stage focus is unique and we have some early evidence from the west coast that the model is working out there, and there is an undersupply of this type of investors here in the east coast.”

Another VC stated:

“My guess is that as it relates to the specific investment process, the individual LP’s will remain detached. My guess is that in the negotiation of terms about the fund itself, sort of things like fund life, management fees, sort of all the terms that have been set in stone for almost 15 years now since the internet bubble, those terms will probably become more fluid in the next generation of VC funds in the next decade or so.”

BACKDROP TO THE STUDY

Overall industry adaptation and strategic changes were an integral part of this study, providing the backdrop with which the interviews could be connected. As described earlier, the NVCA Yearbook and other secondary data sources provided detailed, quantitative metrics for this part of the study.

At the time of our interviews, VCFs faced what was characterized as constrained capital markets (Reuters, 2011), affecting their supply-side strategies. Attempts by some VC firms to increase returns by investing in earlier stage companies was documented in the NVCA Survey conducted in December 2010, which revealed that 49 percent of VC respondents indicated that they would increase their investment dollars in seed-stage companies in the upcoming year (NVCA & VentureSource, 2010). The implementation of these intentions representing a major shift in investment strategy by VCFs was clearly evident in the NVCA analysis of 2011 VC investments by company stage, presented in Table 4 below. Investments in early-stage companies, relatively constant from 2006 through 2010, saw an increase of more than 47 percent in 2011, accounting for more than 29 percent of the overall \$28.68 billion invested by VC firms (NVCA, 2012).

Table 4: Five-Year VC Investments by Stage (\$ Millions)

Stage	2006	2007	2008	2009	2010	2011
Seed	1,253.7	1,755.0	1,788.5	1,806.6	1,758.6	930.9
Early Stage	4,489.6	5,873.4	5,446.5	4,840.2	5,679.3	8,369.8
Expansion	11,047.5	11,312.6	12,223.3	6,674.4	8,931.8	9,822.1
Later Stage	9,856.4	11,979.6	11,124.8	6,452.9	6,903.3	9,552.2
Total	26,647.2	30,920.6	30,583.2	19,767.1	23,273.0	28,675.0

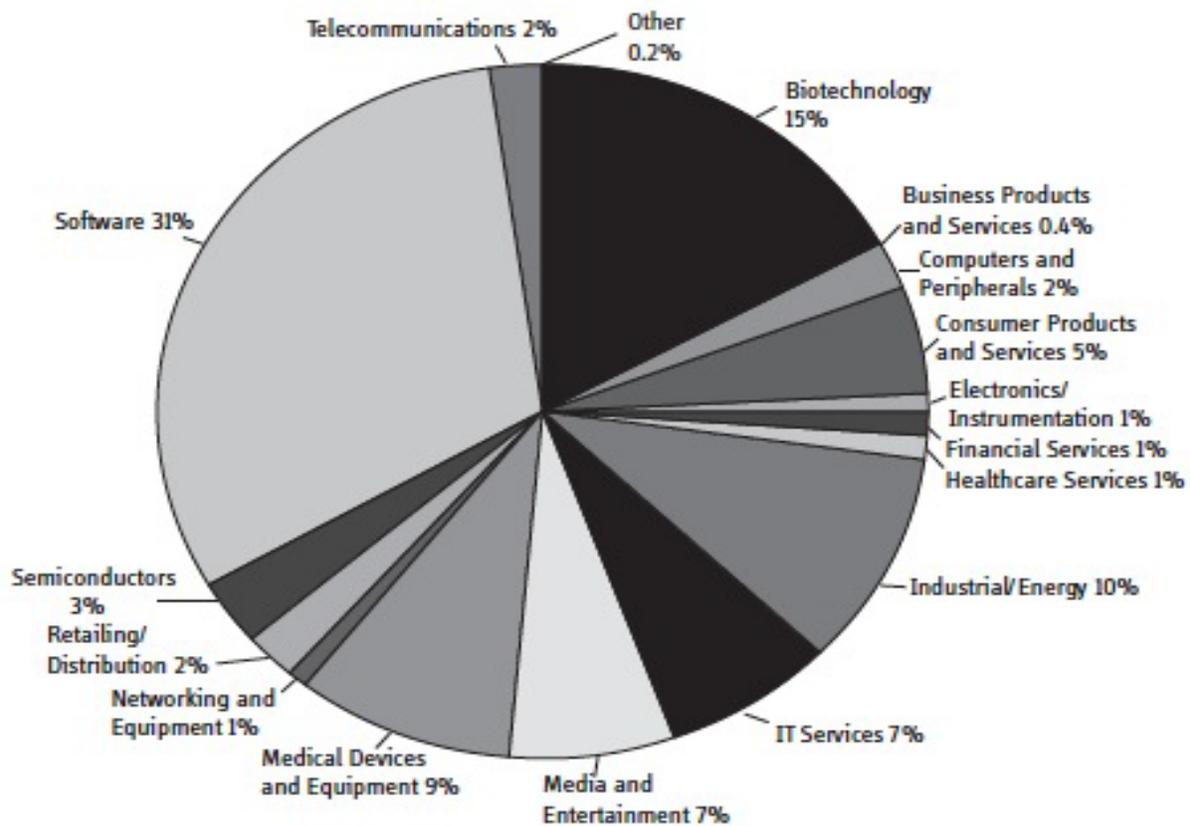
Source: (2013) 2012 National Venture Capital Association (NVCA) Yearbook (p. 31)

Table 4 illustrates a substantial re-positioning in strategy toward early-stage investments over 2006 levels, when these investments represented only 16.8 percent of the total. Also evident in Table 4, the amount of funds allocated to seed-stage firms decreased by nearly 50 percent from 2010 to 2011, while investment in early-stage firms increased by nearly 50 percent.

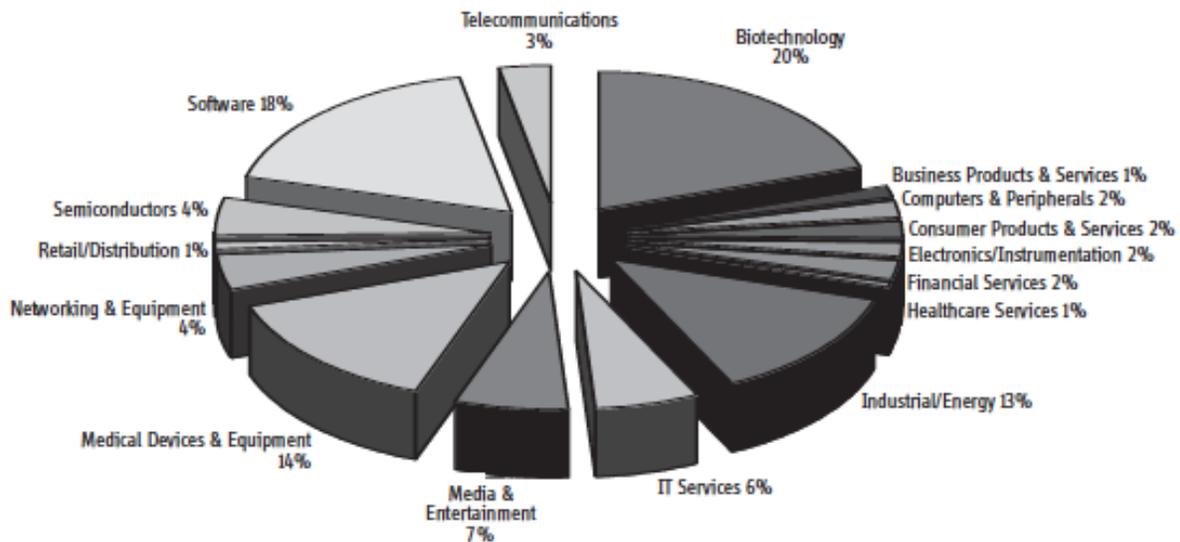
As new industries emerge, VCFs must be at the leading edge of that emergence if they are to survive and succeed. This is especially true as they invest increasingly in early-stage ventures, as supported in the NVCA findings above. In other words, they must have the knowledge and expertise to make investments in the industries and opportunities of tomorrow, yet they must make their investment decisions today. Changes in industry attractiveness are also evident in the NVCA Survey, which highlights the industries considered by most VCs to represent the best opportunities, and provides a backdrop for the demand-side of a VC firm’s strategy.

In 2011, the largest percentage of VCs surveyed believed that the best industries were expected to be consumer internet (69 percent) and cloud-based software (47 percent) (NVCA & VentureSource, 2010). As depicted in Figure 2 below, more than 24 percent of venture capital investments in 2011 were devoted to firms in the software sector, followed by 17 percent allocated to biotechnology.

Figure 2: *Venture Capital Investment in 2011*



Unfortunately, the industry classification system used in the 2011 survey did not exactly align with that of other NVCA reporting, creating a limitation for interpreting the differences between what was expected and the actual results. The NVCA data, however, does provide an opportunity to examine the change in industry focus from year to year. A change in industry focus for VC investment is apparent when the 2011 data presented in Figure 2 is compared with that of 2009, as depicted in Figure 3 below.

Figure 3: *Venture Capital Investments by Industry Sector (2009)*

Source: 2010 National Venture Capital Association (NVCA) Yearbook (p. 12)

A comparison of Figures 2 and 3 reveals that in just two years, medical devices and equipment contracted from 14 to 10 percent of total VC investments. When viewed in terms of actual dollars, however, the amount of investment in this sector actually increased from just above \$2.57 billion to \$2.86 billion from 2009 to 2011 (NVCA, 2012). In similar fashion, software grew from 18 percent to 24 percent of total investment during the two-year period, but grew more than 84 percent in terms of actual dollars invested from \$3.67 billion in 2009 to more than \$6.78 billion in 2011 (*ibid.*). The primary determinant of profitability for a new venture was found to be industry-related competence (Shepherd et al., 2000), and a VCs ability to assess that competence is likely to be a major factor in the effective selection of firms in which to invest, which is likely to determine whether or not the VCF is successful. Although significant relationships were revealed between the involvement of VCs and the development of strategic capabilities in the firms in which they invested (St. Pierre, Nomo, & Pilaeva, 2011), it remains unclear how VCFs adapt their strategies internally to the rapid changes in their industry and in the industries in which they have investments.

DISCUSSION

Although this study was exploratory and employed qualitative methods, our interviews support the notion that VCFs are making strategic changes based on changes in their external environment. These changes are consistent with Eisenhardt & Zbaracki's (Eisenhardt & Zbaracki, 1992) view of strategic decisions, ones that are important, infrequent, and "critically affect organizational health and survival" (p. 17). We found that VCs in our sample were actively adapting non-risk factors associated with their funds, providing a better alignment of the fund with the changing requirements of investors. Consistent with the theoretical underpinnings presented earlier in this paper, the VCs in our sample are creating smaller funds to invest in earlier-stage technology companies, focusing on their core competencies, and looking for ways to differentiate themselves from other funds. Based on our interviews and the backdrop provided by the NVCA industry data, a few common themes emerged.

An unexpected finding emerged through our interviews centered around the first research question, which focused on the supply side of VCF strategies. Specifically, we asked if firms were moving toward investments in earlier-stage companies in order to increase returns and attract investors. The indications revealed in our interviews were consistent with the 2010 survey of NVCA members, which suggested a move by a majority of VCFs toward earlier-stage investments. The 2011 actual data, however, showed no substantial change in VC strategy toward earlier-stage investments. The data revealed a sharp decline in seed-stage investments while moving VC investment dollars more into early-stage ventures, sharply higher than 2010 levels. This shift away from seed-stage firms could be the result of increases in the *informal* VC market, where increases of 31 percent in seed and start-up investments were realized in 2011 (CVR, 2012). Despite the pressure to increase returns to their investors, VCFs appeared either to be unwilling to assume the risk or unable to provide the additional assistance often required by earlier-stage investments.

A second theme that emerged in our interviews revealed during questions focused on the second research question pertained to industry focus. As expected, the VCFs we interviewed considered industry expertise as valuable attributes of their firms, and a useful way to differentiate themselves from their competitors. Of those VCs that had funded firms outside their niche industries, investing in what they now call *outliers* in their portfolio, most said that they learned from their mistakes.

As described earlier in this paper, VCFs typically bring advisory and managerial services as well as capital to the young companies in which they invest, services likely to be industry or market-segment specific. Yet the innovation-driven nature of the entrepreneurial companies in which VCFs invest and the rapidly evolving markets targeted by these companies suggest that VCFs must often invest in industries that had not previously existed, such as social media. An example is Charles Rivers Ventures, one of the earliest investors in Odeo, a company that in 2005 developed a podcast platform and launched it just before Apple introduced its podcast device known as iPod (Carlson, 2011). The team and investors at Odeo executed what is now known as a *pivot*^{vii} in February 2006, supporting an idea of one of the team members for a system that could send a text message broadcast simultaneously to a group of friends (ibid.). Despite the typical optimism that surrounds young, innovative companies, it is difficult to believe that is now the \$10 billion company known as Twitter was envisioned by the VCs at the time of their investment, especially when the industry segment of social media did not yet exist.

The third theme emerged from the questions and dialogue we had with interviewees based on the third research question. Even in the best of economic times, starting a new VC fund is a "...test of nerves..." (Sahay, 2012). In retrospect, 2011 could not be categorized as one of the best economic times in the US, yet our interviewees conveyed optimism about the future of their industry. Their views on fundraising were consistent with the findings in the Venture View Predictions Survey, where 68 percent of VCs interviewed expected fundraising to increase or remain the same in 2011 (NVCA & VentureSource, 2010). Actual data from 2011 revealed that venture capital under management in the US increased by eight percent in 2011 over the previous year, and totaled nearly \$197 billion (NVCA, 2012), although only \$18.7 billion was raised compared to \$39.0 billion in 2001. In addition to the challenges of fundraising, changes in the industry's competitive landscape mean changes for many VC firms.

Although the topic of organizational change did not emerge during this phase of the interviews, a number of structural changes in the VC industry were occurring. Table 5 illustrates how the VC firms and funds raised by the industry have changed since 1999, and how the changes that have occurred in the 2009 to 2011 time frame have re-shaped the industry.

Table 5: *Venture Capital Industry Characteristics*

<i>Characteristic</i>	<i>1999*</i>	<i>2009*</i>	<i>2011**</i>
Number of VC Firms	753	794	842
Number of VC Funds	1,396	1,188	1,274
Number of Professionals	7,611	6,828	6,125
Number of First Time VC Funds Raised	90	21	45
Number of VC Funds Raising Money This Year	454	127	173
Average VC Capital Raised This Year (\$ billion)	55.7	15.4	18.7
Average VC Capital Under Mgmt. (\$ billion)	145.6	179.4	196.9
Average VC Capital Under Mgmt. per Firm (\$ million)	193.4	225.9	233.8
Average VC Fund Raised This Year (\$ million)	122.6	121.1	108.1

*Source: 2010 National Venture Capital Association (NVCA) Yearbook (p. 9)

**Source: 2012 National Venture Capital Association (NVCA) Yearbook (p. 9)

One indicator of a structural change in the VC industry is a substantial increase in the number of VCFs in the industry. It would appear that the competitive landscape of the VC industry has intensified in the 2009 to 2011 period, a factor that likely influenced the responses we received during our interviews. One of the more dramatic changes in the VC industry presented in Table 5 is in the 114 percent increase in the number of first-time VC funds raised in 2011 over the number raised in 2009. This significant increase in fundraising activity takes place at a time when the number of professionals in the industry declined by more than 10 percent and a similar decline in the average fund size. The VC industry was raising more funds for the first time, raising more capital, but doing so with fewer professionals in the industry. This finding coincides with the views expressed by our interviewees and substantiated by the NVCA data that VCFs increased their fundraising activities, and are targeting earlier-stage companies that require smaller amounts of capital. The decline in the number of professionals in the VC industry may also be an indicator that less advisory time will be available for entrepreneurs, as the industry becomes more competitive and fundraising activity increases.

CONCLUSION AND PRACTICAL IMPLICATIONS

Entrepreneurs make a number of strategic decisions, the first of which is whether or not to establish a company (Feeser & Willard, 1990), and a number of subsequent decisions that are key determinants of whether or not the venture will survive or succeed. It is reasonable to assume that VCFs also make many decisions that shape their strategy, which determine their ability to succeed in the volatile and highly competitive venture capital industry. Because many VCs assume an advisory role, providing valuable feedback and helping to shape the strategic decisions of the firms in which they invest (Chugh, Nicolaou, & Barnes, 2011), decisions made by VCs have far-reaching implications that extend beyond their industry. Shepherd, Ettenson & Crouch (2000) noted that despite their vital role in shaping the entrepreneurial landscape, only a small number of studies have focused on the decisions that make up the strategy of these firms, a problem that remains today. Although this study provided some insights into the decisions made by VCFs, a number of questions remain.

As advisors to entrepreneurial companies in highly competitive markets, do VCFs follow the advice they provide, or does their approach more closely follow the idiom: do as I say not as I do? Is it reasonable to expect that VCFs have some of the same creativity, innovation, and opportunity recognition skills as they seek in the companies in which they invest and advise? Do successful VCFs possess certain *psi* phenomena, such as clairvoyance, premonition, or precognition (Bem, 2011), which enable them to foresee the future growth of companies like Twitter before the industry even exists? Are there indicators that serve to help predict the future for entrepreneurial companies, such as the predictive

power of interest rates and their spreads in predicting the future course of the economy (Bernanke, 1990)? Just as trial lawyers make strategic decisions and provide advice to their clients based on their perceptions and ability to predict the outcomes of cases under a considerable degree of uncertainty (Goodman-Delahunty, Granhag, Hartwig, & Loftus, 2010), VCs make a number of strategic decisions that affect survival and success of their firms and the companies in which they invest. These and other questions remain largely unexplored, providing a fruitful area for further exploration.

Although the role played by VCFs in the overall economy is well known and documented, most studies of VCs and their investments have focused on technology and technology-enabled rapid-growth firms and their impact on these industries. An increasing number of venture capital firms have recently adopted a more complicated approach to investing, providing capital and advisory services to organizations embarking on social missions. Social Impact Bonds (SIBs) and impact investing bring the capital and market-based solutions to some of the world's most intractable and persistent social problems (Entrepreneurship, 2012). These solutions bring complex formulas for impact measurements, fundraising, and a delicate balance of social and financial return on investment. Once confined exclusively for commercial entrepreneurs, VCs and the promise of new sources of capital and the business acumen are now becoming part of the social entrepreneurship landscape. The promise comes, however, with a cautionary note.

The decisions made by VCFs and investors in the years leading up to the *dot com bubble* followed a forms of irrational exuberance that led to skyrocketing valuations and equally rapid collapse (Valliere & Peterson, 2004). When large amounts of money are raised, the valuations of companies become artificially inflated, making subsequent investments unattractive (Gompers & Lerner, 1998). Too much money chasing marginal investments, many of which were the result of poor decisions and behaviors made by the firms in the VC industry (Mason, 2009a). Should irrationality and behaviors of the *dot com* era re-occur in the social sectors or sustainable businesses in which VCFs and their investors now find attractive, the potential negative impact could be far-reaching. Today's venture capital firms play an important role in supporting the development and growth of innovative firms, enabling entrepreneurs to create both financial and social value.

This study provided a rare emic or "insider's look" into the strategic decisions made by VCFs, and presented the views of interviewees against the backdrop of national data provided by the NVCA. It contributes to our understanding of VC decision making, where extant studies have relied "...exclusively on post hoc research methods or experiments" often resulting in "oversimplification of the context under study" (Petty & Gruber, 2011, p. 172). A VCF's portfolio strategy includes factors beyond simple risk and reward, where stage of company development, industry and geographic foci, and diversification involve financial and management resource considerations. We found that strategy can also be influenced by government, as one VC firm in our sample maintained a strict geographic focus because of regional government participation in the investment fund.

Investment decisions are often influenced by external factors (such as the economy, technology, and consumer trends) and those internal to the firm, where timing and the composition of its current portfolio companies creates a complex and dynamic context for investment decisions (Patzelt, zu Knyphausen-Aufseß, & Fischer, 2009). Our research method and timing of the interviews, together with the subsequent comparison with NVCA data provides insights without the retrospective bias found in most cross-sectional studies and a look at the trends in the industry as they evolved across the country.

Although our sample was not intended to be representative of the population of VC firms, our purposive sample did track closely with the trends of the VC industry as reported in the NVCA report. One reason may be that VCFs are effectively networked, often co-investing in deals and collaborating on due

diligence. Membership in NVCA provides its members with access to national data and trends, likely influencing the decision making of many firms in similar ways. Whether or not these are contributing factors to the herd mentality of the mid-1980s (Gompers, 1994), the Internet crash of the mid-1990s (Cooper, Khorana, Osobov, Patel, & Rau, 2005) or the current high level of interest in cleantech (Tierney, 2011), it appears that firms in the VC industry adopt strategies that are more similar than different. All of the VCFs in our sample described their strategy as more focused than general, and adapted as sectors matured and others emerged. As an industry, it appears that the answer to our research question is yes: VCFs do, indeed, practice what they preach.

For entrepreneurs who seek venture capital investments, a better understanding of the strategy of VCFs and the context in which they operate should enable a more meaningful and effective search for capital. Petty and Gruber (2011) noted that the decision criteria of VCFs is dynamic and changes over time, and that initial rejection is sometimes followed by re-evaluation as circumstances evolve. The industries and stage of development targeted by VCFs in the recent past may not be the sole determinant of their investment strategies for the future. Further, aspiring social entrepreneurs who are attracted by the potential of impact investments and social impact bonds should find this study insightful into the history and strategic positioning of VCFs. This study also has implications by broadening the study of strategic management practices by VCFs, an industry often overlooked despite its size and its impact on the entrepreneurial landscape. Nearly 25 years ago, Gorman and Sahlman (1989) answered on the question what do venture capitalists do? A logical next step is to further examine how and why VCFs do what they do.

REFERENCES

- Association, N. V. C. (2008). *Yearbook 2008: 1-102*. New York, NY: National Venture Capital Association.
- Association, N. V. C. (2013). *Yearbook 2013: 1-111*. New York, NY: National Venture Capital Association.
- Baszanger, I., & Dodier, N. (1997). Ethnography: Relating the part of the whole. In D. Silverman (Ed.), *Qualitative Research: Theory, Method and Practice*. London, UK: Sage Publications, Ltd.
- Bem, D.J. (2011). Feeling the future: Experimental evidence for anomalous retroactive influences on cognition and affect. *Journal of Personality and Social Psychology*: 1-19.
- Berger, P. & Ofek, E. (1995). Diversification's effect on firm value. *Journal of Financial Economics*, 37(1), 39-65.
- Berger, P. & Ofek, E. (1999). Causes and effects of corporate refocusing programs. *Review of Financial Studies*, 12(2), 311.
- Berglund, H. (2011). Early stage venture capital investing: Comparing California and Scandinavia. *Venture Capital*, 13(2), 119- 145.
- Bernanke, B. (1990). *On the Predictive Power of Interest Rates and Interest Rate Spreads*. NBIR Working Paper: National Bureau of Economic Research.
- Carlson, N. (2011). The Real History of Twitter, *Business Insider*. New York, NY: Business Insider, Inc.
- Chou, S. (2008). *Maxims, Morals, and Metaphors: A Primer on Venture Capital: A Primer on Venture Capital*.
- Chugh, H., Nicolaou, N., & Barnes, S. (2011). How does VC feedback affect start-ups? *Venture Capital*, 13(3), 243-265.
- Cooper, M.J., Khorana, A., Osobov, I., Patel, A., & Rau, P.R. (2005). Managerial actions in response to a market downturn: Valuation effects of name changes in the dot.com decline. *Journal of Corporate Finance*, 11(1-2), 319-335.
- Creswell, J.W. (2003). *Research Design: Qualitative, quantitative, and mixed methods approaches* (Second ed.). Thousand Oaks, CA: Sage Publications.
- Cumming, D., Fleming, G., & Suchard, J. (2005). Venture capitalist value-added activities, fundraising and drawdowns. *Journal of Banking & Finance*, 29(2), 295-331.

- CVR. (2012). *The Angel Investor Market in 2011: The Recovery Continues*. Durham, NH: Center for Venture Research.
- CVR. 2013. *The Angel Investor Market in (2012): A Moderating Recovery Continues*. Durham, NH: Center for Venture Research.
- Doyle, G.S., Parker, C.F., & Fairchild, W. (2010). *Venture Capital 3.0: A New Era*. In Lab Ventures LLC.
- Eisenhardt, K.M. (1999). Strategy as strategic decision making. *Sloan Management Review*, 40(3), 65- 72.
- Eisenhardt, K.M., & Zbaracki, M.J. (1992). Strategic decision making. *Strategic Management Journal*, 13, 17- 37.
- Eisner, E. (1991). *The Enlightened Eye: Qualitative Inquiry and the Enhancement of Educational Practice*: Macmillan New York.
- Entrepreneurship, S.F.F.S. (2012). *Investing for Impact: How Social Entrepreneurship is Redefining the Meaning of Return*. Geneva, Switzerland: Credit Suisse, 1-58.
- Feeser, H.R., & Willard, G.E. (1990). Founding strategy and performance: A comparison of high and low growth high tech firms. *Strategic Management Journal*, 11(2), 87-98.
- Goetzmann, W.N., & Ibbotson, R.G. (2006). *The Equity Risk Premium: Essays and Explorations*: Oxford University Press, USA.
- Gompers, P. & Lerner, J. (2001). The venture capital revolution. *Journal of Economic Perspectives*, 15(2), 145-168.
- Gompers, P. & Lerner, J. 2004. *The Venture Capital Cycle*: The MIT Press.
- Gompers, P., Lerner, J., Blair, M., & Hellmann, T. (1998). What drives venture capital fundraising? *Brookings Papers on Economic Activity. Microeconomics*, 149-204.
- Gompers, P.A. (1994). The Rise and Fall of Venture Capital. *Business and Economic History*, 23(2): 1-26.
- Gompers, P.A., & Lerner, J. (1998). What Drives Venture Capital Fundraising. *Brookings Papers on Economic Activity. Microeconomics*, 149- 204.
- Goodman-Delahunty, J., Granhag, P. A., Hartwig, M., & Loftus, E. (2010). Insightful or wishful: Lawyers' ability to predict case outcomes. *Psychology, Public Policy, and Law*, 16(2), 133- 157.
- Gorman, M. & Sahlman, W.A. (1989). What do Venture Capitalists do? *Journal of Business Venturing*, 4, 231- 248.
- Grinblatt, M., Titman, S., & Wermers, R. (1995). Momentum investment strategies, portfolio performance, and herding: A study of mutual fund behavior. *The American Economic Review*, 85(5), 1088-1105.
- Groh, A.P., & von Liechtenstein, H. (2011). The first step of the capital flow from institutions to entrepreneurs: The criteria for sorting venture capital funds. *European Financial Management*, 17(3), 532-559.
- Hartley, J. (2004). Case Study Research. In C. Cassell, & G. Symon (Eds.), *Essential Guide to Qualitative Methods in Organizational Research* (pp. 323-333). London, UK: Sage.
- Hsieh, H.F., & Shannon, S.E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277- 1288.
- Ibbotson, R.G., Diermeier, J.J., & Siegel, L.B. (1984). The demand for capital market returns: A new equilibrium theory. *Financial Analysts Journal*, 40(1), 22-33.
- Jeng, L. A., & Wells, P. C. (2000). The determinants of venture capital funding: Evidence across countries. *Journal of Corporate Finance*, 6(3), 241-289.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.
- Kaplan, S. & Schoar, A. (2005). Private equity performance: Returns, persistence, and capital flows. *The Journal of Finance*, 60(4), 1791-1823.
- Kedrosky, P. (2009a). Right-sizing the US venture capital industry. *Venture Capital*, 11(4), 287-293.
- Kedrosky, P. (2009b). Right-sizing the US venture capital industry. Kansas City, MO: Ewing Marion Kauffman Foundation, 1-10.
- Lerner, J. (1994). The syndication of venture capital investments. *Financial Management*, 23(3), 16-27.

- Liles, P. (1977). *Sustaining the Venture Capital Firm*: Management Analysis Center.
- Markides, C.C. (1999). In search of strategy. *Sloan Management Review*, 40(3), 6-7.
- Markowitz, H.M. (1991). Foundations of portfolio theory. *The Journal of Finance*, 46(2), 469-477.
- Mason, C. (2009a). Editorial: Venture capital in crisis. *Venture Capital*, 11(4): 279- 285.
- Mason, C. (2009b). Venture capital in crisis? *Venture Capital*, 11(4), 279-285.
- Merriam, S. (1998). *Qualitative Research and Case Study Applications in Education. Revised and Expanded from Case Study Research in Education*. Jossey-Bass Publishers: San Francisco, CA.
- Metrick, A. & Yasuda, A. (2009). *Venture Capital and the Finance of Innovation*: Hoboken, NJ: Wiley.
- Morey, N.C., & Luthans, F. (1984). An emic perspective and ethnoscience methods for organizational research. *Academy of Management Review*, 9(1), 27-36.
- Morse, J. (1994). Designing funded qualitative research. *Handbook of Qualitative Research*, 2, 220-235.
- National Venture Capital Association and Dow Jones VentureSource. (2010). Venture View 2011: Venture Capital Predictions Survey. Retrieved from http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=OCCAQFjAA&url=http%3A%2F%2Fwww.nvca.org%2FventureView11_slides&ei=w0cwVN6PFYSoyQS_7IBQ&usg=AFQjCNF75VwmcFFSNJGblNSac_VO_cuoiw&bvm=bv.76802529,d.aWw
- National Venture Capital Association. (2012). *Yearbook 2012*. New York, NY: National Venture Capital Association.
- Patton, M. (1990). *Qualitative Evaluation and Research Methods*. Beverly Hills, CA: Sage. Designing Qualitative Studies
- Patzelt, H., zu Knyphausen-Aufseß, D., & Fischer, H.T. (2009). Upper echelons and portfolio strategies of venture capital firms. *Journal of Business Venturing*, 24(6), 558-572.
- Petty, J. S. & Gruber, M. (2011). In pursuit of the real deal. *Journal of Business Venturing*, 26(2), 172-188.
- Rossman, G., & Rallis, S. (2003). *Learning in the Field: An Introduction to Qualitative Research*: Sage Publications, Inc.
- Sahay, P. (2012). Creating a New WAVE: A Fundraising Journey. *Kauffman Fellows Report*, 4.
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23(4), 334-340.
- Sapienza, H. (1992). When do venture capitalists add value? *Journal of Business Venturing*, 7(1), 9-27.
- Sharpe, W. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of finance*, 19(3), 425-442.
- Shepherd, D.A., Ettenson, R., & Crouch, A. (2000). New venture strategy and profitability: A venture capitalist's assessment. *Journal of Business Venturing*, 15, 449-467.
- Silicon Valley Bank and Angel Resource Institute (2012). *The HALO Report: 2011 Angel Group Year in Review*. Retrieved from http://www.angelresourceinstitute.org/~media/ARI/Files/Research/2011%20HALO%20Report_Angel%20Group%20Year%20in%20Review_Finala.pdf
- Sirri, E., & Tufano, P. (1998). The demand for mutual fund services by individual investors. *Journal of Finance*, 53, 1589–1622.
- Sohl, J.E. (2003). The US Angel and Venture Capital Market. *The Journal of Private Equity*, 6(2), 7-17.
- St. Pierre, J., Nomo, T.S., & Pilaeva, K. (2011). The non-financial contribution of venture capitalists to VC-backed SMEs: The Case of traditional sectors. *Venture Capital*, 13(2), 103- 118.
- Thomson Reuters and National Venture Capital Association. (2011). *Ventured-backed IPO Activity at Lowest Level in Seven Quarters: Acquisitions Continue to Show Strength Amidst Difficult Economic Times* [Press release]. Retrieved from http://dmi.thomsonreuters.com/Content/Files/Q3_11_Exits_Release_FINAL%5B1%5D.pdf
- Thomson Reuters and National Venture Capital Association. (2011) . *Depressed Second Half Exit Environment Drags on Short-Term Performance, Long-Term Venture Returns Strongly Positive* [Press release]. Retrieved from

<http://dmi.thomsonreuters.com/Content/Files/Q4%2011%20PE%20Performance%20Release%20-%20FINAL.pdf>

Thomson Reuters and National Venture Capital Association. (2012a). *Venture Capital Firms Raised \$4.9 Billion in Q1 2012, Quarter Represents Slower Start to a Critical Fundraising Year for the Asset Class* [Press Release]. Retrieved from <http://dmi.thomsonreuters.com/Content/Files/Q1%2012%20Fundraising%20Release%20FINAL.pdf>

Thomson Reuters and National Venture Capital Association. (2012b). *Venture-Backed IPO Momentum in Fourth Quarter Not Enough for Recovery in 2011, Venture-Backed Acquisitions Activity Remained Robust for the Year* [Press release]. Retrieved from <http://dmi.thomsonreuters.com/Content/Files/Q4%2011%20Exits%20Release%20FINAL.pdf>

Thomson Reuters and National Venture Capital Association. (2012c). *Venture-Backed IPOs Have Strongest Opening Quarter in Five Years, Market Stability and Favorable Legislation Positions Emerging Growth Companies Well for 2012 Exits* [Press Release]. Retrieved from <http://dmi.thomsonreuters.com/Content/Files/Q1%2012%20Exits%20Release%20FINAL.pdf>

Tierney, S. (2011). Venture capital and cleantech symbiosis. *The Industrial Geographer*, 8(2), 63-85.

Timmons, J., & Bygrave, W. (1986). Venture capital's role in financing innovation for economic growth. *Journal of Business Venturing*, 1(2), 161-176.

Valliere, D., & Peterson, R. (2004). Inflating the bubble: examining dot-com investor behaviour. *Venture Capital*, 6(1), 1-22.

ⁱ <http://vator.tv/news/2011-03-06-vc-debate-does-spray-and-pray-work>

ⁱⁱ Investors have some level of liquidity based on their ability to trade shares in the fund similar to that of an individual security on a stock exchange. The firm raised capital by selling shares in the fund to investors.

ⁱⁱⁱ Kedrosky compared the returns of the VC industry, as reported by the NVCA, to that of the NASDAQ, the S&P 500, and the Russell 2000 indices on a 1-, 5-, and 10-year basis. He noted that only the 10-year return of the VC industry outperformed the other, more liquid investments, and only did so as a result of the 1999 and 2000 bubble of venture-backed IPOs.

^{iv} <http://online.wsj.com/public/resources/documents/Polachi.pdf>

^v xconomy.com, 2010 IPOs, Bruce V. Bigelow, August 2010

^{vi} Source: http://www.nvca.org/index.php?option=com_content&view=article&id=77&Itemid=101, Accessed 6/27/2013.

^{vii} A *pivot* is defined as "...a structured course correction designed to test a new fundamental hypothesis about the product, strategy, and engine of growth." Source: Ries, E. (2011). *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. P. 103.