Managing Venture Capital Investments

By

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The original venture capitalists were wealthy “angels,” often entrepreneurs themselves, who funded promising business ventures that came to their attention in the late 19th and early 20th Centuries. A number of these families continued to make such investments after their own capitalist progenitor died, including the Vanderbilts, Rockefellers, Phippes, and Whitneys and continue to be such today. In time some of these families opened their investment funds up to non-family members. In 1946, MIT president Karl Compton, Harvard Business School professor Georges Doriot and some Boston business leaders founded American Research and Development Co., the first independent firm to enter the VC business. Subsequently a number of other independent firms were formed, especially in the Boston and San Francisco areas, to manage equity investments in promising new sectors of the economy, especially technology. Most of the money given to them to manage came from wealthy families, university and other endowments, and a limited number of financial institutions. The firms stayed in touch with each other, invested together, and shared information. The amount of new investment flowing into these venture capital firms grew, but never exceed a few hundred million dollars through the 1970s.[2] In 1979, however, the US Labor Department, which regulates pension funds in America, declared that the

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[2] Josh Lerner, Felda Hardymon and Ann Leamon, *Venture Capital and Private Equity*, New York, J.H. Wiley & Sons, 2005, pp. 2-3

trustees of pension funds were free, as "prudent investors," to allocate a portion of their funds to "alternative investment classes"[3] in order to achieve greater diversification of their entire portfolios. This led to an additional inflow of money into risky, but potentially very profitable "private equity" and other investments in managed funds and other vehicles focused on leveraged buyouts, real estate, emerging market securities, and venture capital.

By 1995 the American venture capital industry consisted of about 100 funds employing about 4,000 people. Total commitments to US Venture Capital funds in 1995 were $7.3 billion, but after the development of the Internet, the number of funds, and people employed doubled and the net new money invested in 2000 nearly reached $85 billion. This was the peak of the VC market and during the following three years the industry fell into shambles as the technology bubble burst, investment returns plunged into deep negative territory and employment shrank. In 2003 capital invested in VC funds declined to $8.8 billion.[4]

Variation of Venture Capital Returns

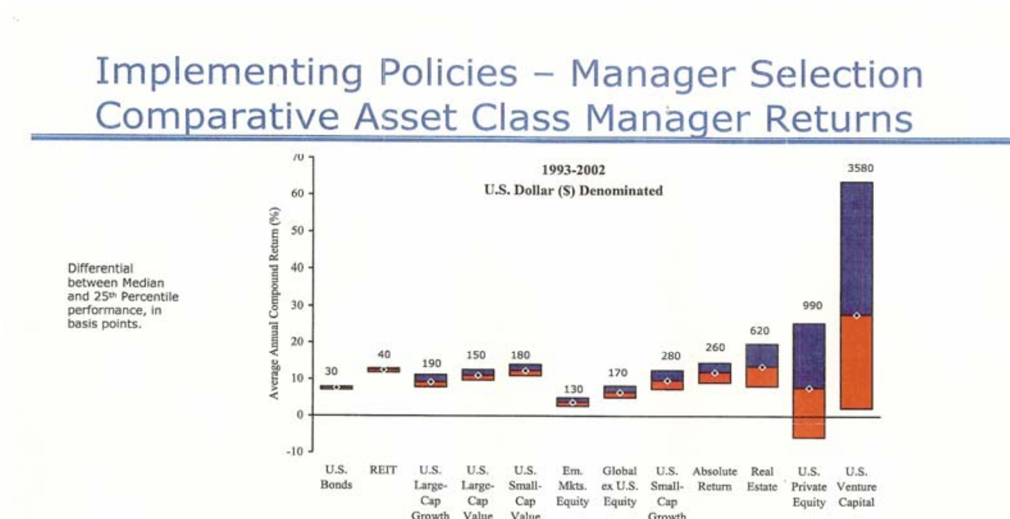
Though their correlation to stock market returns was low, the median return from all reporting VC funds for the period 1980-1997 was a surprisingly low 8.1% during a period when the median return from domestic equity investments was 15.5%. However, according to a study by the Yale Endowment, the returns showed a very wide dispersion, ranging from nearly 500% to nearly -

[3] Alternative (or, nontraditional) asset classes are groups of comparable investments that have relatively low correlation of investment returns to quoted market returns, such as the S&P 500 index.

[4] Dow Jones, *VentureOne*. 2005

100%, with a standard deviation of 30.0% as compared to a standard deviation of returns from domestic equities of only 1.3%. First quartile VC returns for this period were 17.1% while third quartile returns were only 0.6% for capital exposed to significant investment risk.[5] Another study by Cambridge Associates covering the period 1993-2002 reported similarly wide variations in returns for VC funds ranked by quartiles, these returns being more widely distributed than for any other asset class. See Exhibit 1.

Exhibit 1



manager was. The difference between the top quartile returns and all the others was too great to be ignored. There were apparently important differences between managers of venture investments in terms of how they managed their portfolios. Indeed, many investors were re-opening the question, "What does it take to succeed as a VC fund manager?"

[5] David F. Swensen, *Pioneering Portfolio Management*, New York, Free Press, 2000, pp. 228-229. Data from Thomson Venture Economics, "*1998 Investment Benchmark Report: Venture Capital.*"

Perhaps the most popular answer to this question, often repeated in informal surveys, was *experience*. Most investors would agree that VC investing was not a business for amateurs, but beyond that, there were a variety of views as to what it took to distinguish a successful firm from an average one. Being connected to a ”network” of plugged-in players, cutting-edge technology and university or other experts who knew where they next best deal was to be found was often mentioned; having a team of investment managers who combined technological and business operating skills was another. Being located in the right place – Silicon Valley, for example, or along Route 128 in Boston – also was important to some. But in the end, many observers would agree, none of these was more important than just being lucky. Most investors seemed to recognize the anecdotal wisdom that had long defined the VC industry: three or four out of ten investments would fail, four or five would survive but only provide mediocre returns, and, (if one is lucky), one or two investments would become “home runs,” i.e., spectacular successes that returned ten or more time the initial investment.[6]

Art or Science

Both the reported returns by quartiles and the anecdotal statistics lead many to wonder whether the venture capital business is more art than science. Surely there are intuitive features – making judgments on imperfect information

[6] Baseball fans know that a batter hitting a home run once or twice for every ten times at bat would probably win the major league home run title. And those doing the math would recognize that a portfolio with two investments returning 10 times investment, four returning 1.2 times each, and four returning zero would over ten years provide an IRR of less than 10%.

about something that cannot come into a market for several years, judgments on whether a particular product will sell or not, judgments about whether the people managing the businesses are up to the task, judgments on whether the business strategy inherent in the investment retains valid after contact with the real market and encountering customer resistance, competition and variable financing conditions. These are not judgments made with the help of calculators or the use of engineering tools; they are judgments that are best made if the decision maker has meaningful personal experience of the business or the industry being judged. From such experience templates for policies, procedures and practices can be framed for decision making in the VC industry by those less experienced. From such patterns of learning, more scientific elements can be incorporated into the work of venture capitalists. These elements do not displace the role of luck, but they ought to be able to improve portfolio returns by maintaining strict adherence to proven investment procedures and portfolio management practices that are designed to increase the probability of success and decrease the risks of failure at several points during the time an investment is held.

This paper is an effort to identify some of the more scientific (and less artistic) portfolio management practices in the VC business that have revealed themselves at different firms over the last ten years, years of feast and famine for the industry during which veterans have had many learning experiences. As this paper represents a work-in-progress, it is hoped that its circulation will uncover other practices and procedures used in the industry to nurture portfolio

investments and to improve overall returns, and that these practices and procedures can be incorporated into teaching materials used at the MBA level.

All VC investments pass through four phases, and within each, one or more stages. The phases represent the progress of the investment, and the stages the development of the businesses of the companies involved. The four investment phases of the VC cycle are:

- Identification of the business opportunity in the investment and the decision to invest.
- Negotiating the price and contractual terms of the initial and subsequent investments, understanding that there are in almost all VC investments a series of different financing prior to the appearance of a "liquidity event."
- Nurturing the company through its development stages and adding value, and
- Securing an exit that will return money to the VC's investors.

This paper will discuss each of these phases and conclude with some observations about the size of VC firms and the funds they arrange, the focus and specialization they have selected, and other factors important to their ability to be successful in achieving the financial returns they hope for.

<u>Identification of the Business Opportunities</u>

Most VC firms begin with an idea of their specialization, i.e., the comparative advantage that they present to their investors when raising money for their funds. The firms select narrowly focused delineations as to what their investment portfolios will contain based on the expertise and experience of their principle managers. Most will also indicate a preference for first-time, start-up

companies offering a product or service with significant year-to-year growth potential. In the 1990s, such companies were usually found in new technologies associated with Internet based software and computer applications, telecommunications, and biotechnology. Before then, specializations have also included computer hardware, semi-conductors, fiber-optic mechanisms, and medical instruments and mechanical devices. VC firms will select only a few technologies, the ones with which they are most familiar, and will prefer business opportunities within reasonable commuting distance from the staff assigned to them. All of the opportunities are expected to be in very early to early stages of development when they begin to invest, so the size of the initial investment needed is not very large, though each firm will reserve what it thinks it is likely to have to invest in subsequent financings as the company develops. For capital intensive businesses (which most high technology companies are) that could mean setting aside as much as $15 to $20 million per company, perhaps spread over 4-5 different investment rounds. For a fund expecting 20 different investments over a five-year investing period would need a $300-$400 million fund to be able to accommodate these investments.[7] Smaller sized funds must adapt accordingly. Larger funds may seek larger deals or invest in a greater number of companies.

These factors, in combination, determine the investments that a VC fund is able to make. They are constrained by technology or "business fit," by location

[7] Most VC funds have a life of ten years, during the first five of which new investments are made and during the last five, capital is returned to fund investors. Once a company returns capital to the fund, the fund must distribute it to its investors, not use it again for new investments.

and by size. All new investments must meet these criteria, and those that do not must be rejected, regardless of the appeal of the investment opportunity.

Recognizing Opportunity All VC firms look for the best investment opportunities they can find. Finding them is a function of two factors: seeing a “deal flow” that will include the best opportunities in the sectors being pursued, and being able to differentiate between deals presented.

The first requires extensive networking into professional circles associated with the technology sectors that the funds have identified. Such networking is largely made possible by the personal connections of the principals of the funds involving technology experts, current and past entrepreneurs and business leaders, peer funds, Wall Street analysts, and investment banking relationships, among others. The deeper the experience of the fund principles the wider will be the networking opportunities. From these relationships comes the ability to generate a deal flow of specific company investment proposals. Most VC firms emphasize the importance of being able to look at thousands of possible investment opportunities in order to select fewer than perhaps fifty to investigate thoroughly, a process that takes time, effort and some expense and therefore is not a resource to be wasted.

Out of a thousand possibilities, probably no more than two or three will be obvious to all that they should be selected for investment. These may be invitations to co-invest along with other VC firms that have already done a lot of investigation and evaluation, or represent a new superior technology that has already been vetted in scientific circles and literally just awaits building up a

manufacturing capability. Such investment possibilities, however, are opportunities that have already been recognized by someone else (a factor usually reflected in the price of the investment). The task of recognizing a good opportunity hidden among the scraps and aspirations of possibilities presented by an enthusiastic entrepreneur, however is complex and often requires a degree of imagination or vision that exceeds that of the founders. The VC Investor is trying to visualize a successful business, not just a new invention.

There are three inquiries that the VC can make at this early moment of attempting to differentiate between deals with investing in extensive investigation:

> 1. Does the product or service actually work? Can it be demonstrated through a prototype, or is the prototype itself yet to be developed. If it doesn't exist, how difficult is it to create a working prototype.
>
> 2. Will the product or service actually make a significant difference in the market it intends to serve? Will it challenge the economics of the products it is seeking to displace by a major amount, i.e. a factor of 4 or 5? If not, does it nevertheless offer enough advantages to cause the market it serves to be easily persuaded to shift to the new product?
>
> 3. Who is going to take the idea and turn it into a viable company with a good chance of succeeding? Does the management team exist? If not, can one be organized by the VC to do so? An idea without a team to execute it is not worth very much.

Most VCs are going to expect positive answers to all of these questions before selecting the investment for further, more intensive review (a process called "due diligence").[8] Only the most exceptional ideas, or the ones supported by persons with the most credible credentials, could be expected to continue with investigations if one or more of the questions were not to be answered positively.

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[8] The term is from the investment banking industry and refers to the thorough vetting a company whose securities are to be underwritten must receive to lessen the underwriters liability.

Due Diligence For those selected for further investigation, due diligence begins by assigning a team of principles and staff members from the fund to undertake a thorough vetting of the idea and the company that hopes to implement it. This may begin with a series of discussions with industry opinion leaders, technical experts, analysts and business leaders. Of course, it is essential to be able to gain access to this group of individuals. Then there is a series of conversations with prospective users of the product or service – including prospective customers. Then there are checks with vendors, manufacturers, and possible competitors. Sometimes these conversations will involve enough of the technology being examined to "give it away" so the process must be handled discreetly and confidentially. Finally there is an examination of the management capabilities of the entrepreneur's team, and possibly some conversations with managers known to the VC that might be retained to fill important positions. This extensive due diligence process takes time, perhaps two or three months or more, but it must be completed before the deal team is able to present its findings to the VC's investment committee for approval. Once it is submitted, the investment committee takes a fresh look, and weighs the possible investment against other considerations, such as expected return, portfolio diversification, other investments available for selection at the time, and the VC firm's ability to manage the investment once it is made (some of these issues may have already been aired with the investment committee as a preliminary check before the due diligence process began).

The investment committee approval is by no means a rubber stamp expected once due diligence has begun – it depends heavily on what the due diligence uncovers -- but most deals, having uncovered no important negatives, are approved. After approval, or as part of the process being approved, the deal goes to "term sheet."

Price and Terms

The term sheet is a brief summary of the terms of investment that the fund presents to the entrepreneur when it is ready to invest. The terms include the price per share (usually expressed in terms of the percentage of the company to be owned by the VC investor after the investment of a particular amount of money) and the non-financial terms of the investment. These are usually presented without much room for negotiation, though if the company has received other offers of financing it may be necessary for the VC fund to alter its terms. Most VC firms dislike the idea of bidding for investments in an "auction" created by the entrepreneur, and except for extraordinary cases, will withdraw their offers if the price has to be raised more than a modest amount. After all, the reason the firms are eager to invest in very early stage deals is to be able to establish a very low cost of their initial investment. As in other quarters in the world of commerce, profits most often come from "buying low and selling high."

Price VC funds will look at a proposal in terms of the "pre-money" value of the enterprise at the time of the financing, and the "post-money" value afterwards. If a VC offers $2 million for 40% ownership of the business, the offer

values the entire enterprise at $5 million, of which the pre-money portion (including investments made by the entrepreneurs to date plus attributed intangible values for intellectual property or other business “goodwill”) is worth $3 million. The entrepreneur may have requested more money at a lower price (share of ownership), perhaps based on a discounted valuation of the forecasts of revenues and profits that accompanied his or her business plan. The VC usually does not apply sophisticated valuation techniques to pricing the offers it makes. It will say that the forecasts are too uncertain to be used for valuation and the entire project is so risky than only a minimal valuation for the earliest rounds of financing can be expected. Thus the negotiation on price for early rounds of financing is more similar to horse trading than to following valuation models taught to MBAs. The entrepreneur is essentially presented with a take-it-or-leave-it proposition, with the understanding that there may not be another alternative for the entrepreneur to get the company started. The VCs will point out that the price of the initial financing is unimportant – the entrepreneurs have their percentage of the company at an even lower price than the VCs because the pre-money value includes intangibles usually well beyond their own cash investments – but what is important is the partnership formed in which the VC will do all it can to help the entrepreneurs accomplish their objectives. The VC may be called upon to demonstrate that it’s firm is worth the concession in valuation (i.e., the best possible partner for the entrepreneur), but this may depend mostly on whether another bidder is available at the time or not. If so, the two VCs may

decide to combine forces in some way to take the sting out of the auction process.

Terms Perhaps more important than the pricing in early stage investments are the non-financial terms that accompany them. These terms affect the control the VC investor has over the enterprise and the amount of risk it takes. Early stage VCs will expect to be offered one or more seats on the board of directors, depending on the firm's ownership interest, eg. two seats out of five for a 40% post-money ownership. But in addition it will also seek other terms that will increase the control interest of the VC beyond its board representation. Such terms include the requirement that the VC consent to important business decisions, including arranging new financing, selling the business, changing management, etc. They will also usually require the company to first apply to the VC for its next round of financing ("a first offer"), a condition that in effect makes the company dependent upon the VC firm for future rounds of financing, which if denied might result in the failure of the company. Most VC firms believe it is best to keep their investment companies on "a short leash," that in effect makes them "heel" closely. This is because the VC will grant only a relatively small amount of investment for each round, i.e., an amount not intended to last for more than several months before having to arrange another financing. While the company is busy developing its business between financing rounds, it has little opportunity to seek an alternative source of financing for future rounds, which could be blocked in any case by the first offer given to the VC. When the time for new financing come, the old financing is about gone, and the company has little choice but to

accept the terms of the next round offered by the VC. If the company has progressed well, then the next round is likely to be at a higher price per share than the earlier round, but the VC will add additional shares to its stake to maintain or increase its percentage. After a few rounds, the VC (together with other VCs introduced to subsequent financing rounds by the initial VC) will in many cases have assembled a controlling position in the company, i.e., greater than 51%, that assures it of the ability to control the company completely.

Most VCs prefer to take their shares in companies in which they invest in the form of convertible preferred stock, which provides a preference over common stock holders (founders, entrepreneurs and management) in the event of bankruptcy or liquidation. The preferred can be converted to common stock to assure its upside value when an initial public offering or sale of the company occurs. .

Lead VC Investor Most VCs plan to add additional investors to their "syndicate" as the company progresses through successive financing rounds. The original VC wants to be able to restrict such co-investors to firms with which it has cooperative and supportive relationship -- ones in which the new firms will defer to (or support) the original firm on matters of establishing company policies, possible management changes, financing strategies and related issues. The later stage VCs are offered an opportunity to invest in a business that has already been developed by the original VC, and the original VC appreciates another "pair of eyes" judging the business, its economic potential, and its current valuation. The old and new VCs operate together synergistically, and frequently include

each other in later stage investment opportunities. The original VC investor, however, assumes responsibility for managing and orchestrating the company's development, and may have to offer to buy out any later stage VCs that dissents from the lead investor's plans or loses interest in the investment.

Adding Value

Having established *de-facto* control of the enterprises in which it invests, the lead VC firm next has to apply it to improve the probability of successful outcomes. There are two ways in which this occurs: through assisting the companies in their step by step development, and by replacing CEOs or other executives (including individuals who were founders of the company) who do not prove to be up to the task. The former of these can be done without the power of control behind them (though usually the existence of this power increases the influence of the VC firm in discussions about strategic and operational matters), but the latter usually can not. Neither intervention by VCs, however, will be of much value unless the firms' managers have developed the capability to add value directly to the companies they own.

This capability is not an insubstantial thing. It includes the ability to provide intimate counseling to the CEO about the current state of the business and its strategy and development. For such counseling to be of value it must come from someone with the time and willingness to stay in very close contact with the company and the experience to grasp operating issues and their likely solutions. The capability should also extend to assistance in recruitment (through a full

rolodex of experienced industry executives and headhunters), and in finding specialized consultants in such areas as market research, distribution and manufacturing.

Generally the VC manager will assign a team to each company in its portfolio, usually a partner or senior person and an analyst. The team will be in frequent contact with each company and visit them regularly. The teams are in effect performing a continuous evaluation of how the company's business is developing according to plan, and the quality of the job being performed by the CEO. Such evaluations are both subjective and potentially controversial and can be expected to be contested by management. To perform these evaluations, therefore, the VC will benefit from a systematic approach for doing so that can be described in the beginning to the management teams involved and applied periodically.

<u>Staged Growth Model</u> One such systematic approach is the "Staged Growth Model" employed by Lazard Technology Partners ("LTP"), a venture capital firm managing three funds with approximately $630 million under management. (See Exhibit 2). LTP has recognized from past experience that the management complexities of developing a start-up business change significantly depending on the stage of growth the company has achieved. In the first stage, for example, during which the company is developing and testing its product – a period that should not last much longer than 18 months – the emphasis is on engineering and R&D to prove that the product actually works. There may be 2-4 customers using the product in beta testing. The next stage – another 18 months

– involves selling the product to an initial group of 10-20 customers, an effort that involves new management initiatives in marketing and production. The third stage involves expansion of the sales and production teams, service units and accounting and control infrastructure to accommodate up to 100 customers and probably involves a headcount in the company of approximately 50-100, which involves a significant recruitment and training effort. The last stage is when the company breaks out into the larger, global marketplace for which a suite of products to cover well over 100 customers will have been developed. During this stage managers must be attentive to product obsolescence and replacement issues. By this time also, somewhere around 4 to 5 years after initiation, the company should be approaching or have achieved profitability and the VC firm will be studying opportunities for exiting the investment. Lazard's approach is to recognize the substantially different management requirements of each stage, to anticipate the changes from one stage to another (which includes passing off important tasks to senior management that has been recruited to handle them), and to plan for the new financing requirements of each stage. Lazard's experience has been that managers which have been totally competent at the earliest stages have sometimes not been equally competent at later stages and need therefore additional coaching or to be replaced. The firm also feels that by using its Stage Growth Model it can better control the amount of time spent in each stage – by anticipating the changing requirements and preparing for them – and thus better be able to move the company along its optimal development path.

Exhibit 2

The LTP Way: Staged Growth Model™(a)

LAZARD TECHNOLOGY PARTNERS

	STAGE I	STAGE II	STAGE III	STAGE IV
Timing (months)	0-18	18-36	36-54	54+
PRODUCT				
Availability	DEV/Beta Test	REL 1.X-2.X	2.X+; Add-ons	Suite
Development	In-house R&D	Add Off-shore development		
MANAGEMENT				
Box Model	R & D 4/7	7/7	7/7	7/7
Employees	20-30; mostly R&D	40-60	50-100	100+
SALES				
Target Market	Entry Segment	Confirmed Entry Segment All Marketing "P"s Established	Multi-Market	Multi-Market/International
Geography	Regional	US	US/NA	NA/EMEA
Team	1-3 Individuals	3-5 Teams	8-10 Teams	12-15 Teams + Channels
Customers	2-4 Beta	10-20	20-100	100+
Pricing	Negotiated	Established Price list	Established	Volume
Channel	Direct	Direct/Early Channel	Direct/Expand Channel	Integrated
FINANCIAL				
Capital Raised	$8M-$10M	$10M-$15M	$10M-$15M	$4M
Total Invested	$8M-$10M	$18M-$25M	$28M-$40M	$32M-$44M
Mgmt. Ownership	30%-40%	20%-30%	15%-25%	15%-25%
Revenue	$0M-$1M	$1M-$5M	$5M-$30M	$30M+
Profit	No	No	No; Model Developed	Yes

(a) Enterprise Software/ eBusiness example.

10

Business Strategy Changes Many start up businesses encounter resistance once they have made contact with the market, and fall behind their operating goals. There are many reasons for this, the product's advantages may not be well understood, or indeed, the market may be indifferent to them. The product's pricing strategy may be wrong, or competition especially tough. Often it becomes necessary to re-evaluate where or how the product is to be sold, and

sometimes this becomes an effort in trying to salvage a market opportunity for the product and the business that has based its hopes on it. For example, a business designed to help households manage bill paying and other finances, now a crowded field with many banks offering such services for free, might instead have repositioned itself to become a payments manager for on-line transactions, such as PayPal was successfully able to do for EBay.[9] In situations requiring strategic reviews, often the business founders are reluctant to change or give up on what they have worked on for so long, and more objective evaluators are needed. The VC management firm is in position to be able to detect the problem early, and to begin to consider other alternatives, but it needs to realize that it has this responsibility and to prepare itself for careful, periodic reviews of all the businesses in the portfolio.

Quarterly Performance Reviews Lazard Technology Partners conducts one or two-day quarterly reviews of all its investments. The investments consist of initial stakes and follow-on investments in primarily technology companies in early stages of development. In about three-quarters of its investments, the Lazard group had a seat on the board of directors and was deeply involved in management issues. In the others, Lazard relied on other VC firms which acted as lead-manager, but still stayed in close contact with the companies.

The purpose of the quarterly portfolio review was threefold:

- For the portfolio managers, each of whom followed the activities of three or four invested companies closely, to share information with their colleagues,

[9] PayPal, an on-line, peer-to-peer payment system start up, went public in February 2002. It quickly became the payment system of choice on EBay, and EBay acquired the company in July 2002 for $1.5 billion in EBay stock.

- To invite the group to comment or criticize actions taken during the last quarter and to develop an action check-list to be followed up on after the meeting, and

- To grade the progress of the companies according to particular criteria that the fund managers had developed, and then rank all the companies in the portfolio, with extra operational attention to be given to those ranking in the bottom quartile.

The review process also afforded the opportunity for the managers to revise the estimates of the value of their holdings.

During portfolio review meetings, each company representing an "unrealized investment" (i.e., not yet sold or gone public) was reported on by its assigned manager, and discussed frankly by the group. The objective was to focus on the most relevant matters that had developed over the last 90 days, or were soon expected. There is also an effort to determine whether there is any action that the fund managers might take to improve the company's ability to deal with its immediate, or longer-range problems, and if so, what? The analysts also pay careful attention to the timing of future financing events, including when and how "exits" might be realized. An exit is the opportunity to present the company to financial markets in order to take it public, sell it to another company or recapitalize it.

At the end of the discussion of each company, the group is asked to use its best judgment to rank the companies on a CEO "PTS" scale. PTS stands for <u>P</u>erformance, <u>T</u>eam building, and <u>S</u>calability on the part of the CEO. The reviewer offers an opinion as to how the CEO has performed in these categories over the past quarter (graded on a zero-to-five basis). It is an effort to assess

how each company CEO has performed in terms of meeting short term goals plus building its management team to meet future requirements? The sum of the three grades is then recorded and compared to its total at the last quarterly meeting and is used as part of the company's overall performance rating.

There are five criteria for the overall performance rating:

- Size of revenues,
- Performance relative to budget,
- Estimated firm-value relative to revenues,
- The PTS rating,
- And estimated IRR returns (IRR returns is assigned a weight of 2 and all the other criteria 1 for computation of a company's overall ranking). IRR is based on an estimate of each company's valuation as on the time of the review.

All of the fund's unrealized investments are graded, and then ranked from highest to lowest. Thus, a relative performance measure for the whole portfolio is taken, one that can identify troubled areas for the managers to focus on while there is still time for them to help fix the problems. "Things move fast in this business," said Russell Planitzer, Managing Principle of LTP, "and if you don't bear down on solutions to problems as soon as you see them, the company may be gone before you get another chance." He added, "we want all our companies to succeed, and feel we have an important role in helping them do so, by applying our experience and operating know-how to assist them. Most of our companies have much less operating experience and know-how than we do. Our portfolio review system is a heads-up system to alert us to where we might be the most useful. There are a lot of things we might measure each quarter, but we

have selected the PTS scoring as being the most useful management tool for us. We are always looking for better ways to do what we have to do, but measuring the PTS qualities in a fast-developing business seems to work. But, in addition to spotting the problems, we also have to act effectively and promptly to make a meaningful difference. This we do not know how to measure, so we hope for the best."

Securing Exits

IRRs of VC funds are determined only when the last asset has been written off or sold, and the proceeds distributed to LP investors. All VC fund managers seek to secure the highest returns, but how they handle the "end game" of deciding on and executing exits can affect final returns considerably.

There are three ways for fund managers to exit VC investments: through a public offering of stock, through the sale of the company to another company, or through a recapitalization or sale to another, replacement VC investor.

Public Offering At times when the initial public offering ("IPO") market is active and robust (as for example in the late 1990s) relatively high valuations of a company's shares can occur, and a VC fund manager may elect to steer one or more of the companies in the portfolio into the IPO market. Sometimes VC investors are permitted to sell some of their stock in the IPO, but usually the issuance is made by the company and the VC investors and other insider holders must refrain from trading for a "lock-up" period of 3 to 6 months. VC's will usually distribute to LP investors the common shares of the company (into which the preferred stock the VC had held were converted before the IPO) they own after

the expiration of the lock-up period. These investors generally sell the stock when they receive it, and the IRR of the investment is calculated based on the realization of the value in the company at the time of distribution.

VC's however, have a few options in the process that could change the realized IRR. First, they may decide to forego the first opportunity to go public, usually presented while the company is still very underdeveloped, in order to capture more attention, better sponsorship and more institutional distribution at a later time. Early distribution, however, tend to be favorable for IRR calculations, so the choice may be a difficult one. Still, VCs will know that smaller, not-yet-profitable companies can be very fragile in the public trading market, and may encounter resistance to the offering or a lack of after-market interest that could reduce the price significantly by the time the lock up expires. VC's may also decide that certain companies are likely to be able to perform well as public companies and therefore the VC does not distribute the shares as soon as possible after the IPO, but perhaps instead holds on the them for another year or more to participate in the company's future growth. This too can be a risky strategy for the VC as it exposes it to further market risk before distribution.

<u>Sale of the Company</u> Long before a company may be eligible for an IPO, it may receive an offer from a competitor or other corporation to be purchased, either for cash or for stock in the buyer company. Many VCs find these offers attractive ways to capture some quick returns to anchor the fund with, or otherwise find the offer better valued than their own valuation of the company. In such cases the VCs would accept the offer for buy if the offer is in

cash or a stock they are prepared to hold (or distribute). Other times, the VC may decide to refuse the offer on the grounds that there is more to be made as the company develops into its potential.

Recapitalization Through various stages VCs may have or be able to develop the opportunity to sell some of its shares in portfolio companies to other investors seeking to secure a position. Sometimes the lead VC will seek to buy out the other VCs, especially after a difficult period in which major changes need to be made and all of the other VCs may not wish to continue as investors. Sometimes whole portfolios or portions of portfolios are sold in an emerging secondary market for VC funds in which, say, a pension investor decides to sell a package of different VC investments and another buyer steps up to take them.

Working with the Losers Some funds also find it useful to have ways to work with companies that clearly are not likely to be home runs, and indeed may be close to having to be entirely written off. Every portfolio has a few of such companies, but if some small return can be realized, instead of a write off, then overall returns will benefit.

The Size of Funds and Other Issues

Several VC fund managers have realized that the post-bubble marketplace for VC investments can not sustain investment funds of exceptionally large size. The availability of high grade investment opportunities may not be large enough for such large funds to be able to secure upper-quartile returns they seek, even if the VC managers are well-staffed and well-managed

and employ sophisticated procedures to maximize returns. Indeed, during the post-bubble period (2001-2003) several investors in large VC funds petitioned the funds to cancel future capital calls in the light of substantially deteriorated market conditions. Few of these petitions were successful, but funds arranged since then have been much smaller in size than the $1 billion funds that were arranged during the previous period. Some managers began to think about the "right size" that funds should seek, with the idea being that few start-up companies would require more than $10 to $15 million from a single VC investor during their development periods prior to IPOs. In November 2005, Greylock, a blue-chip 40-year old VC management firm with a history of successful investment returns, announced that its latest fund would be limited to $500 million, or half the size contemplated for its previous fund which was closed in 2001. The firm was "attempting to right-size it's assets under management," said David Swenson, the chief investment officer of Yale's Endowment, "even though it could have raised more money if it had wanted to do so." [10] A $500 million fund will still have to invest about $100 million a year, in probably not more than 30 investments – a $1 billion fund would be hard pressed to find twice as many deals to invest in each year.

To manage a portfolio of 30 investments requires a staff of at least 7-10 partners and analysts plus an additional support staff of 2-3 for administration and investor relations, communications and reporting. The partners and analysts must maintain close contact with the portfolio companies and spend considerable

[10] Rebecca Buckman, "Greylock is Closing Venture Fund in an Effort to "Right-Size' Assets," *The Wall Street Journal*, Nov. 18, 2005

time in following their business development issues, and they must perform all the analysis and due diligence required to prosecute new investments. They must also be available for period reviews, analysis of exit opportunities and periodic meetings with existing or potential fund investors. A $100 million fund generating an annual management fee of $2.5 million may just be able to cover office space, compensation and other expenses for an experienced staff of 10 to 12 people. Thus perhaps it can be established that a $100 million fund represents a minimum size for a VC fund that purports to be capable of applying modern “scientific” management practices to start-up businesses in the technology sector. Fund below this size may in the future have to represent themselves as “angel-like” specialists in identifying seed-capital investment opportunities, or in pursuing investments in a particular new technology.

In general the level of returns earned in VC during the last ten years may have cooled the interest of some VC fund investors. Some disappointed investors, in addition to attempting to cancel future capital calls, have also entered into arguments and even litigation with fund managers. Other fund investors such as public pension fund CalPers have chosen to disclose annual returns from particular managed funds, by name. Some such funds have objected to this practice (the annual returns are based on estimates of valuation of companies still in the portfolio that have not secured exits) and as a result, VC managers are becoming more careful, and more restrictive, in the investors they accept.

Investors, on the other hand, have also expressed some concerns about the level of fees charged; especially management fees which they believe should cover expenses but not profits of fund management companies.

In the end, the size of future VC funds will be set by a variety of factors including those related to optimal performance, but also by factors affecting the supply and demand for funds under management. These are always subject to market changes.