WHAT DO VENTURE CAPITALISTS DO?

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EXECUTIVE SUMMARY

This paper presents the results derived from 49 responses to a questionnaire mailed to 100 venture capitalists in late 1984. The purpose of the survey was to shed light on the relationship between venture capitalists and their portfolio companies. The survey revealed that the venture capitalists who responded spend about half their time monitoring nine portfolio investments; of these, five are companies on whose boards they sit. For the latter group, a venture capitalist typically devotes 80 hours of on-site time and 30 hours of phone time per year in direct contact with each company. The most frequently performed service for portfolio companies is to help raise additional funds, with strategic analysis and management recruiting also mentioned as important roles. Finally, the venture capitalists in the survey had replaced an average of three CEOs during their careers; weak senior management was considered to be the dominant cause of venture failure.

INTRODUCTION

Over the past five years, there has been an explosion in the level of activity in the venture capital market. In 1984, in excess of $4.5 billion of new capital was committed to the industry, an amount over six times greater than the amount committed in 1980. Over the same period, approximately 148 new venture capital partnerships were formed, while 303 new funds were created by existing venture capital firms. The perceived importance of venture capital in economic growth has grown at a rate at least as high (if not higher) than

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the rate of growth of invested capital. The role of venture capital in the formation and nurturing of companies like Genentech, Apple Computer, Tandem, Lotus Development, Federal Express, and People Express has attracted the attention of academics, investors, and public policymakers.

In this context, it seems particularly important to try to understand the process of venture capital investing. Phrased more directly, What do venture capitalists do?[1] To begin to answer this question, we developed a questionnaire that was distributed to a group of venture capitalists in December of 1984. A primary goal of the questionnaire was to shed light on the relationship between the venture capitalists and their portfolio companies. Among the general areas covered by the questionnaire were:

- How much time do venture capitalists spend with their portfolio companies, and how is that time distributed?
- What roles do venture capitalists play in their portfolio companies?
- What happens to the relationship between venture capitalist and portfolio company during periods of adversity?

This paper is divided into five sections. In the first section (The Survey), the methodology is presented and the characteristics of the survey sample are summarized. The second section (The Venture Capital Investment Process) explores the survey results as related to achieving a general understanding of the venture capital business. The third section (The Venture Capitalist/Portfolio Company Relationship) addresses the principal questions motivating this study. The composition of venture capital portfolios, the allocation of each venture capitalist's time across all activities and among portfolio companies, and the nature of their contributions are each considered in turn. In the fourth section (Coping with Troubled Investments), we examine the role of venture capitalists during periods when the companies in which they invest fall on hard times. The paper concludes with a summary.

THE SURVEY

During the first week of December 1984, a three-page survey was distributed to approximately 100 venture capitalists. A statistical summary of the survey questions and responses can be found in Appendix 1. Mr. Nissan Boury of E.M. Warburg, Pincus & Co., Inc., a venture capital firm in New York City, was extremely helpful during the preparation of the survey, as were Messrs. Chris Brody, Andy Gaspar, and Jeffrey Harris, also of Warburg, Pincus, as well as Ms. Denise O'Leary of Menlo Ventures.

We received 49 responses to the survey. The respondents represented firms that manage in aggregate $5.6 billion of venture capital or roughly 40% of the estimated industry resources.[2] In an industry in which there are many relatively new entrants, respondents were drawn principally from firms that are well established. The mean age of the firms in the sample was 12 years, with the oldest firm claiming 38 years of operation and only three firms less than three years old. Among the respondents themselves, the typical individual had seven years of venture capital experience, with a high of 22 years. Few individuals

[1]There are a number of useful references on venture capitalists and their role in venture firms. Particularly relevant are Kozmetsky and Smilor (1985), Pratt (1987), Silver (1985), Robinson (1987), Sahlman and Soussou (1985), Sahlman (1986), and Wilson (1985).

[2]Virtually all of the aggregate data on the venture capital industry are drawn from various publications of Venture Economics in Wellesley Hills, Massachusetts. Some of the data are summarized in Appendix 2.

TABLE 1

	Mean	Median	Std. Dev.	High	Low
Firm capital under management ($ millions)	$147.5	125.0	$112.5	$600.0	$5.0
Age of firm (years)	13.9	13.0	11.6	38.0	1.5
Respondent's experience (years)	7.4	5.0	5.4	22.0	1.0

from firms with less than $60 million under management were surveyed, even though firms of this size represent a significant share of all venture firms. Only eight of the responding firms were founded in the past four years, a time when venture fund formation was occurring at an unprecedented rate. The sample statistics are summarized in Table 1.

Although the respondents worked with generally well-established venture capital firms, many of the respondents had more limited experience than the age of their associated firms might lead one to expect. The majority of those responding, 31 individuals, claimed less than six years of venture capital investing experience. This proportion is approximately the same as that for the overall industry. Indeed, the proportion of individual respondents with more than nine years of experience (18 of 49) is probably higher than the industry norm. Also, venture capital is for the most part a nonhierarchically organized profession: most of the respondents with less than six years' experience nonetheless entered the business as partners or at most served brief apprenticeships.

It is important to note, however, that many of the respondents have been industry participants only during relatively good times for the industry. Moreover, as will be stressed later, the responses to any survey reflect the environment at the time of the survey; 1984 was a year of considerable pressure in the industry, given the collapse in high technology stock prices and the decline in new capital being committed to the industry.

THE VENTURE CAPITAL INVESTMENT PROCESS

The survey yielded interesting information about the investment behavior of venture capitalists and venture capital firms. For instance, almost all venture capitalists reported an investment horizon fixed at between five and seven years. One venture capitalist claimed a ten year expected term of investment, several cited four years, and the remainder fell in the five- to seven-year category.

By contrast, wide variations appeared in the reported rate of new investment. New investments per year per firm ranged from a high of 30 to a low of 4, with a mean of 11.2 new investments per year (standard deviation, 5.6). Furthermore, the rate of new investments was not strongly correlated with firm size. The survey indicates that small venture firms, despite their size, often make substantial numbers of new investments per year relative to medium-size firms, whereas many large firms make surprisingly few investments.

The survey calls into question an allegation against venture capitalists commonly found in the press that they farm out their work to junior associates. When asked to specify the "number [and function] of individuals currently responsible for monitoring portfolio investments," 20% reported that none of their "associate-level" individuals were acting in this capacity. The remainder commonly reported that one or two of the firm's associates dis-

TABLE 2

	Mean	Median	Std. Dev.	High	Low
Number of active partners per firm	4.7	4.0	2.5	15.0	1.0
Number of investments managed per partner	8.0	8.0	3.5	20.0	4.0
Number of seats on boards per partner	5.1	5.0	2.0	8.5	0.0

charged this responsibility, but for significantly fewer investments than would a partner. Specifically, whereas the mean firm had 4.7 partners monitoring investments, the mean number of associates in this role was 2.6. The number of investments monitored per partner was 8.8 as compared with only 3.6 for the associates who were playing this role. Finally, while each partner was on five boards, associates were only on one board.

Summary data concerning the activities of partner-level venture capitalists are presented in Table 2.

THE VENTURE CAPITALIST/PORTFOLIO COMPANY RELATIONSHIP

In this section, we will divide our exploration of the venture capitalist/portfolio company relationship into three parts. We first examine data on the composition of respondents' portfolios. Sample patterns in the allocation of venture capitalists' time are then explored. Finally, venture capitalists' characterizations of their contributions to their companies are considered.

Portfolio Composition

Respondents were asked to list the number of companies for which they were personally responsible and to classify these companies into one of the following categories:

1. They serve as lead investor, having invested at the seed or start-up phase (lead).
2. They invested at the seed or start-up stage, but are not the lead investor (nonlead).
3. They are a later-stage, nonlead investor (late stage).

Note that these categories indicate at what stage in the life of the company the respondent first invested, not the stage at which the company currently finds itself. The typical respondent monitored 4.5 companies as the lead investor, 2.5 as a nonlead, early-stage investor, and 3.8 as a late-stage investor. The variation is summarized in Table 3.

Looking at averages alone, one might be tempted to say that the typical venture capitalist is relatively evenly diversified across these three distinct categories of investment behavior. The averages mask considerable variations in portfolio composition.

Without further data, definitive statements are not possible. However, it seems likely that venture capitalists (and their firms) tend to specialize in terms of the stage at which they invest and the role they take. The time demands and skill demands on the investor are likely to result in such focused strategies.

We know from the preceding discussion that the respondents maintain portfolios ranging in size from as few as 4 to as many as 35 investments, with a mean of 11. How much

TABLE 3

	Mean	Median	Std. Dev.	High	Low
Number of companies in which the respondent serves as:					
Lead investor	4.1	4.0	1.9	8.0	0.0
Nonlead early-stage investor	2.5	2.0	2.3	10.0	0.0
Late-stage investor	3.8	3.9	3.9	20.0	0.0
All categories	10.3	8.0	4.9	25.0	4.0

time do venture capitalists allocate to companies in their portfolio, as opposed to other activities? How do they distribute their time among investments that fall into each of the three categories described above?

Allocation of Time

The survey results indicate that venture capitalists spend the majority of their time managing their portfolios. Although the survey results are likely influenced by the time of its administration (December 1984), when many venture capitalists faced problems with portfolio companies, the information portrayed in Figure 1 is nonetheless impressive.

Most venture capitalists spend more than half their time with their portfolio companies. The median respondent spends 60% of his or her time on portfolio management.

How is this time allocated? As a proxy for time devoted to portfolio management, we asked respondents to report on the time they typically spend in *direct* contact with their investments. This measure, of course, excludes any work they do for companies that does not involve direct contact (e.g., reviewing written reports or contacting others on the company's behalf). Respondents were asked to report how much time they typically spend in direct contact with their companies by estimating their number of visits, typical length of visits, number of phone calls, and typical call length.

Not unexpectedly, we found that when venture capitalists play a lead investor role, they devote much more time than do nonlead or late-stage investors. In fact, a venture capitalist acting as lead investor will invest ten times the direct hours he or she would in a late-stage investment (for summary statistics see Appendix 1).

Notwithstanding this large discrepancy in relative commitment between the lead and nonlead investor roles, the absolute amount of time devoted to companies by active investors would not support a view of venture capitalists as individuals deeply involved on a day-to-day basis in the management activities of their portfolio investments. A typical early-stage investment gets a little more than two hours of direct attention per week from its lead venture capitalist. Nonlead venture capitalists contribute another three-quarters of an hour per week.

The venture capitalist tends to spend time with companies in small increments. Typically, lead-investing venture capitalist shows up frequently, 1.5 times a month, but stays only five hours each time. Nonlead venture investors, who were nonetheless there from the beginning, come half as often and and, when they do, stay two-thirds as long. Late-stage investors come to one four-hour meeting each quarter. Together, these statistics might imply that venture capital involvement is principally crisis or project oriented, like the efforts of

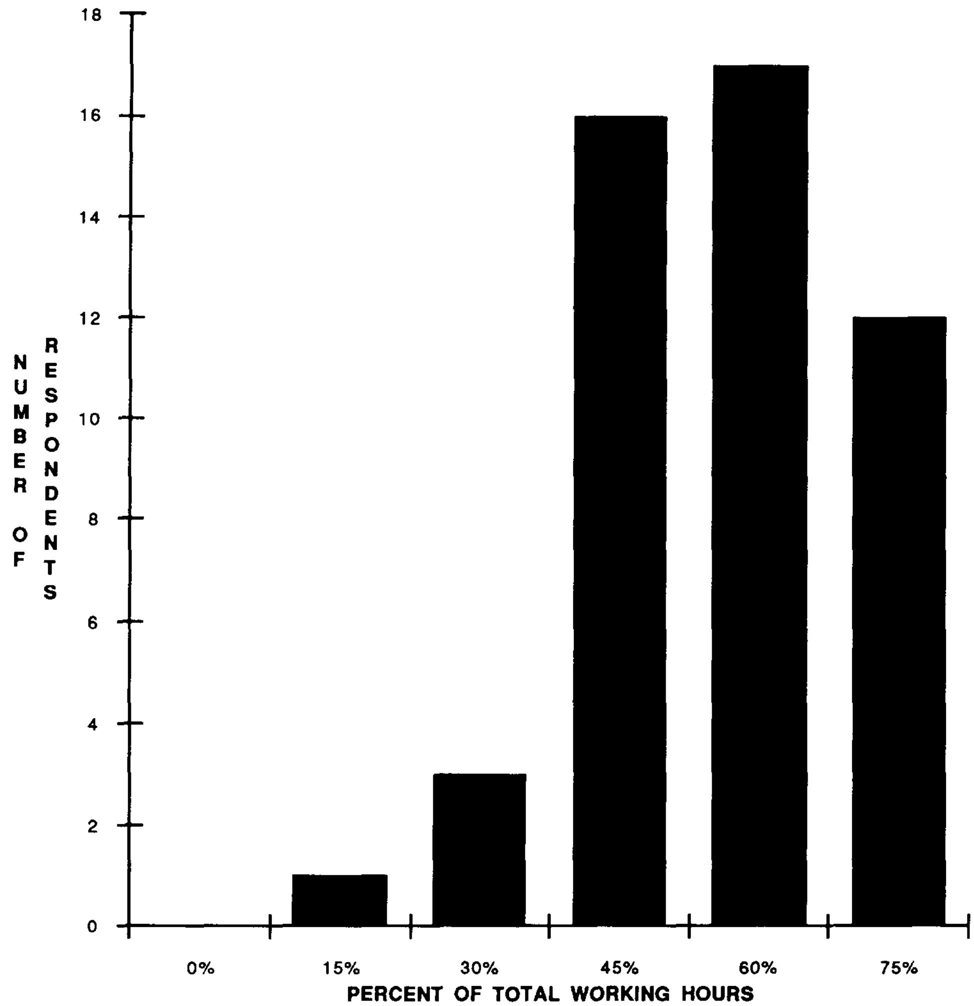

FIGURE 1 Percent of hours spent monitoring or assisting portfolio companies.

attorneys, consultants, and similar service providers. Alternately, the data would be consistent with a description of the venture capitalist's role as primarily a monitoring function, not unlike the role of a senior manager in a large company overseeing many business units.

Respondents were fairly consistent across the sample in the amount of time reported in contact with portfolio companies. For example, whereas the mean time spent on-site per year by a venture capitalist who served as lead investor in a company was 80 hours (standard deviation of 44 hours), only one individual claimed he typically spend more than 200 hours per year with companies as a lead investor.

What do venture capitalists do during their time with a portfolio company?

Contributions of the Venture Capitalist

We asked venture capitalists to indicate whether they performed each of several services for their companies; if so, to state how often; and, finally, to rank the services they provide in

TABLE 4

Form of Assistance	Rank	Frequency
Help obtaining additional financing	1.9	75.0
Strategic planning	2.4	67.5
Management recruitment	2.6	62.5
Operational planning	4.1	55.0
Introductions to potential customers and suppliers	4.6	52.5
Resolve compensation issues	5.6	55.0

order of importance. In Table 4, the services that venture capitalists provide are listed in the order in which venture capitalists tended to rank them. To the right of each service category are two scores. The first indicates the mean rank venture capitalists assigned this service, when they mentioned it. For example, a score of 2.0 would mean that venture capitalists, on average, ranked this service second in importance among the services they provide. The second score indicates the frequency with which portfolio companies receive this service from the venture capitalist. To illustrate, a score of 75.0 would indicate that, on average, 75% of the companies in which venture capitalists are actively involved receive this service from their venture capitalist.

Write-in candidates, each offered by a single respondent, that might well have received additional votes had they been listed included (7) serving as the entrepreneur's confidant, (8) introductions to service providers such as lawyers and public relations firms, (9) managing the investor group, (10) recruitment of board members, and, for venture capital subsidiaries of major corporations, (11) access to the resources of the parent company. Each write-in category was generally suggested only once or twice and was usually ranked third or fourth by the respondent submitting it.

From these results, it seems that venture capitalists provide three critical services in addition to providing money: 1) building the investor group (32 of 44 respondents who indicated they help raise more money ranked this service first or second in importance), 2) reviewing and helping to formulate business strategy, and 3) filling in the management team. These services require that one venture capitalist remain in frequent but by no means constant contact with portfolio companies. Company performance is monitored regularly, and when more funds are needed or when there is a gap in the management team, the venture capitalist's involvement escalates.

COPING WITH TROUBLED INVESTMENTS

The field upon which venture capitalists play is littered with the remains of failed companies. A few, such as Osborne Computer, Ovation Technologies, or Gavilan Computer, have failed spectacularly enough as to invite the brief attention of the business community at large. But these meteoric conclusions are hardly typical of a venture capitalist's experience, no more typical, perhaps, than the phenomenal, industry-founding successes that have earned the venture business its present reputation. Much more common is the phenomenon know euphemistically among venture capitalists as "the living dead," a phrase that refers to venture-backed companies that have failed to meet expectations but that nonetheless squeeze out a stable, independent existence. When aggregated with the outright failures discovered along the way, the "living dead" probably make up the majority of most mature venture capital portfolios.

Why is the failure rate (when compared with initial expectations) so high?

There are a few obvious answers. For one thing, most venture businesses are launched despite numerous and often consequential uncertainties that can be resolved only by going foreward. Furthermore, venture-backed companies have extremely limited resources, so unexpected snags can quickly exhaust available reserves of cash and people.

Venture-backed companies are thinly staffed and thinly capitalized by design. Venture capitalists, for their part, generally seek to provide their entrepreneurs with only the minimum of cash required. They tend to dole out financing in discrete amounts closely matched to the attainment of clear milestones, enabling them to limit damage by refusing additional financing if the company appears unsuccessful in the early stages. Meanwhile, entrepreneurs, because they are motivated to retain for themselves as much as they can of their business's value, are loath to incur any up-front expenditure that might conceivably be avoided. Selling too much of the company at the earliest stages amounts to an expensive mortgage on the future wealth against which the entrepreneur has wagered his or her career. Thus both venture capitalists and entrepreneurs willingly conspire to impose stringent limits on the resiliency of their enterprises.

Failure may also occur if the management of the company or the quality of its product is not up to the demands placed upon it by the marketplace or if competitors capture its target customers.[3] Even the venture capital industry itself may contribute to business failure. In a recent paper, William Sahlman and Howard Stevenson (1985) document the six-year-long parade of venture capital investors into an emerging segment of the computer data storage industry. In all, 43 start-ups were funded in an industry segment that could be expected in the long run to support perhaps four.

Thus, "failure" is at the very least endemic to the venture capital process, an expected, commonplace event; in some cases, the process itself may even promote failure. How do venture capitalists respond to this hazard of their profession? What do venture capitalists see as the most common causes of failure? Do their perceptions of the causes of failure influence the actions they take when their investments appear threatened? What are the implications of high failure rates of the relationship between venture capitalists and their portfolio companies?

The results of our survey indicate that venture capitalists, as a whole, have straightforward answers to the questions posed above. In an industry where failure is frequent, where both venture capitalists and entrepreneurs take actions at the outset of launching businesses that make failure, in a statistical sense, likely to occur, venture capitalists almost uniformly attribute failures they have observed to shortcomings in senior management.

We asked venture capitalists the following question: "Consider companies with which you have been associated that have fallen seriously short of their objectives, so far short as to endanger the company's continued independent existence. For a maximum of three such companies, identify which of the following eleven factors were major contributors to their difficulties and then rank the contributing factors in order of importance."

It is a difficult question to answer. Fortunately, most respondents took the time to respond, enabling us to construct a sample of 96 troubled companies. In 91 of 96 cases, venture capitalists cited senior management as a "contributing factor." In 62 of those cases,

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[3]See also Vesper (1980) and Bruno, Lendecker and Harder (1986) for more insights on the failure of ventures.

TABLE 5

	Frequency (%)	Rank	Std. Dev.
Management problems			
(1) Ineffective senior management (SMAN)	95	1.6	1.0
(2) Ineffective functional management (FMAN) (i.e., finance, marketing, etc.)	50	2.5	1.1
Market problems			
(3) End user market failed to develop as expected (MKT)	43	2.7	1.9
Company failed to capture share due to:			
(4) Poor channel selection/channel resistance (DIST)	35	3.3	1.5
(5) Competition (COMP)	34	3.0	1.3
(6) Poor product/market fit (FIT)	28	3.5	1.7
Product problems			
(7) Development delayed or unsuccessful (DEVT)	51	2.4	1.4
(8) Manufacturing failure (MFG)	11	2.9	1.4
(9) Poor product performance (PROD)	18	4.2	1.4
(10) Inadequate quality control (QUAL)	13	4.7	2.4

The abbreviated codes are used in Figure 2.

or roughly 65% of the entire sample, venture capitalists cited senior management as *the most important contributing factor*.

Interestingly, only seven companies, drawn from the experience of three respondents, were judged to have failed *solely* due to senior management. To what causes other than senior management do venture capitalists assign responsibility for business failure?

The responses of venture capitalists are shown in tabular form in Table 5 and graphically in Figure 2. The three columns to the right of each factor in Table 5 refer to 1) the frequency, expressed as a percentage, with which venture capitalists cited this factor as one contributing to business failure, 2) what mean rank of importance they tended to assign it when it was mentioned, and 3) how widely respondents' rankings varied (number shown equals the standard deviation).

Figure 2 highlights several interesting facts. First of all, in general, the more frequently a factor was mentioned, the more important the role it was deemed to play. The only exceptions to this general trend are manufacturing problems that occur infrequently, but, when they do occur, cause grave problems. ("Other" problems, cited infrequently, included "overhead ahead of market," "delay/lack of financing," "price competition," "cost control," "lack of effective marketing strategy"; most of these seem to fall into one of the categories listed.)

"Development delayed or unsuccessful" emerges as the culprit in over 50% of the cases, and its high ranking indicates that delay in product development was the major cause of venture failure cited by respondents excluding those causes related to management. Problems of functional management are cited as the third most critical cause of failure. Taken as a group, marketing problems of one sort or another hold down a consistent fourth place, with a pair of product problems bringing up the rear.

Venture capitalists recognized the existence of other major contributing factors, but almost in unison they assigned to those factors lesser significance than to the actions of

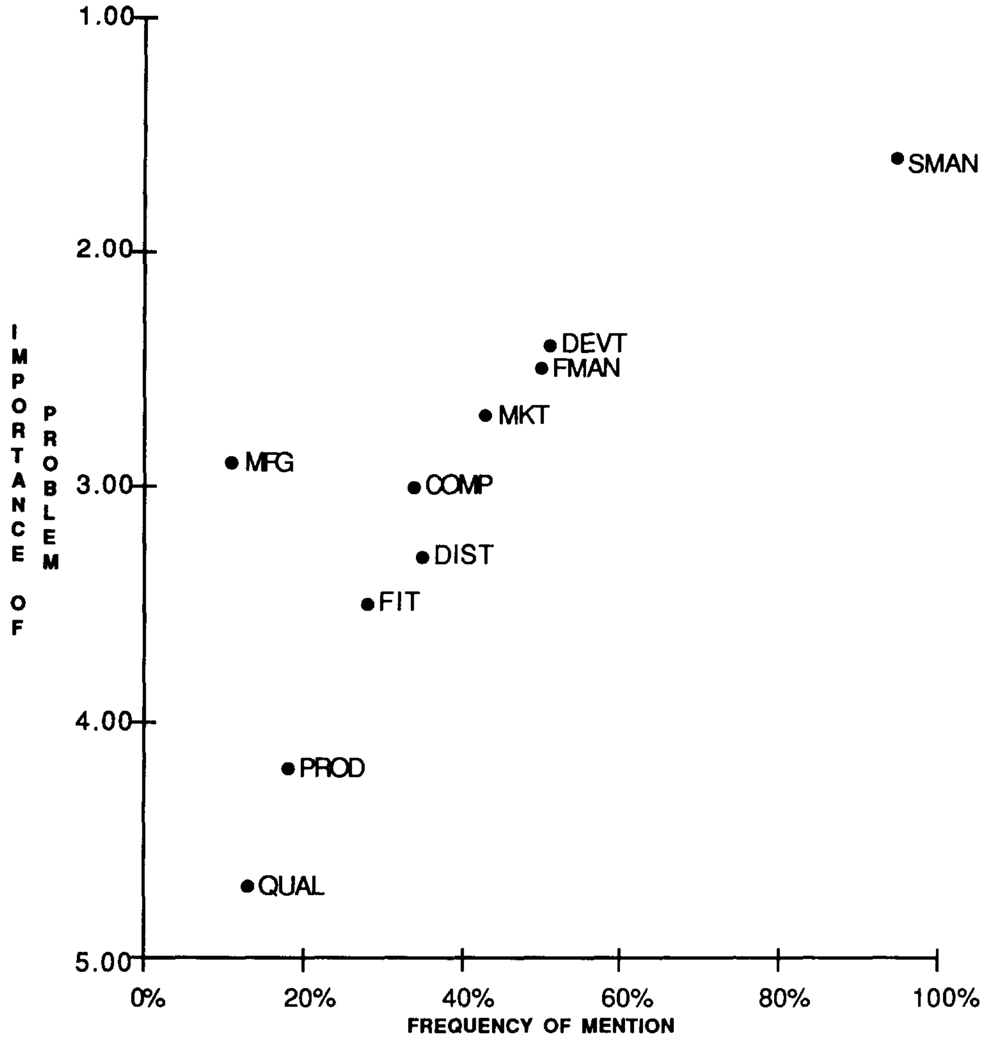

FIGURE 2 Failure causes.

senior management. The message of their responses is clear: Senior management is the critical ingredient that makes or breaks venture-backed businesses.

What are we to make of this? Certainly, the presence of competent senior management is an important ingredient in the success of an entrepreneurial venture. And, of course, no senior management is ever as good as it might have been, and so in every case senior management can be said to have contributed to their company's failure by virtue of their inadequacies. Before the discussion is ended, however, it should be noted that survey respondents' unequivocal belief that senior management represents the principal cause of entrepreneurial failure is not inconsistent with several plausible alternative explanations.

For one thing, the nature of the venture capitalist's role in portfolio companies may contribute to a tendency among venture capitalists to equate venture failure with senior management ineffectiveness. From the survey, we know that venture capitalists who act as lead investors visit their companies about once every three weeks. Typically, they stay for a morning or an afternoon. We know, too, that their principal concerns are with upcoming financings, hiring and firing of managers at the highest level, and setting strategy. Given these facts about the substantive nature of their interaction with portfolio companies, one can reasonably infer that when venture capitalists visit, they typically meet with senior management. With whom do they spend 30 hours a year on the phone?—senior management. To whom did they commit the funds at the start-up stage, when employees were few, if any?—senior management. And when things get tough, it is senior management who delivers bad news. It may not be far from the truth to say that, to the venture capitalist, the entrepreneur *is* the company. Given these facts of venture capitalist behavior documented by the survey, it is not surpising that any failure of the company is by definition viewed as a personal failure.

Venture capitalists and entrepreneurs alike think of accepting venture capital as equivalent to entering into a partnership. Ideally, they structure a relationship where their two interests are brought into alignment, where the economics of their agreement lead each party, simply by following his or her self-interest, to advance the other's interest as well. When things are proceeding reasonably well in the underlying business, venture capitalist/entrepreneur arrangements in fact function this way. But our conversations with entrepreneurs and venture capitalists alike indicate that when things go badly, the interests of the two parties diverge. The entrepreneur, motivated by a dream of building a company, is intent that the company survive, that the dream be kept alive. The venture capitalist, by contrast, is intent on preserving the value of his or her capital investment and maximizing the return on his or her scarce resource, time. These two viewpoints may lead to conflict in various forms: Should "excessive" costs be cut by firing employees or eliminating expenditures? Should additional cash be advanced even though milestones have not yet been met? Should the business be sold to a corporate suitor? Other manifestations of the conflict might easily be imagined. In such circumstances, one might expect that the entrepreneur, whose actions are founded on interests suddenly different from those of the venture capitalist, would be perceived by the investing group as, at best, an annoyance, and at worst as a selfish and destructive force at the head of "their" company.

The venture capitalist, acting through the board of directors, typically gains the power to fire senior management in the initial negotiation. We asked venture capitalists how often they resorted to this final privilege. The answer is, "Frequently." The mean (in the statistical sense) venture capitalist has initiated the firing of three CEO/Presidents, or one CEO/President per 2.4 years of venture investing experience. Given that a venture capitalist typically monitors only nine companies at a time, and expects to hold each investment five to seven years, this represents a noticeably high incidence of what is for all parties a traumatic experience. It seems clear that one of the most significant, not to mention dramatic, things that venture capitalists do is to evaluate management and, when they feel it to be necessary, to dismiss a company's leadership.

CONCLUSIONS

What do venture capitalists do?

Venture capitalists find new investment opportunities and appear to add them at the rate of two per person per year.

They spend better than half of their time monitoring approximately nine investments for which they are personally responsible. Of these, five were companies they helped found and on whose board of directors they serve.

They visit their companies relatively frequently, though for reasonably short periods each time. All told, a venture capitalist will spend 80 hours a year on-site with a company on whose board he or she serves. Frequent telephone conversations fill the gaps between visits and amount to an additional 30 hours per year. In addition, the venture capitalist works on the company's behalf by attracting new investors, evaluating strategy against new conditions, and interviewing/recruiting new management candidates.

When venture-backed companies fail, the venture capitalist sometimes is led to dismiss current management and seek new leadership. Venture capitalists find overwhelmingly that the cause of venture failure, when it occurs, lies with senior management; among nonmanagerial causes, they cite product development failures in half the cases.

APPENDIX 1 Survey of Venture Capitalists Concerning Their Relationship with Portfolio Companies

SECTION I

1. Please fill in the table below. Use judgement and approximations where precise data would be difficult to assemble.

Category	Response
Firmwide	
a) Capital under management	______
b) Number of years in venture capital business	______
c) Number of individuals currently responsible for monitoring portfolio investments	
Partner level	______
Nonpartner level	______
d) Number of portfolio investments for which typical individual is currently responsible	
Partner level	______
Nonpartner level	______
e) Number of Boards of directors on which typical individual serves	
Partner level	______
Nonpartner level	______
f) Number of new investments per year (assume steady inflow of new capital at current rate; exclude follow-on investments)	______
g) Period (years) you would expect to hold typical investment	______
h) Number of years in venture capital business	______
Respondent Only	
i) Number of portfolio investments for which you are personally responsible by role played:	
Lead investor	______
Piggyback investor (early stage)	______
Late-stage investor	______
j) Number of boards of directors on which you serve	______

2. Roughly speaking, what percentage of your working hours over the course of a year do you devote to monitoring and assisting portfolio companies? (Check one.)

______0% ______ 15% ______ 30% ______45% ______ 60% ______ 75% ______ 90%

SECTION II

1. For approximately what percentage of your portfolio companies would you describe your role as essentially passive?

______0% ______ 15% ______ 30% ______45% ______ 60% ______ 75% ______ 90%

2. For companies in which you play an active role, please answer the following question: In addition to contributing capital, what are the forms of assistance you offer to portfolio companies, and for approximately what proportion of your portfolio companies do you in fact provide each form of assistance? Please rank these services in order of their importance. (If you perform a service listed below, check the appropriate box, i.e., "I perform this service for between __% and __% of my portfolio companies." If you do not perform the service, leave the boxes blank.)

		Frequency			
Rank	Form of Assistance	0–25%	25–50%	50–75%	75–100%
____	Introductions to potential customers and suppliers	____	____	____	____
____	Management recruitment	____	____	____	____
____	Help obtaining additional financing	____	____	____	____
____	Strategic planning	____	____	____	____
____	Operational planning	____	____	____	____
____	Resolve compensation issues	____	____	____	____
	Other (please list)				
____		____	____	____	____
____		____	____	____	____

3. Please use your experience and judgement to provide esimates for the table below. Respond with reference to the portfolio companies for which you are personally responsible.

	Portfolio company for which you were a seed or start-up investor		
	Lead	Nonlead	Late-stage investor
Visits per year	____	____	____
Length of typical visit (hours)	____	____	____
Phone conversations per month	____	____	____
Length of typical conversation (min.)	____	____	____

SECTION III

1. Consider companies with which you have been associated that have fallen seriously short of their objectives, so far short as to endanger the company's continued independent existence. For a maximum of three such companies, identify which of the following factors were major contributors to their difficulties and then rank the contributing factors in order of importance.

Rank	Contributing Factor	Company No. 1	Company No. 2	Company No. 3
	Management Problems:			
______	Ineffective senior management	________	________	________
______	Ineffective functional management (i.e. finance, marketing, etc.)	________	________	________
	Market problems:			
______	End user market failed to develop as expected	________	________	________
	Company failed to capture share due to:			
______	Poor channel selection/channel resistance	________	________	________
______	Competition	________	________	________
______	Poor product/market fit	________	________	________
	Product problems:			
______	Development delayed or unsuccessful	________	________	________
______	Manufacturing failure	________	________	________
______	Poor product performance	________	________	________
______	Inadequate quality control	________	________	________
	Other (please list)			
______		________	________	________

2. Have you ever initiated the removal of company managers? If yes, how many times and which managers?

	Number of Times I Initiated Removal	Number of Times I Agreed to Removal
CEO	________	________
President	________	________
Functional Managers (e.g., Marketing)	________	________

3. Have you ever assumed a management role in a portfolio company? What role or roles have you assumed? How long did you remain in the role(s)?

Summary Response Data

Variable	Mean	Std. Dev.	High	Low	Number of Responses
SECTION I					
1. a) Capital under management (millions of dollars)	$147.5	$112.5	$600.0	$5.0	49
b) Firm years in business	11.6	7.3	38.0	1.5	49
c) Number responsible for portfolio management					
Partner level	4.7	2.5	25.0	1.0	49
Nonpartner level*	2.6	1.8	8.0	1.0	36
d) Investments per person					
Partner level	8.8	3.5	20.0	4.0	49
Nonpartner level*	3.6	3.0	11.0	0.0	35

Summary Response Data (*Continued*)

Variable	Mean	Std. Dev.	High	Low	Number of Responses
SECTION I					
e) Boards per person					
Partner level	5.0	3.0	21.0	0.0	49
Nonpartner level*	1.0	1.2	4.0	0.0	36
f) Annual rate of new investment	11.2	5.6	30.0	4.0	49
g) Years investments are held	5.8	1.1	10.0	4.0	49
h) Respondent years in business	7.4	5.4	22.0	1.0	49
i) Number of investments respondent manages					
Lead investor	4.5	3.5	25.0	0.0	49
Piggyback investor (early stage)	2.5	2.3	10.0	0.0	48
Late-stage investor	3.8	3.9	20.0	0.0	48
j) Respondent board seats	4.9	2.9	12.0	0.0	49
2. Hours spent monitoring and assisting portfolio (percent of total hours)	55.9%	14.6%	75.0%	15.0%	49
3. For the following types of investments, estimate the extent of your direct contact.					
Lead investor					
Visits per year	18.7	12.9	80.0	0.0	47
Visit duration (hours)	4.9	2.7	15.0	0.0	47
Annual hours on-site	80.5	44.0	262.5	0.0	47
Phone conversations (per month)	7.5	5.0	25.0	0.0	47
Conversation length (min.)	21.9	15.4	90.0	0.0	46
Annual telephone hours	34.5	37.9	225.0	0.0	46
Nonlead piggyback					
Visits per year	9.1	5.1	25.0	1.0	44
Visit duration (hours)	3.4	1.7	9.0	0.5	44
Annual hours on-site	30.8	23.5	99.0	3.0	44
Phone conversations (per month)	2.8	2.7	12.0	0.0	43
Conversation length (min.)	14.4	6.9	30.0	0.0	43
Annual telephone hours	8.0	8.6	48.0	0.0	43
Late-stage investor					
Visits per Year	4.7	2.8	15.0	1.0	43
Visit Duration (Hours)	2.9	1.7	10.0	0.5	42
Annual Hours On-Site	12.9	10.3	40.0	3.0	42
Phone Conversations (per month)	1.3	1.4	6.0	0.0	41
Conversation Length (min.)	13.2	10.3	45.0	0.0	41
Annual Telephone Hours	3.9	5.3	24.0	0.0	41

SECTION II

1. Indicate how frequently you perform each of the following services for your portfolio's companies.

Note: The four choices included 0–25%, 25–50%, 50–75%, and 75–100%. We have used the medians 12.5%, 37.5%, 62.5%, and 87.5% to compute the statistics shown.

Variable	Mean (%)	Std. Dev. (%)	High (%)	Low (%)	Number of Responses
Introductions to customers, suppliers, etc.	52.5	27.5	87.5	87.5	47
Management recruitment	62.5	25.0	87.5	12.5	48
Seeking additional financing	75.0	10.0	87.5	12.5	48
Strategic planning	67.5	22.5	87.5	12.5	49
Operational planning	55.0	27.5	87.5	12.5	47
Resolution of compensation issues	55.0	27.5	87.5	12.5	45
Other					
Entrepreneur's confidant	75.0	12.5	87.5	62.5	2
Introductions to service providers	75.0	12.5	87.5	62.5	2
Manage investor group	75.0	12.5	87.5	62.5	2
Evaluate management	62.5	25.0	87.5	37.5	2
Help form and manage board	12.5	0.0	12.5	12.5	1
Evaluate acquisitions	62.5	0.0	62.5	62.5	1
Access to resources of a large company	87.5	0.0	87.5	87.5	1

2. Rank the following ways you might assist your portfolio companies in order of their importance.

Note: "Mean" here indicates the average rank this form of assistance received when it was mentioned. "Number" indicates how often it was mentioned.

Variable	Mean	Std. Dev.	High	Low	Number of Responses
Introductions to customers, suppliers, etc.	4.6	1.5	8.0	2.0	43
Management recruitment	2.6	1.4	6.0	1.0	44
Seeking additional financing	1.9	0.9	4.5	1.0	44
Strategic planning	2.4	1.1	5.0	1.0	45
Operational planning	4.1	1.4	7.0	1.0	44
Resolution of compensation issues	5.6	0.8	7.0	3.0	41
Other					
Entrepreneur's confidant	4.0	0.0	4.0	4.0	2
Introductions to service providers	5.0	0.0	5.0	5.0	1
Manage investor group	1.5	0.0	1.5	1.5	1

SECTION III

1. Identify which of the following factors were major contributors to the difficulties of a troubled company with which you have been associated and rank them in order of importance

	Mean	Std. Dev.	High	Low	Number of Responses
Management problems					
Ineffective sr. management	1.6	1.0	5.0	1.0	91
Ineffective functional management	2.5	1.1	6.0	1.0	48

SECTION III

	Mean	Std. Dev.	High	Low	Number of Responses
Market problems					
End user market failed to develop	2.7	1.9	10.0	1.0	41
Channel problems	3.3	1.5	8.0	1.0	34
Competition	3.0	1.3	6.0	1.0	33
Product/market fit	3.5	1.7	7.0	1.0	27
Product problems					
Development delayed	2.4	1.4	6.0	1.0	49
Manufacturing failure	2.9	1.4	6.0	1.0	11
Poor product performance	4.2	1.4	8.0	3.0	17
Inadequate quality control	4.7	2.4	10.0	2.0	12
Other	2.7	0.9	5.0	2.0	
2. How many times have you initiated the removal of a company's CEO/President?	3.0	2.1	8.0	0.0	

*For sample *with* associates.

APPENDIX 2 Summary Data on the Economy and Venture Capital Markets

Row	1978	1979	1980	1981	1982	1983	1984
Macroeconomic data							
1 Nominal gross national product	2,164	2,418	2,633	2,938	3,058	3,310	3,662
2 Percent change in GNP deflator	7.4	8.6	9.3	9.4	6.0	4.2	3.8
3 Percent change in real GNP	5.0	2.8	−0.3	2.6	−1.9	3.3	6.7
4 Consumer price inflation	9.0	13.3	12.4	8.9	3.9	3.8	4.2
5 Unemployment rate	6.1	5.8	7.1	7.6	9.7	9.5	7.5
6 Industrial product index (mfg)	146.8	153.6	146.7	150.4	137.6	147.7	163.2
7 Net business formation index	128.2	128.3	122.4	118.6	113.2	115.0	117.1
8 Business failure rate (per 10,000)	23.9	27.8	42.1	61.3	89.0	109.7	79.7
Financial market data							
9 3-Month U.S. treasury bills	7.2	10.0	11.5	14.1	10.7	8.6	9.6
10 Corporate Aaa bonds	8.7	9.6	11.9	14.2	13.8	12.0	12.7
11 Prime interest rate	9.1	12.7	15.3	18.9	14.9	10.8	12.0
12 Standard & Poor's 500 index (EOY)	96.1	107.9	135.8	122.6	140.6	164.9	167.2
13 NASDAQ composite index (EOY)	139.3	152.3	208.2	223.5	340.7	328.9	258.9
14 Venture 100 index [EOY]	261.5	369.7	655.7	569.8	715.7	842.6	536.3
Venture capital and IPO activity							
15 Net new commitments to the venture capital industry ($mil)	600	300	700	1,300	1,800	4,500	4,200
16 Total venture capital pool ($mil)	3,500	3,800	4,500	5,800	7,600	12,100	16,300
17 Estimated disbursements to portfolio companies ($mil)	550	1,000	1,100	1,400	1,800	2,800	3,000
18 Median size of public venture funds ($mil)	15.0	24.5	20.0	19.6	22.0	25.2	30.0
Total new partnership formation							
19 Number	13	14	22	37	54	89	101
20 Amount ($mil)	216	170	661	866	1,423	3,460	3,300
Public underwritings of companies with net worth							

APPENDIX 2 *(Continued)*

Row	1978	1979	1980	1981	1982	1983	1984
21 Less than $5MM (no.)	21	46	135	306	113	477	224
22 Amount Raised ($mil)	129	183	822	1,760	619	3,671	1,190
All initial public offerings							
23 Number of offerings	45	81	237	448	222	884	548
24 Amount raised ($mil)	249	506	1,397	3,215	1,446	12,619	3,832

Most of the data in rows 1 though 11 represents averages for the relevant time period. EOY, end of year (or period) data. *Source: Economic Report of the President*, various issues; Venture Economics, Wellesley, Massachusetts (row 15–22); *Going Public: The IPO Reporter*, Howard & Company, Philadelphia, PA (rows 23 and 24); Casewriter Estimates.

REFERENCES

Bruno, A.V., Lendecker, J.K., and Harder, J.W. 1986. Patterns of failure among Silicon Valley high technology firms. In J.A. Hornaday, R. Peterson, R. Ronstadt, and K.H. Vesper, eds., *Frontiers of Entrepreneurship Research 1986*. Babson College, Wellesley, MA: Center for Entrepreneurial Studies.

Kozmetsky, G.G., and Smilor, R.W. 1985. *Financing and Managing Fast-Growth Companies: The Venture Capital Process*. New York: Lexington Books.

Macmillan, I.C., Siegel, R., Narashima, P.N. and Sabbe. 1985. Criteria used by venture capitalists to evaluate new venture proposals. *Journal of Business Venturing* 1(1):119–128.

Robinson, R.D., Jr. 1987. Emerging strategies in The venture capital industry. *Journal of Business Venturing* 2(1):53–77.

Sahlman, W.A., and Soussou, H. 1985. Note on the Ventúre Capital Industry (1981). Case #9-285-096. Boston: Harvard Business School.

Sahlman, W.A. 1986. Note on the Venture Capital Industry—Update (1985). Case #9-286-060. Boston: Harvard Business School.

Silver, D.A. 1985. *Venture Capital: The Complete Guide for Investors*. New York: John Wiley & Sons.

Vesper, K.H. 1980. *New Venture Strategies*. Englewood Cliffs, NJ: Prentice Hall.

Wilson, J.W. 1985. *The New Venturers: Inside the High Stakes World of Venture Capital*. Reading, MA: Addison-Wesley.