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Some Thoughts on Business Plans

Internet Wicked Ale

Bill Sahlman, Dimitri V. D'Arbeloff Professor of Business Administration, smiled as he was handed the business plan for Internet Wicked Ale, Inc. (IWA), an interactive, on-line marketing company being formed to sell premium beers made by microbreweries over the Internet. According to the president of the company -- a soon-to-graduate MBA candidate at a well known eastern business school -- a prototype web site had already been developed using the now ubiquitous Java programming language. Literally thousands were visiting the site each day: an early review had described the web site as "way cool." Participating in the meeting were two other MBA candidates. Prior to jointly founding IWA, the three had worked in management consulting and investment banking: each, however, did have substantial experience with beer.

Sahlman glanced over the shoulder of the IWA team -- he took note of his ever growing stack of Internet based business plans, each proposing to "revolutionize" an industry, each "conservatively" projecting at least $50 million in revenues within five years based on a modest market share of under 10%, and each containing a projection of likely investor returns of over 100% per annum. He quickly averted his stare from the business plans in the corner of his less than tidy office so as not to offend his eager audience. They looked so young - they were so enthusiastic - their business plan was so meticulously printed on the new color laser printers in the technology lab ..... Sahlman wondered what to say next.

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Introduction

This note is about entrepreneurial ventures and the role of business plans. Few areas of new venture creation receive as much attention. There are MBA and undergraduate courses on business plan writing. There are countless books describing how to write a business plan. There is even software that will help create a business plan, complete with integrated financial projections. All across the U.S., and increasingly in other countries, there are contests designed to pick the "best business plan."

Judging by the amount of attention paid to business plans in graduate business schools and the popular press, you would think that the only thing standing between a would-be entrepreneur and spectacular success is a well-crafted and highly regarded business plan. Yet, in my experience,

Professor William A. Sahlman prepared this note as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

nothing could be further from the truth: on a scale from 1 to 10, business plans rank no higher than 2 as a predictor of likely success. There are many other factors that dominate the business plan, per se.

The disparity between my view and that implicit in the business plan feeding frenzy is rooted in over fifteen years of field research and personal experience in the world of entrepreneurship. The rest of this note develops a conceptual framework for understanding entrepreneurial venture creation and management, which is based on studying hundreds of successful and unsuccessful companies. The goal is to give the reader insights into sensible entrepreneurial management, and, by implication, into the business plan used to describe a venture.

In my framework, there are four dynamic components of any entrepreneurial process or venture:

- the **people**;
- the **opportunity**;
- the **external context**; and,
- the **deal**.

By people, I mean those individuals or groups who perform services or provide resources for the venture, whether or not they are directly employed by the venture. This category encompasses managers, employees, lawyers, accountants, capital providers, and parts suppliers, among others. By opportunity, I mean any activity requiring the investment of scarce resources in hopes of future return. By context, I mean all those factors that affect the outcome of the opportunity but that are generally outside the direct control of management. Examples of contextual factors include the level of interest rates, regulations (rules of the game), macroeconomic activity, and some industry variables like threat of substitutes. Finally, by deal, I mean the complete set of implicit and explicit contractual relationships between the entity and all resource providers. Examples of deals range from contracts with capital suppliers to the terms of employment for managers.

The fundamental insight gained from studying hundreds of successful and unsuccessful ventures is the concept of integration, referred to as "fit," which is defined as the degree to which the people, the opportunity, the deal, and the context together influence the potential for success. Phrased differently, the degree of fit is the answer to the following questions:

- To what degree do the people have the right experience, skills and attitudes, given the nature of the opportunity, the context and the deals struck?
- To what degree does the opportunity make sense, given the people involved, the context and the deals struck?
- To what degree is the context favorable for the venture, given the people involved, the nature of the opportunity and the deals struck?
- To what degree do the deals involved in the venture make sense, given the people involved, the nature of the opportunity, and the context?

These questions focus attention on the fact that excellence in any single dimension is not sufficient: the proper perspective from which to make an evaluation takes into account all of the elements simultaneously. An appropriate analogy might be that of a sports team. It is not sufficient to have the best individual players at each position; rather, success will be a function of how they play together, how the team is managed, what deals have been struck inside and outside the team, and what else goes on in the league. A diagram of the basic framework is provided in Appendix 1.

Nor is it sufficient to focus on these elements and their relationship from a static perspective. The people, opportunity, context and deal (and the relationship among them) are all likely to change over time as a company goes from identification of opportunity to harvest. To focus attention on the dynamic aspects of the entrepreneurial process, three related questions can be asked to guide the analysis of any business venture:

- What can go wrong?
- What can go right?
- What decisions can management make today and in the future to ensure that "what can go right" does go right, and "what can go wrong" is avoided, or failing that, is prevented from critically damaging the enterprise? Phrased another way, what decisions can be made to tilt the reward to risk ratio in favor of the venture?

This framework and set of questions are extremely powerful in understanding how ventures evolve over time and how managers can affect outcomes. The balanced emphasis on anticipating (as opposed to predicting) good and bad news is a distinctive feature of the framework. Most students (and practitioners) are adept at identifying risks, far fewer are practiced at foretelling the good news, and even fewer have thought systematically about how they can manage the reward to risk ratio. Yet, there are some recurrent themes in the world of venturing. That projects often take more time and money than originally estimated should not surprise people. Indeed, part of the goal in a course like the one I teach on Entrepreneurial Finance is to provide people with a rich sense of the patterns that underlie real-world entrepreneurship.

These questions described above concerning potential good and bad news also shed light on the fact that current decisions affect future decisions: some decisions open up or preserve options for future action while others destroy options. Managers must be cognizant of this relationship between current and future decisions.

According to this framework, great businesses have some easily identifiable (but hard to assemble) attributes. They have a world class managerial team in all dimensions, from the top to the bottom, and across all relevant functions. The teams have directly relevant skills and experiences for the opportunity they are pursuing. Ideally, the team has worked successfully together in the past. The opportunity has an attractive, sustainable business model: it is possible to create a competitive edge and to defend it. There are multiple options for expanding the scale and scope of the business and these options are unique to the enterprise and its team. There are a number of ways to extract value from the business either in a positive harvest event or in a scale down or liquidation mode. The context is favorable both with respect to the regulatory environment and the macroeconomic situation. The deals binding the people to the opportunity are sensible and robust: they provide the right incentives under a wide range of scenarios. The venture is financed by individuals or firms who add value in addition to their capital, thereby increasing the likelihood of success. The financing terms provide the right incentives for the provider and the recipient. There is access to additional capital on an as-warranted basis. In short, the venture is characterized by a high degree of dynamic fit (see Appendix 2 for a diagram of the expanded fit management framework).

A great business may or may not have currently, or have ever had for that matter, a great business plan. In the beginning, moreover, a great business may not even have demonstrated a high degree of fit: the important issue is whether the deficiencies are recognized and fixable. Phrased differently, the role of management is to continuously adapt a business to improve the degree of fit: doing so does not guarantee success, but it does increase the odds.

This assessment raises the obvious issue of what role a business plan plays in entrepreneurship. I believe that a useful business plan is one that addresses the elements of the

venture - people, opportunity, context, and deal - in the proper dynamic context. In the end, the business plan must provide reasonable answers to the following questions:

- Who are the people involved? What have they done in the past that would lead one to believe that they will be successful in the future? Who is missing from the team and how will they be attracted?
- What is the nature of the opportunity? How will the company make money? How is the opportunity likely to evolve? Can entry barriers be built and maintained?
- What contextual factors will affect the venture? What contextual changes are likely to occur, and how can management respond to those changes?
- What deals have been or are likely to be struck inside and outside the venture? Do the deals struck increase the likelihood of success? How will those deals and the implicit incentives evolve over time?
- What decisions have been made (or can be made) to increase the ratio of reward to risk?

Each of these areas will be addressed in the sections that follow.

People

When reading any business plan, or assessing any business, for that matter, I start with the resume section, not with the description of the business. I ask a series of structured questions, some of which are listed below:

- Who are the founders?
- What have they accomplished in the past?
- What directly relevant experience do they have for the opportunity they are pursuing?
- What skills do they have?
- Whom do they know and who knows them?
- What is their reputation?
- How realistic are they?
- Can they adapt as circumstances warrant?
- Who else needs to be on the team? Are the founders prepared to recruit high quality people?
- How will the team respond to adversity?
- Can they make the inevitable hard choices that have to be made?
- What are their motivations?
- How committed are they to this venture?

- How can I gain objective information about each member of the team including how they will work together?

- What are the possible consequences if one or more of the team members leaves?

We can now come full circle and begin to evaluate the Internet Wicked Ale proposal and the team of MBA founders. Starting first with the people lens, I am not sanguine about IWA's prospects. The founding team has experience drinking, not starting an online business or a beer distribution business. Typically, the business plan for such a team talks about the need to recruit experienced people, but it's rather like trying to draw 4 cards to complete a 5-card straight in poker: a low probability event. Moreover, having a founding team without tremendous experience but large equity ownership often makes it extremely difficult to attract high quality people on "acceptable" terms.

I should note that the framework described above and the pessimistic assessment of the prospects for IWA are not foolproof. Lots of inexperienced teams succeed, occasionally because they are not weighted down by conventional wisdom. This is particularly true in new markets, the Internet representing a very important current illustration. In such markets, commercial innovation is often driven by relatively inexperienced entrants, teams that are repeatedly told they are unlikely to succeed. At the same time, starting a new enterprise with little or no management experience is a little like crossing the Mass Turnpike blindfolded: yes, you can make it to the other side, but having done so, you shouldn't assume the trip was riskless.

Reading a business plan from the resume section first also illustrates a truism of professional venture capital investing. A typical venture capital firm receives approximately 2,000 business plans per year. A non-scientific survey of several prominent firms reveals that they only invest in plans that come in with a specific letter of referral from someone well known by the partners of the firm. That is, they do not invest in, nor do they even investigate fully, plans that are unsolicited.

My colleague Myra Hart has a useful way of describing the process of attracting financial and other resources to a venture. Her research suggests that successful venture founders have two characteristics: they are "known" and they "know." Tackling the latter first, the founders know the industry for which they propose to raise capital and launch a venture - they know the key suppliers, the customers, and the competitors. They also know who the talented individuals are who can contribute to the team. At the same time, they are known in the industry: people can comment on their capabilities and can provide objective referrals to resource suppliers like professional venture capitalists. Suppliers, customers, and employees are willing to work with them in spite of the obvious risks of dealing with a new company.

Thus, the model in venture capital is to back teams with great (directly relevant) track records who are pursuing attractive opportunities. The old adage in venture capital circles is: "I'd rather back an 'A' team with a 'B' idea than a 'B' team with an 'A' idea." Of course, the goal is to only back high quality teams with high quality opportunities, but that is not always feasible.

In sum, the IWA business plan doesn't pass the threshold for consideration by professional investors even if the idea is a pretty good one. Again, a truism from the world of venture capital is that ideas are a dime-a-dozen: only execution skills count. Arthur Rock, a venture capital legend associated with the formation of such companies as Intel, Apple, and Teledyne, stated bluntly, "I invest in people, not ideas."[1]

[1] Michael W. Miller, "How One Man Helps High-Tech Prospects Get to the Big Leagues," Wall Street Journal, December 31 1985, page 1.

Opportunity

Rather than rejecting the IWA plan out of hand, however, let's assume that the team is acceptable or that there are indications that an appropriate team can be built. What is the next step? What other questions do investors or entrepreneurs ask to evaluate prospective ventures?

In my experience, the next major issue is the nature of the opportunity, starting first with an assessment of the overall market potential and its characteristics. Two key initial questions are:

- Is the total market for the venture's product or service large and/or rapidly growing?
- Is the industry one that is now or can become structurally attractive?

Entrepreneurs and investors look for large or rapidly growing markets for a variety of reasons. First, it is often easier to obtain a share of a growing market than to fight with entrenched competitors for a share of a mature or stagnant market. Professional investors like venture capitalists try to identify high growth potential markets early in their evolution: examples range from integrated circuits to biotechnology. Indeed, they will not invest in a company that cannot reach a significant scale (e.g., $50 million in annual revenues) within five years.

Obviously, all markets are not created equal: some are more attractive than others. Consider, to illustrate, the independent computer disk drive business as it has evolved over the past twenty years. Disk drives were first developed by IBM in the late 1960s and early 1970s. Some of the original engineering team members ultimately left IBM to form independent companies to develop products based on the same technology. Indeed, over the next two decades, scores of new companies were formed to exploit the rapidly growing market for data storage. Examples include Memorex, Seagate, Priam, Quantum, Conner Peripherals, and EMC.

The problem with disk storage, however, is that the industry is not structurally attractive, nor is it ever likely to be. Disk drive manufacturers must design their products to meet the perceived needs of OEMs (original equipment manufacturers) and end-users. Selling a product to OEMs is complicated and often has low margins. The customers are large relative to the supplier. There are lots of competitors, each with high quality offerings in the same market segment. Because there are so many competitors, product life cycles are short and ongoing technology investments high. The industry is subject to major shifts in technology and customer base (e.g., the shift in form factors or storage medium and the shift from minicomputers to microcomputers). Rivalry also leads to lower prices and hence, lower margins. In the end, it is extremely difficult to build and sustain a profitable business.

In this regard, the disk drive business looks suspiciously like the tire industry. When the tire industry developed, there were many competitors, each trying to sell their tires to the automobile manufacturers and to end-users. Rivalry was intense. The customers got larger and larger, squeezing the profitability of the tire suppliers. Ultimately, the industry evolved to the point where there were a handful of competitors, each with modest margins and highly cyclical results.

Compare the situation described for disk drives to that confronting biotechnology companies. If a biotech company creates a new product, intellectual property laws grant a certain amount of protection from competitive forces. Competitors must invent new approaches to the same underlying problem or they must license the product from the inventor. The extended duration of patent protection makes it possible as well to build a brand image that provides a certain amount of economic protection even after patent coverage expires. In the end, a model for a successful biotechnology company is a pharmaceutical company. On average, the latter companies are far more profitable than most precisely because of the structural attractiveness of their industry.

This extended discussion of growth and industry illustrates another important factor in venture formation and investing. What are the appropriate analogies? If a venture is successful, what will it look like? Identifying opportunities is a complex game of pattern recognition which is aided by experience and by honest assessment of business history. Knowing that the disk drive business is like the tire industry and that biotech is like the pharmaceutical industry is helpful in determining where to invest capital or human resources. Tom Stemberg once described what he was trying to accomplish in founding Staples, "I said I wanted to build the Toys R Us of office supplies." He picked a successful model, one that spoke volumes about what he intended to do and the consequences if he were successful.[2]

To reiterate, the goal is to pick industries that have lots of potential to create and protect value. Growth in sales is not equivalent to growth in value. Also, marrying great management to such markets is the primary tool for increasing the likelihood of success. Consider, to illustrate, the story of the formation of Compaq Computer. The founders were senior executives at Texas Instruments. Their original business plan described a plan to enter the disk drive business. They sent the plan to L. J. Sevin and Ben Rosen, venture capitalists with extensive experience in the electronics industry. Sevin and Rosen rejected the plan but liked the team. Ultimately, on a place mat in a local diner in Texas, a plan was sketched out to design, manufacture and market a portable personal computer. The rest, as they say, is history.[3]

I am also reminded of what the immensely successful venture capitalist, Don Valentine, says about venture investing. Most in the venture industry focus on the three determinants of venture success - people, people, and people. Valentine insists that the real trick is to find markets with explosive potential, to back great technology, and to put management in place as needed. He wants to invest in industries where growth can overcome the shortcomings of management. Valentine cites as Exhibit A his $2.0 million investment in Cisco, a networking company, that seven years later was worth over $6 billion.[4] In like vein, Peter Lynch, the famous manager of Fidelity's Magellan Fund, tried to invest in companies whose fundamental industry factors were so favorable that even incompetent management couldn't cause the stock to go down.

What is most important in new venture formation - the market being served, the specific product or service, or the quality of the people involved? I suspect that the correct answer is "yes." In the final analysis, the issues are not unrelated. Great people are those who can identify attractive markets and build compelling strategies. As General Doriot, one of the early pioneers in the venture capital industry once stated, "The problem is to judge ideas and men and the value of the possible combination - a very difficult task."[5]

The next major issue in evaluating a venture is the specific plan for building and launching a product or service. I will not dwell on this topic in spite of its obvious importance but will instead focus on some very simple questions that can help sort out good ideas from potential disasters. I can also quote Arthur Rock to remind the reader of the proper perspective for evaluating business proposals, "If you can find good people, if they're wrong about the product they'll make a switch, so what good is it to understand the product that they're talking about in the first place?"[6] Rock's admonition notwithstanding, there are a few issues that a business plan must address, including the following:

- Who is the customer?

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[2] For information on the launch of Staples, see Thomas G. Stemberg, Staples for Success, KEX Press, 1996.
[3] Benjamin Rosen, "Rosen's Ten Rules," in Raising Money, Amacom Press, 1990, pp. ix-xxv.
[4] Valentine's perspective is described in "Rise of the Silicon Patriots," Worth Magazine, December/January, 1996, pp. 86-92,137-146.
[5] Georges F. Doriot: Manufacturing Class Notes, Harvard Business School, 1927-1966, The French Library, 1993, page 85.
[6] op. cit., page 1.

- How does the customer make decisions?
- To what degree is the product or service a compelling purchase for the customer?
- How will the product or service be priced?
- How will the venture reach the identified customer segments?
- How much does it cost (time and resources) to acquire a customer?
- How much does it cost to produce and deliver the product or service?
- How much does it cost to support a customer?
- How easy is it to retain a customer?

Often, asking and answering these kinds of questions will reveal a fatal flaw in a plan. For example, it may be too costly to find the customers and convince them to buy the product. Economically viable access to customers is the key to business, yet many entrepreneurs take the Hollywood approach to this area - "Build it and they will come." That strategy is great in the movies but not very sensible in the real world.

I should note that it is not always easy to answer questions about possible customer response to new products or services. One entrepreneur I know proposed to introduce an electronic news clipping service. He made his pitch to a prospective venture capital investor who rejected the plan, stating, "I just don't think the dogs will eat the dogfood." Later, when the entrepreneur's company went public, he sent the venture capitalist an anonymous package comprised of an empty can of dogfood and a copy of his prospectus. If it were easy, there wouldn't be any opportunities.

The issue of pricing is particularly important in analyzing a business proposal. Sometimes the "dogs will eat the dogfood," but only at a price less than cost. Investors always look for opportunities that entail value pricing in which the price the customer is willing to pay is high. A good example is Sandra Kurtzig's description of how she set prices in the early days of ASK Computer Systems. ASK developed programs to help users monitor and evaluate their manufacturing process (scheduling, cost analysis, etc.). The software was extremely valuable to a user and there were few competitors or alternatives: Kurtzig called her pricing model the "flinch method." When asked how much the software was, she would respond, "$50,000." If the buyer didn't flinch, she would add, "per module." Again, if there were no visible choking, she would add, "per year." And so on, and so on. Kurtzig was ultimately able to build a very profitable multi-hundred million dollar business using this kind of "street smart" pricing.

The list of questions above focuses on the top and bottom line of a business - the direct revenues and the costs of producing and marketing a product. That's fine, as far as it goes. Sensible analysis of a proposal, however, involves also assessing the business model from a different perspective that takes into account the investment required (i.e., the balance sheet side of the equation). Consider the following questions that I use to assess the cash flow implications of pursuing an opportunity:

- When do you have to buy resources (supplies, people, etc.)?
- When do you have to pay for them?
- How long does it take to acquire a customer?
- How long before the customer sends you a check?

- How much capital equipment is required to support a dollar of sales?

Underlying these questions on the balance sheet is a simple yet powerful maxim in business:

Buy low, sell high, collect early, and pay late.[7]

The best businesses are those in which you have large profit margins, you get paid by your customers before you have to deliver the product, and the fixed asset requirements are modest. It goes without saying, in addition, that such a business should also be characterized by insuperable entry barriers.

Consider, to illustrate, the magazine publishing business. Once up and running, a successful magazine has remarkably attractive cash flow characteristics. Subscribers pay in advance of receiving the magazine. Often, magazines can even get subscribers to pay for several years in advance. I once discovered that I had nine years worth of service coming on a magazine because I diligently paid the bill each time they sent it to me, taking advantage of multi-year discounts. If the magazine can maintain compelling content, then current subscribers tend to re-subscribe on a regular basis with low incremental marketing cost. It is always easier to retain a customer than to acquire a new one. If the demographic profile of the readers is attractive, then advertisers use the magazine to reach a target audience, a successful example of "if you build it, they will come." It takes very little plant and equipment to run a magazine: printing and fulfillment are often farmed out to vendors who specialize and deliver high quality service at low cost. The editorial costs of a magazine are typically low. In essence, magazine publishing has all the attractive characteristics listed above.

Of course, the fact that a magazine property is valuable once it is up and running has not escaped people's attention. Each year, hundreds of new magazines are launched: most, to quote test pilot Chuck Yeager, "auger in." The Achilles heal in publishing is the cost of acquiring a customer in a world where most niches have already been recognized and served.

There are some other attractive business models that warrant mention. When I assess a business, I look for ways in which a company can expand the range of products or services being offered to the same customer base. Often, companies are able to create virtual "pipelines" which support the economically viable creation of new revenue streams. In the magazine business, for example, it is possible to create other lines of products or services that are attractive to subscribers. Inc. Magazine, to illustrate, has expanded beyond the basic magazine business to offer seminars, books, and videos for the Inc. subscriber (and others). In this example, a virtuous cycle is established in which success in the basic magazine leads to new related business opportunities that might not exist in the absence of the magazine.

A similarly attractive business model is illustrated by Intuit, which is best known for its personal financial program Quicken. The latter program helps users organize their checkbook. After the initial success of Quicken, Intuit was able to offer a wide range of additional services, including electronic banking, personal printing supplies, tax preparation software, and on-line information services. Because some of these ancillary services are so profitable, Intuit is able to give away the software program in hopes of creating a lifelong customer who buys additional services and products from the company. Intuit also discovered that many users of its personal finance program Quicken were small businesses: they soon introduced a variant of the program, called QuickBooks, that is designed to meet the specific accounting needs of small businesses. The QuickBooks division is now

[7] This is the title of a useful book -- Richard Levin, Buy Low, Sell High, Collect Early and Pay Late: The Manager's Guide to Financial Survival, Prentice-Hall, 1983.

more profitable than the original consumer focused one, demonstrating how success in one business can lead to success in another that is closely related.[8]

Not all businesses are created equal in terms of the kind of growth opportunities described above. In some businesses, success in one product or service does not necessarily create additional opportunities with the same customer base. Again, the disk drive business is informative because competitors have historically been unable to replicate success in one part of the industry in another. For example those firms that were successful in producing 5.25" drives) were not, for the most part, successful in producing 3.5" drives. Catching one technology wave does not always imply an ability to catch the next one. As colleagues Clayton Christensen and Joseph Bower have observed, the old axiom about staying close to the customer works if and only if you choose the right customer.[9]

An obvious extension of the pipeline model relates to geographic expansion possibilities. Some businesses are attractive because a successful model in one region can be rolled out to other regions. Such is the case in the theme restaurant business. If Hard Rock Cafe works in Paris and London, then it will probably work in New York and Chicago. This kind of business is rich in growth options that result from success.

There are many other successful business models that entrepreneurs and investors look for when making resource commitments to opportunities. I try, for example, to find companies that "sell ammunition to all sides of the war without end" rather than engage in direct combat. An illustration is A. C. Nielson, which measures marketing response for companies selling products or services but does not have to try to compete in the actual markets (e.g., Coke versus Pepsi, or ABC versus NBC). A similar company called Internet Profiles exists in the Internet world: it measures activity at web sites rather than trying to compete with other web site purveyors.

Another illustration of the "ammunition" strategy is a company called Abacus Direct. This company was founded to help catalog merchants improve the effectiveness of their customer acquisition strategies. Briefly, the co-founders convinced a large number of catalog companies (e.g., Lands' End and Orvis) to give them a data file comprised of the purchasing histories of each catalog's customers. The data on customers of many different catalogs was then pooled and analyzed. Using proprietary software, Abacus Direct was able to help the catalog companies identify high potential customers to whom new catalogs could be mailed and eliminate low potential customers from their lists.

Six years after starting, Abacus Direct was able to achieve an 75% share of the domestic catalog business. The company was extremely profitable early in its development, with net margins in the 30% range. Three contextual factors helped Abacus Direct enormously. First, competition among catalog companies was fierce and Abacus Direct benefited by helping competitors be more effective. Second, postage cost increases changed the business model for catalog merchants, making it imperative that direct mail effectiveness be improved. Finally, the cost of managing and analyzing a massive database, one containing purchase histories on almost 90 million people, fell dramatically. What used to take a mainframe computer many hours to analyze now takes minutes on a powerful workstation. The founders of Abacus Direct had previously founded a company that handled warranty card registrations for major appliance manufacturers. Again, that company had sold mailing lists based on purchase histories: the company was successful and was sold to a larger company some five years after it was founded. To use the terminology introduced in the section on "people," the founders "knew" the industry and they were "known," dramatically increasing the likelihood of their success.

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[8] Interestingly, the original Intuit business plan was sent to quite a few venture capitalists, including two members of Scott Cook's HBS class. The plan was rejected by one and all. Only later did the two classmates get an opportunity to invest in Intuit while it was still private. The potential small business accounting opportunity was specifically mentioned in the original Intuit plan.

[9] Clayton Christensen and Joseph Bower, "Disruptive Technologies: Catching the Wave," Harvard Business Review (January/February, 1995), pp. 43-53.

Another simple example of an oft-repeated successful business model involves the old "razors and razor blades" strategy made famous by Gillette. The razors are sold at cost, and all the money is made on the blades. There are many companies pursuing a variation of this strategy, Gillette being the best known. The recently introduced data storage device called the Zip Drive by Iomega illustrates a policy of giving away the device at cost or a small profit and making all of the money on the proprietary disks that go with the drive. Nintendo makes most of its money on software, not on the game players it sells.

There are some opportunity traps that warrant mention. Some businesses have distinctly unattractive economic prospects, defined as high capital costs (front-loaded), low margins, and high risk. The disk drive business probably fits this description well. So too does the airline business. In such industries, however, the business plans that are written do not really address the problems. They describe instead the opportunity in glowing terms. They state that the market is large and growing, and that all the new entrant needs to do is to attain a 10% market share to achieve great success. Unfortunately, if hundreds of capable teams all enter a market looking for a 10% share, I don't think the math quite works out. In some industries, even great teams can't overcome poor industry business models, as the great investor Warren Buffett discovered when he bought part of US Air.

I have also come to believe that the world of "invention" is fraught with danger. Over the past fifteen years, I have seen scores of individuals who have invented a "better mousetrap." They have developed tools or systems in areas that range from bicycle pumps to inflatable pillows for use on airlines to automated car parking systems. Their technology is patented and seems on the surface to be a "no-brainer" to potential adopters. In spite of the seeming attractiveness of the innovation, however, I have seen very few examples of successful commercialization. It turns out that idea-driven companies typically undervalue commercialization capabilities. The inventor frequently refuses to spend the money required or refuses to share the rewards with the business side of the company, the inevitable consequence of which is that the technology never gets implemented regardless of how compelling it seems to be.

My views of the importance of commercialization skills were influenced by one of the first technology based companies I ever visited. In the early 1980s, a group of Harvard undergraduates acquired the rights to a technology that would help improve the combustion characteristics of certain grades of fuel oil. Essentially, the process would enable fuel burners to use much cheaper oil to accomplish a given task. I was intrigued by the process and admired the dogged determination of the young entrepreneurs.

Ultimately, this company, Fuel Tech, raised $75 million from private investors around the globe. The technology I described never proved to be commercially viable. The company founders scrambled to find an alternative path to business success for Fuel Tech. To my utter amazement, they were able to acquire some operating companies at attractive prices. The company was eventually sold at a price that netted handsome returns for the investors and the founders. Later, the lead entrepreneur, William Haney, acquired the rights to some environmental technology developed at MIT. He founded, and currently is chairman of, a company called Molten Metals, which has a current market capitalization of almost $500 million. During his Fuel Tech days, he learned how to make money, a far more valuable skill, I submit, than the ability to invent.[10]

One final comment on opportunities involves what I call "arbitrage" businesses. Basically, these businesses exist to take advantage of some pricing disparity in the marketplace. The classic entrepreneurial example was MCI Telecommunications which was formed to offer long distance service at a lower price than AT&T. Similar current examples of arbitrage exist in the health care business in which entrepreneurs are finding ways to offer comparable services to hospitals at much

[10] Actually, Molten Metals is not yet profitable, and, given the inevitable difficulties confronting any company scaling up a new technology, success is certainly not guaranteed.

lower costs. Or, some of the industry consolidations going on today reflect a different kind of arbitrage -- the ability to buy small businesses at a "wholesale" price, roll them up into a larger package, and take them public at a "retail" price, all without necessarily adding true value in the process.

Taking advantage of arbitrage opportunities is a viable and potentially profitable way to enter a business. In the final analysis, however, all arbitrage opportunities go away. It is not a question of whether, only when. The trick in these businesses is to use the arbitrage profits to build a more enduring business model.

Competition

The notion that all arbitrage opportunities go away reflects a more general belief that all opportunities go away. For any given opportunity, there are a myriad of potential competitors. In 1995, to illustrate, almost $30 billion was invested in private equity funds, of which perhaps 20% was in traditional venture capital. In 1995, over 1 million new businesses were incorporated in the U.S. The situation outside the U.S. is similar in the sense that many investors are seeking to back competent entrepreneurial ventures around the world. Moreover, all large companies have become more attuned to opportunity, suggesting a more rapid and competent attempt to identify and exploit them.

A business plan must address the current competitors and the potential competitors in a sensible way. Among the specific issues a plan should cover are the following:

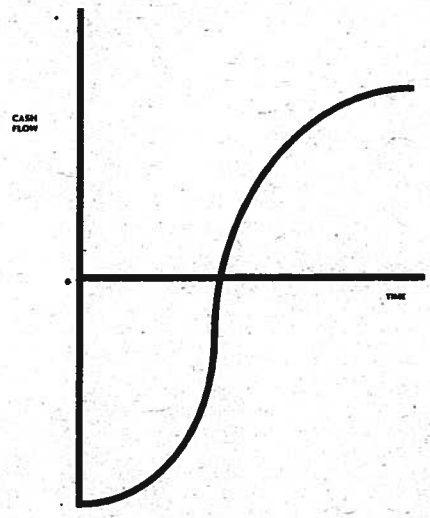
- Who are the current competitors?
- What resources do they control? What are their strengths and weaknesses?
- How will they respond to our decision to enter the business?
- How can we respond to their response?
- Who else might be able to observe and exploit the same opportunity?
- Are there ways to co-opt potential or actual competitors by forming alliances?

Business is like chess: to be successful, you must anticipate several moves in advance in order to have any chance. A business plan that describes an insuperable lead or a proprietary position is by definition written by naive people.

Graphical Analysis Tools for Assessing Opportunities (or, Harold and the Purple Crayon Meets Entrepreneurial Finance)

I like to think of business opportunities in terms of their risk/reward profiles. I have two graphical tools that I apply to understand a business model. The first entails drawing a simple cash flow diagram for the business and the second entails assigning probabilities to certain outcomes. Starting first with the cash flow diagram, consider, to illustrate, a proposal to start a new airline. The cash flow pattern depicted in the business plan looks something like the following:

Cash Flow Diagram for an Airline

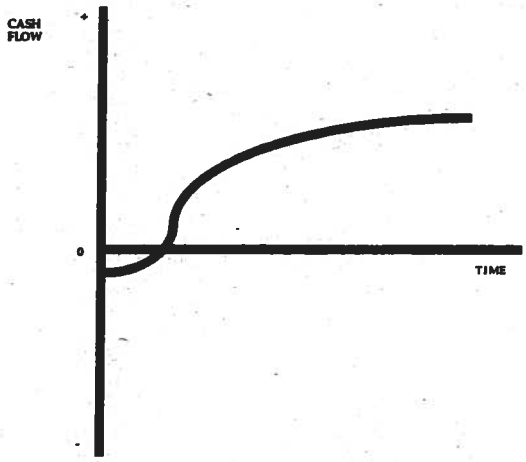


Essentially, starting an airline involves a very large capital commitment up front followed by some unknown returns in the future. When I look at this pattern, I focus first and foremost on the likelihood of achieving positive cash flow, when that event might occur, and the potential payoff structure if I am successful. In my view, the airline business is a bad business because the payoffs are too low and risky and too far in the future, given the upfront capital required. The business has high fixed costs of operation, which is often associated with vicious pricing cycles in which prices are driven down to the level of marginal costs. It's rather like the Harvard freshmen football coach said when describing his team, "They're not big, but they're slow." Airlines aren't very profitable, but they require a huge amount of capital.[11]

Compare an airline with an electronically delivered newsletter for which subscribers pay in advance. As noted earlier, the capital requirements in publishing are modest and the potential margins high. If such a plan had a compelling editorial position and could attract subscribers at acceptable costs, then the cash flow pattern might be as depicted below:

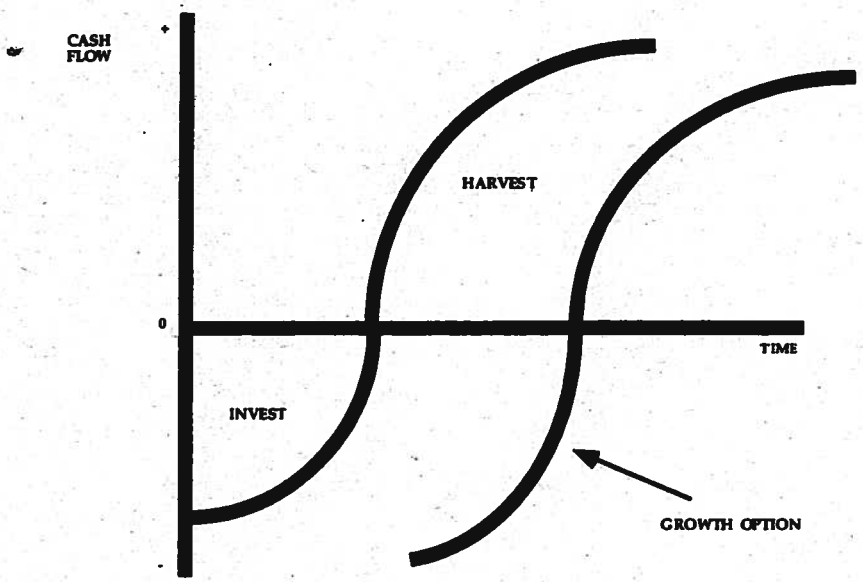
[11] Far better than entering the airline business itself is starting a service for all of the companies in the airline business. Prominent successful examples include Flight Safety, which builds flight simulators, and Sabre Corporation, which was originally started by American Airlines to automate flight scheduling and reservations.

Cash Flow Diagram for a Newsletter



Returning to the discussion earlier of business models, it turns out that successful companies typically have more than one relevant cash flow S-curve. In such companies, there are growth opportunities, defined as opportunities to profitably invest additional funds because of success in the first project. For example, a magazine that is launched and attracts an audience might be able to introduce a related product or service (e.g., seminars or conferences, additional magazines targeted at a segment of the overall leadership). Similarly, a single successful restaurant may form the foundation for a chain of restaurants in different areas. Or, a successful software company might have international expansion possibilities that are as attractive (or more so) than the domestic one. The goal in investing or in identifying opportunities from the perspective of the entrepreneur is to identify businesses that have many such growth options and to preserve the right to exploit them. The following graph depicts a favorable growth option pattern, one like a magazine or a restaurant.

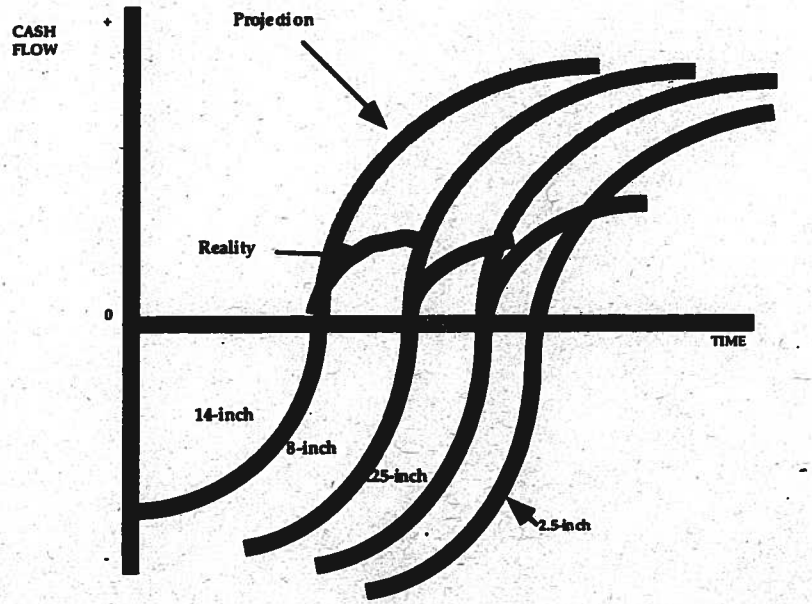
Cash Flow Diagram for a Magazine or a Restaurant



Finding opportunities with ample growth options is a goal: many industries, however, have a pattern that looks attractive but is not. In the disk drive business, for example, success in one

investment category does not necessarily lead to success in another: indeed, there is some evidence that success leads to disaster. In such industries, which might be called "wave" industries, it is very hard if not impossible to catch successive waves without crashing and burning. The disk drive industry is portrayed below:

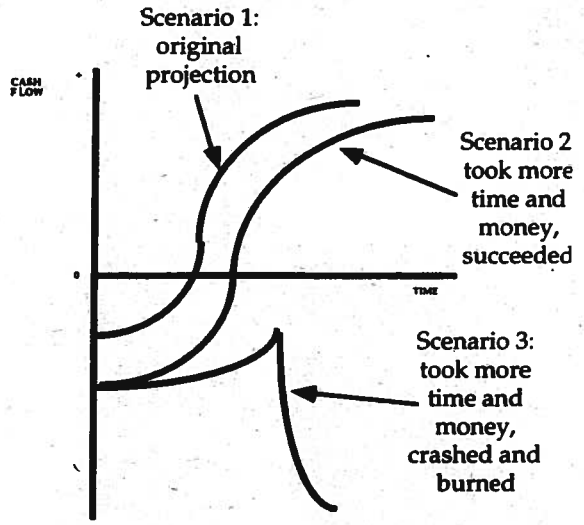
Cash Flow Diagram for the Disk Drive Business



A question that leaps out of the cash flow diagrams depicted above is: how do I make decisions that involve tradeoffs between the present and the future? How do I decide whether the potential future cash is big enough to justify the initial investment? To answer these questions, it is clear that you have to assess the riskiness of the bet you are making.

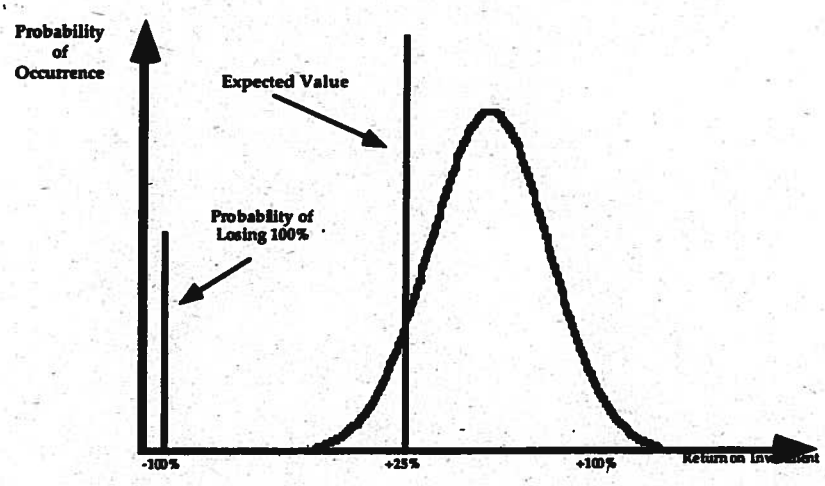
There are two ways to portray the riskiness of a project such as a new airline or an on-line publication. One is to draw the same diagrams as above but to depict reasonable scenarios as well as the expected values. The graph below shows three scenarios: the original business plan model, a success scenario in which the company achieved its goals but only after investing more time and money (a frequent event for companies that succeed), and a third scenario in which the company failed after a considerable investment and time period.

Cash Flow Scenarios



The other way to shed light on the riskiness of a project is to assign probabilities to different outcomes for returns on investment. The following diagram shows the payoff structure for an investment in a new software company:

Probability Distribution for a High Risk/High Reward Software Company

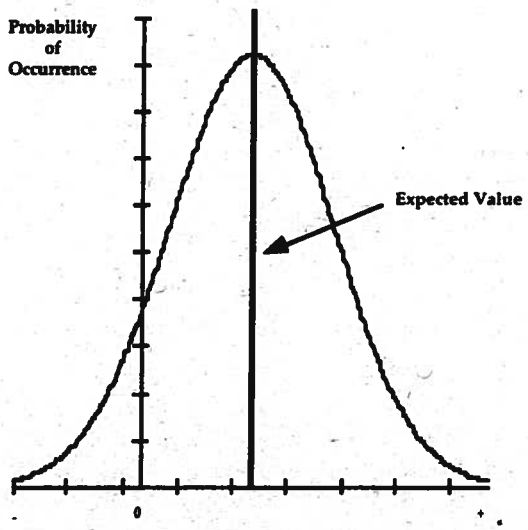


If I make an investment in a new software company, there is some considerable risk that I will lose all of my money. At the same time, I might well invest in the next Microsoft or Netscape, in which case I will have very high returns, perhaps in excess of 100% per year. The picture above suggests that there is a small, perhaps even negligible probability of earning a small rate of return on an investment in a software company. The rationale is that most small software companies are not very profitable and are therefore not worth much very much. Unless the venture reaches escape velocity, it probably won't succeed.

There is a broad class of investments whose payoff structures look like that for the hypothetical software company. There are other investments where the risk reward pattern looks quite different. Consider an investment in a franchise of a well-established fast food company. In such an investment, there is an extended history of profitable operations. The company has a solid

business plan and reasonably predictable results. In this case, the payoff structure might be as depicted below:

Payoff Structure for a Mature Company



In this example, the likelihood of losing all of your money is modest but so too is the upside potential. Of course, return on investment depends on who is asking the question and on the price paid to invest. If you have to pay a high franchise fee, then you lower your potential return and increase the likelihood of a loss. Or, if you are a venture capital investor who strikes a deal with the entrepreneur that is generous to the entrepreneur (e.g., if you pay a high valuation), then the risk/reward pattern looks different.

In general, these graphical tools can be used to describe investment opportunities. Investments involve different combinations of capital requirements and payoffs. They involve differing degrees of uncertainty. To reiterate the obvious, you want opportunities that offer the prospect of high, safe returns on modest investment, with lots of attractive and proprietary growth options -- a simple rule to describe, but one that is almost impossible to follow in the real world.

Context

Opportunities exist in a context. At one level, there is the macroeconomic environment, including the level of economic activity, inflation, exchange rates, and interest rates. There are also a wide range of rules and regulations that affect opportunity and how resources are marshaled to exploit it. Examples range from tax policy to the rules concerning raising capital for a private or public company. Then, there are factors like technology, which affect what a business or its competitors can accomplish.

I will not dwell on context here except to remark that context often has a tremendous impact on every aspect of the entrepreneurial process, from identification of opportunity to harvest. In some cases, changes in some contextual factor create opportunity. For example, when the airline industry was deregulated in the late 1970s, over one hundred new airlines were formed. The context for financing was also favorable, enabling new entrants like People Express to go to the public market for capital even before starting operations.

Conversely, there are periods when the context makes it hard to start new enterprises. In the early 1990s, to illustrate, there was a difficult recession, combined with a difficult financing

environment for new companies: venture capital disbursements were low as was the amount of capital raised in the public markets. Paradoxically, these relatively tight conditions, which made it harder for new entrants to get going, were associated with very high investment returns later in the 1990s as the capital market environment heated up.

Sometimes, a shift in context turns an unattractive business into an attractive one, and vice versa. A colleague was on the board of a struggling packaging company some years ago. The board had decided to sell the business. Within weeks of that decision, however, there was an incident in which bottles of Tylenol were tampered with, resulting in multiple deaths. The particular company happened to have an efficient mechanism for putting tamper-proof seals on Tylenol bottles. What had been a poorly performing business quickly turned into a spectacular one, all in a matter of weeks. Conversely, for companies in the real estate business, the tax reforms enacted in 1986 in the U.S. created havoc: almost every positive incentive to invest in real estate was reversed. Many previously successful firms in the real estate industry went out of business soon after the new rules were put in place.

When I read a business plan, I look for two pieces of evidence related to context. First, I want to see that the entrepreneurial team is aware of the context and how it helps or hinders their specific proposal. Second, and more importantly, I look for sensitivity to the fact that the context will inevitably change. If so, how might the changes affect the business? And, what can management do in the event the context worsens? Finally, are there ways in which management can affect context in a positive way? For example, can management have an impact on regulation or on setting industry standards? We will address the issue of dealing with contextual factors in more detail shortly.

Deals

Most people think of valuation and terms when considering deals. What share of the company will they have to give to the investors to raise capital? What are the terms of the financing? These are the prominent questions. . In this section, I will address these issues, but only after considering the sources of capital and the amount raised. The rationale for this sequencing will become apparent shortly.

When I talk to young (and old) entrepreneurs looking to finance their ventures, they obsess about valuation. Their explicit goal seems to be to minimize the dilution they will suffer in raising capital. Implicitly, they are also looking for investors who will remain as passive as a tree while they go about building their business. On the food chain of investors, it seems, doctors and dentists are best and venture capitalists worst because of the degree to which the latter group demands a large share of the returns and demands control rights.

I confess to a bias on the subject of financing ventures. My rule is the following:

From whom you raise capital is often more important than the terms.

Let me explain. Ventures are inherently risky. Murphy often is a member of the management team -- what can go wrong will. Most ventures end up taking more time and more money than the entrepreneur ever imagined. The name of the game, then, is not to minimize dilution at each stage of a company's existence but rather to maximize the value of your share at the end of the process.

I have seen quite a few examples of entrepreneurs raising money from unsophisticated investors at high prices. When the inevitable bad news arrives, the investors panic and get angry. They refuse to advance the company more money. They are surprised that results are disappointing. In such situations, it is often difficult to recruit new investors. The new investor has to worry about

the old investor group -- if they're not putting up more money, what's wrong? The old investors are also reticent to accept the valuation proposed by the new investor.

I view the financing decision as having two fundamental elements: a capital raising decision and a hiring decision. Consider, to illustrate, raising capital from a professional venture capitalist. The investor typically seeks to earn high returns, perhaps 50% per year or greater. This seems on the surface like very high cost money, almost loan-shark like. Suppose, however, that the venture capitalist is the leading expert in the world in the business being financed. Suppose as well that the venture capitalist can increase the potential reward and decrease the potential risk by being involved in the business. In this case, the value of the entrepreneur's share of the company assuming the venture capitalist invests may be higher than it would have been if the company had raised money from less competent investors. Phrased differently, the total pie is increased in size so much that the value of the entrepreneur's smaller slice of the pie is larger.

There are many examples of venture capitalists whose presence in a deal helps enormously. John Doerr, for example, is a partner of the highly successful firm Kleiner, Perkins. Mr. Doerr was a top-ranked salesman at semiconductor powerhouse Intel in the mid 1970s. Doerr has invested in such companies as Sun Microsystems, Intuit and Netscape. He knows the process of building large and successful companies. He has a world-class rolodex, which helps his portfolio companies form valuable connections. I would want John Doerr on my team and I would be prepared to pay a high price to get him. The same is true of other similarly skilled and experienced investors like Arthur Rock or L. J. Sevin. I should also note that if these individuals work with my company, they won't work with my competitor.

I believe that every high potential venture needs an investor who is "process literate." By this, I mean that they have been through the game many times. They are very good at helping companies grow. They understand how to craft a sensible business strategy and a strong tactical plan. They help recruit, compensate, and motivate great team members. They are coaches and cheerleaders, and they understand the distinction between being an investor and being the entrepreneur. I believe as well that good investors do not panic when bad news arrives. They roll up their sleeves and help the company solve its problems.

There are many decisions in a venture that entrepreneurs will have to face only once or twice in their careers. An example is the decision to go public. The entrepreneur is pitted against highly experienced but not necessarily disinterested service providers like investment bankers, lawyers, and accountants. It is extremely useful in such a situation to have advisors who have "been there and done that." The same is true about other process decisions, such as introducing a new product, dealing with a lawsuit, recruiting a VP of Marketing, or selling a business.

There are other areas in which the choice of a financial partner can help a company. For example, sometimes it is advantageous to raise money from customers. Those customers can help sell the product or service. The best form of customer money is a prepaid order, but it might also make sense to have the customer own equity. The same might be true of suppliers. Even potential competitors are on the list of possible investors, if by investing they forgo the option of entering the business directly. Raising money from these non-traditional sources might seem to create conflicts of interest. As Howard Stevenson says, however, "without conflict, there is no interest."

Though I have started this discussion of "deals" by focusing on who invests, an issue of great importance is how much money to raise and in what stages. Most ventures need more money than they are initially able to raise. Investors are loath to hand over large sums of capital up front to an eager team of business founders. If a company believes it ultimately will need $10 million to develop and introduce a software product, they are likely to find that no investor will invest the full $10 million. Rather, the investor will stage the commitment of capital over time, preserving the right to invest more money and preserving the right to abandon the project in the event the team or the business idea doesn't work out. The investor might offer to invest $1 million while the software is

finished. If the software looks attractive, the investor will put in $4 million for the launch of the product. If the launch is promising, then the investor will put up more money, perhaps the remaining $5 million or more, to support expansion of the company.

The issue of how much money to invest in a company is exceedingly difficult and the perspective of the players often differs. Entrepreneurs want all the money up front, while investors want to stage the capital over time in order to "buy" more information. There is no right answer in this ancient debate. There are, however, some useful ways to think about the issues inherent in financing new ventures.

An old saying is "time is money." In entrepreneurial finance, the expression gets turned around: "money is time." By this I mean that money buys time for a venture to find the right combination of people, strategy, and tactics to succeed. Each chunk of money buys an additional chunk of time.

I think of ventures as complicated options such as one finds in financial markets. In this regard, raising money is like extending the expiration date of the option. If the company runs out of money, investors will have to decide whether or not it makes sense to buy more time and, if so, on what terms.

There is also another way in which money is time. Often, a company is pursuing an opportunity for which time to market is critical: the first mover gets the largest share, and the second place finisher is far less attractive. Money can help a company accelerate its entry plan. Some aspects of the business can be done in parallel rather than in sequence. From one perspective, the decision to accelerate spending would seem risky: just the opposite may be true. To go slow is to risk everything. Consider, to illustrate, the famous case on Science Technology used at Harvard Business School. The case mentions that the company invented the oscilloscope after World War II. The case also mentions a sign on the factory floor that stated, "We don't want to grow too large." Unfortunately, they succeeded beyond their wildest dreams: another company pursued the oscilloscope opportunity faster and captured the market leaving Science Technology as small as it apparently aspired to be.

There are other paradoxes in the world of raising money. Sometimes having too much money dooms a company. The founders (and employees) don't view money as a scarce resource: this often occurs in large companies, which have managers who rely on the deep pockets of the parent organization. At other times, a company starves an opportunity.

There are some useful questions that speak to the issue of how time and money should relate to each other in a specific venture, including the following:

- What new information would dramatically change your perception of the likelihood of success for a given venture?
- How much time and money are required to "buy" that information?
- To what degree does the company have control over the rate at which it exploits an opportunity?
- Who else might be pursuing the same opportunity and what are the consequences of losing the race?

The final issue to be covered in this section on deals relates specifically to their structure. There are two important aspects of deal structure that preoccupy entrepreneurs, judging by the number of phone calls I get asking for advice: valuation and terms (i.e., other aspects of the deal, such as employment contracts, etc.).

Unfortunately, there are very few definitive rules when it comes to structuring deals. On the one hand, I believe in the golden rule: "He who has the gold rules." On the other hand, I believe that deals that are too tough on either side generally don't work.

Over the years, I have developed a set of principles to guide deal making. First, deals fundamentally allocate risk and reward and therefore value. Whenever risk and reward are allocated, the deal maker has to be concerned with the three issues:

- What are the incentive effects of the allocation?
- Who will be attracted by the terms offered?
- What are the logical implications if the parties to a deal behave in their own perceived best interest?

Consider, to illustrate, a typical deal between a venture capital firm and a venture. During the past twenty years, the structure of such deals has evolved to a recognizable standard. First, venture capitalists invest in stages: they do not give all the money to the entrepreneurial team that will be required to exploit the opportunity. They almost always invest in the form of a convertible preferred. The preferred has liquidation preference: if the company is liquidated, the principal of the preferred must be paid back before the equityholders receive any of the liquidation proceeds. The preferred has a dividend that is payable at the discretion of the board of directors but adds to the liquidation principle if not paid before liquidation. The preferred is convertible into common stock at some stated price: conversion is typically mandatory if the company goes public. The investors preserve the right to invest additional money by having preemptive rights or rights of first refusal on subsequent financing. The investors have some protection against dilution such as might occur if the company raises additional capital at a lower price. Often, the investors have the right to force the company to repurchase the preferred at some point in the future on some prearranged terms. The investors have certain information rights, enabling them to receive timely (and credible) financial reports and to be notified before major events at the company. The investors also have certain governance rights such as the right to appoint directors or the right to replace the founder or founders. The management team, including the founders typically receive common stock (or stock options) and are subject to vesting requirements: if they leave the company, they lose the unvested portion of their options or stock.

Implicit in each element of the standard venture capital deal is a notion of how the incentives ought to be set. Any time an investor gives money to someone else, they have to concern themselves with possible conflicts of interest. The entrepreneur might, for example, pay him/herself a large salary, depleting the funds of the venture. The entrepreneur might decide to keep the company private, never enabling the investor to get a return on investment.

The deal structure described above is designed to protect the investor and provide appropriate incentives to the entrepreneurial venture. Consider, to illustrate, the rationale for staging the commitment of capital -- investing less than might ultimately be needed to exploit an opportunity. Suppose a venture needs $20 million to go from concept to commercialization. Why don't investors just give the full $20 million up front? Well, it's not hard to figure out, when you think about it. I have previously noted that there is often a discrepancy between outcomes and plans. In this hypothetical $20 million venture, it is highly likely that there will be some bad news early in its evolution.

Suppose that, six months after the team receives the $20 million, they discover a fatal flaw in their engineering. Will they call the investors, admit to their discovery, and send back the unspent funds? Not on this planet, they won't. Never in the history of entrepreneurship has an entrepreneur announced defeat. They always believe that the problem can be fixed - all they need is a little more

time and a little more money. By the way, sometimes they are right. Federal Express approached bankruptcy three times before it gained escape velocity.

The point here is that investors need to have the right to decide whether or not to continue to back the team and the project: they should not cede decision rights to the team because the team will almost always make a self-interested choice. Indeed, if the entrepreneurial team were to insist that the entire $20 million be invested up-front, they would likely find no (rational) investors willing to make the bet, regardless of the share of the company they would acquire. Also, because the entrepreneurs are likely to have to agree to a staged infusion of capital -- with each additional investment based on new information and a price reflecting that information -- the entrepreneurs signal their belief in their ability to bring the project to fruition.

The incentive effects of deal structuring could occupy a book and I will not attempt to describe this topic in detail in this note.[12] Rather, the important lesson for entrepreneurs writing business plans is that they have to structure deals that reflect their incentives and those of investors. There is an implicit balancing act. The specific deal will be tailored to the characteristics of the individuals involved, the nature of the opportunity, and the contextual setting.

One caution is appropriate about deal structuring: there is an old expression -- "too clever by half" -- which is directly relevant. Often, deal makers get creative in structuring deals. For example, they design complex valuation schemes that involve conditional pricing of a deal. If the company does as well as management thinks, then management gets some extra options. If the venture only does as well as the venture capitalist thinks, then the terms are more onerously tilted in favor of the investors. Through painful experience, I have come to believe that simple is better than complex. Trying to structure such complex deals often ends up turning partners into adversaries. In the deal described above, perhaps the venture capitalist will be better off if the company does poorly (but not too poorly) for some period and then takes off. Does the venture capitalist really want to be conflicted in this way? I think not.

In my experience, sensible deals have the following characteristics:

- They are simple
- They are fair
- They reflect trust rather than legalese
- They are robust - they do not blow apart if actual differs slightly from plan
- They do not provide perverse incentives that will cause one or both parties to behave in destructive ways
- They do not foreclose valuable options
- The papers used to describe the deal are no greater than one-quarter inch

No discussion of deals would be complete without a section on valuation. How are ventures valued, particularly ones for which there is massive uncertainty? The short (and flip) answer is: "aerial extraction." A less curt answer is that venture valuation is an art not a science. Every entrepreneur I have met says something like the following: "Based on my projections, you (the investor) should be willing to value my company at $10 million. If you do, you will earn a 78%

[12] For more information on deals and incentives, see William A. Sahlman, "Note on Financial Contracting: "Deals"," Harvard Business School Case # 288-014. See also William A. Sahlman, "The Structure and Governance of Venture Capital Organizations," Journal of Financial Economics, October 1990.

percent internal rate of return, based on our going public in five years." The response is: "I'll value your company at $3 million – your numbers aren't worth the paper they're written on....."

Only if you had omniscience would it be easy to value companies early in their life. The venture investor knows from hard-earned experience that few if any ventures come anywhere close to meeting their projections. Only 10% to 20% of the deals in which they invest will do really well. Some 30% will actually result in losses, in some cases complete loss. What seasoned investors do, therefore, is base their valuations on the overall experience they have had. The reasoning goes something like the following: "If I value early stage software companies at $5 million or less, then I will be able – after it is all said and done –to earn a rate of return on my portfolio that is acceptable to me and my limited partners."

My students are always disappointed that there are not formulae for calculating the value of a venture. They do not like the fact that there are a wide range of possible valuations that are OK or "in the ballpark." They do not like the fact that their negotiating skill and assets (i.e., the degree to which the team and the opportunity are outstanding and proprietary) will determine what happens. I too wish it were easier to come up with answers, or at least narrow ranges: it would certainly make my job less stressful![13]

In closing, this section on deals has been implicitly based on a simple set of structured questions, which are listed below:

- From whom should the money be raised?
- How much money is needed and for what purpose?
- What deal terms are fair and provide the appropriate incentives for each side under a wide range of scenarios?

Risk/Reward Management

One fascinating aspect of business is the degree to which the future is hard to predict. It is certainly possible to write down a detailed description of a bright future, but hard to make it happen. The notion above that there is a known probability distribution for outcomes is useful but slightly misleading. There are no immutable distributions of outcomes. It is ultimately the responsibility of management to change the distribution, to increase the likelihood and consequences of success and decrease the likelihood and implications of problems.

One of the great myths about entrepreneurs is that they are risk seekers. My sense is that all sane people want to avoid risk. As colleague Howard Stevenson says, true entrepreneurs want to capture all of the reward and give all of the risk to others. The best business is a post office box to which people send cashiers checks. Yet, risk is unavoidable. So what is a rational person to do?

My answer to this question is that you must assess the risks and find mechanisms to manage them. Consider, to illustrate, a risk inherent in the context, the set of factors outside the control of the entrepreneur. There might be an increase in interest rates: if a venture is highly leveraged, then an increase in interest cost might sink it. To manage this risk, it might make sense to hedge the exposure in the financial futures market so that a contract is purchased that does well when interest rates go up. This is equivalent to buying insurance: you pay a premium to do so, but you can preserve a company's business model by doing so.

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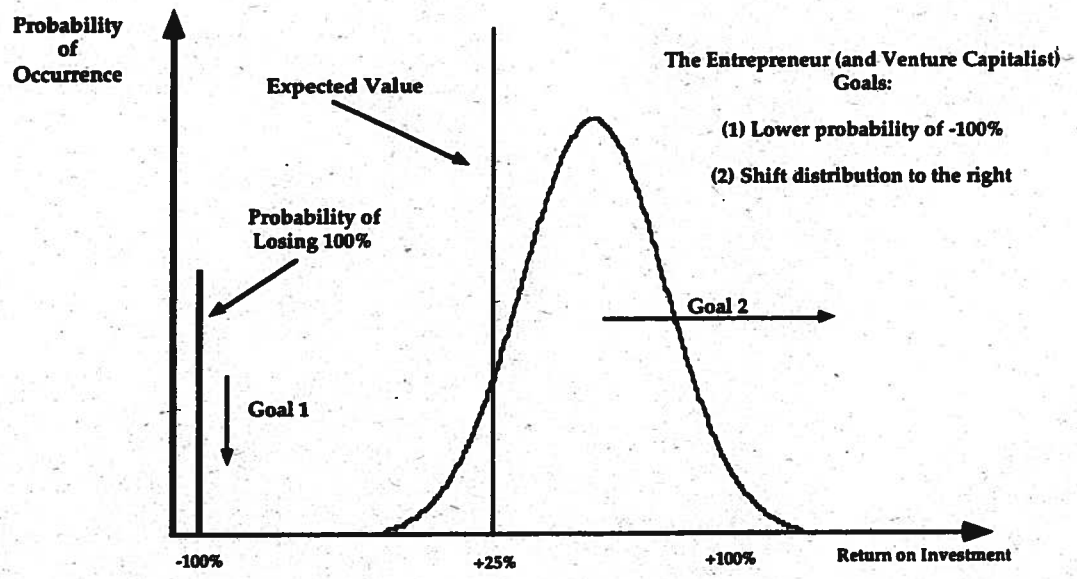
[13] For more than you ever wanted to know about valuing venture deals, see Daniel R. Scherlis and William A. Sahlman, "A Method for Valuing High-Risk, Long-Term Investments," Harvard Business School Case # 288-006.

In general, there are a myriad of things that can go wrong or right in a venture. Though it is impossible to predict the future, it is possible to change the odds or manage the consequences of adverse events. For example, suppose you write a great novel. You go to an agent. The agent sells the rights to the book to a publisher. What should you worry about?

Clearly, a successful novel has a number of attractive follow-on possibilities/growth options, including a potential movie based on the book. You can insist that the contract you sign enables you -- rather than the publisher -- to reap the bulk of the rewards from a movie. I promise, however, that the initial contract you receive will grant to the publisher all ancillary rights associated with the book, from software to video. I also promise that the contract will be tilted in favor of the publisher in other ways. To illustrate, the contract will spell out possible royalty rates: you must not become so preoccupied with getting a high royalty rate that you ignore what that rate is applied to. Many naive authors have signed movie deals where they get a share of the net income generated in the movie: lo and behold, the movie grosses $500 million, but the author receives no royalties. She is told the movie was unprofitable .....

In this example, you cannot predict the success or failure of the book in the marketplace, but you can preserve the option to benefit if it is a success. You can retain certain rights and you can pay attention to the nature of those rights, including the incentives of the other party. Or, you can cross the Mass Turnpike blindfolded. The basic model of risk/reward management is depicted below:

Risk/Reward Management



One specific area of importance in the realm of risk/reward management relates to harvesting. Earlier, I suggested that opportunities differed in terms of the implicit growth options defined as opportunities that companies have by dint of their entering a market (e.g., to sell additional products or services to the same customers). Businesses also differ in terms of their harvest potential by which I mean the ability to reap the rewards of the investment process.

For example, venture capitalists often ask if a company is "IPOable," by which they mean: can the company be taken public at some point in the future? Some businesses are inherently difficult to take public, sometimes because doing so would reveal information that might harm the competitive position of the firm (e.g., reveal profitability, thereby encouraging entry or angering customers or suppliers). Some businesses are not companies, but rather products -- they are not sustainable as an independent business.

One important task for entrepreneur and investor alike is to think hard at the beginning about the end of the process. Specifically, how will you get money out of the business, assuming it is successful, or even if it is only marginally successful? Some businesses are rife with harvest potential: they involve products or services that are worth a great deal to many potential buyers. If you are currently in the telecommunications software industry today, for example, you are witnessing one of the great industry consolidations ever. Companies like Cisco, 3Com, and Bay Networks are on acquisition binges. If you have created a successful niche product or service, there is a strong possibility that one of those three companies will try to buy you. Moreover, because each of the three must compete with the other two, the sellers might well get additional (even unwarranted) benefits from playing one firm off against another.

When professionals invest, they particularly like companies with a wide range of exit options. They work hard to preserve and enhance those options along the way. For example, they avoid forming a strategic relationship with a major company early in the process because doing so often forecloses the exit option of having multiple large firms bid against each other for the right to buy the company. There is an old saying: "If you don't know where you are going, any road will get you there." In crafting sensible entrepreneurial strategies, just the opposite is true: you had better know where you might end up and have a plan for getting there.

Financial Projections

No discussion of business plans would be complete without addressing the ubiquitous proformas that populate them. Most business plan writers spend countless hours on detailed financial projections. They imagine that a potential investor will pore over the numbers asking a myriad of questions. They also imagine that the investor will propose a deal based on the numbers in the plan.

When I first started to study entrepreneurial ventures, I too turned first to the numbers. Of late, I have gotten to the point where I hardly even look at them. Indeed, if I receive a plan that has five years of monthly projections, I immediately and enthusiastically throw the plan in the circular file next to my desk.

Every business plan contains the following phrase: "we conservatively project." Only about 1 in 20 plans are conservative in the sense that the company comes even close to meeting its plan. If you observe one hundred companies and only five come close to their original projections, then you begin to pick up a pattern.

I have come to believe that spreadsheets have an innate virus that infects the projections made in business plans. The virus turns what might be sensible people into wildly optimistic, nonsensical maniacs.

There are two or three possible explanations for why the virus is so widespread. First, in every business, there is what I call the "horse race between fear and greed." Entrepreneurs want to preserve the largest possible ownership stake when raising capital. At the same time, they are afraid of running out of capital. Very few if any entrepreneurs correctly anticipate how much capital and time will be required to accomplish their objectives. Venture capitalists automatically discount what is in a plan to reflect the consistency and predictability of the optimism.

Of course, if the entrepreneurs know that the venture capitalist will discount his or her projections, then they pad the projections to offset the likely haircut to be applied. This sounds to me like a vicious cycle in which reality becomes hard to find.

It's rather like the distinction between "buying proformas" and "selling proformas." It all depends on your perspective. Indeed, I always ask a simple question when looking at projections: Who wrote the proforma and why?

When I read a proforma projection, I look first and foremost for evidence of a business model that makes sense and an appreciation of the fact that the specific numbers proffered are almost certain to be wrong. I like to see that the entrepreneurial team has thought through the key drivers that will determine success or failure. In a traditional magazine business, to illustrate, among the key business drivers are: total possible subscribers in the target audience; gross response rate (how many respond to a mailing that they are interested in subscribing?); net response (how many who say they will try the magazine actually pay?); and, renewal rate (how many who subscribe actually renew their subscription when it lapses?). These factors help determine the profitability of a magazine because they affect the cost of acquiring and retaining a subscriber. Also important would be the advertising attractiveness of the audience and the costs of creating (editorial), printing and fulfilling the magazine.

In a software business, the economic drivers differ. Of critical importance are the cost and time schedule for creating the software. Then, the economics of the various distribution channels are at the top of the list. What margins will the retail or OEM channel require? What are the economics of a direct sales force model? How much territory can a salesperson cover? What compensation is required to attract, retain and motivate a talented sales force and a software development team?

Common to all business models is the issue of break-even: at what level does the business begin to make a profit? Even more important, at what level does the company turn cash flow positive?

In addition to a clear appreciation of the factors that will affect the economics of the business, I look for sensible sensitivity analysis. What would happen, for example, if net response rates were 20% lower for the magazine? What would happen if the software project took 20% longer than estimated? These are the kinds of questions that I believe the team should address in presenting their model to prospective resource providers.

Many successful companies find that their basic business model was too optimistic. Though ultimately the business model works, more time and capital are required. I was a director of two companies that started out predicting that they would each need less than $2 million to reach escape velocity. One, Avid Technology, went through $25 million before it reached positive cash flow. Avid sells digital video editing software and went from startup in 1988 to over $400 million in 1995. Another company in the information business went through $10 million as compared to its initial guess of $1.5 million. We had a saying at that company when I was a director: "We never wrote a business plan we couldn't miss." This company now does $160 million in revenue, with $60 million in operating profits. This company also came perilously close to bankruptcy before figuring out its business model.

One final note about proformas in business plans for high potential ventures -- they all look the same. Over the past decade, hundreds of books on entrepreneurship and venture capital have been published. Most of these volumes comment that venture capitalists will not consider making an investment in a company that cannot reasonably project $50 million in annual revenues within five years. It is not surprising that almost every plan I receive shows year five sales of $55 million, representing a 10% cushion over the presumed minimum. They also need only a 10% share, and they all show at least a 10% net margin ..... and they are all conservative (see Appendix 3 for a glossary of terms found in business plans and an explanation of what they really mean).

Due Diligence

A business plan is often used as a blueprint for asking questions. Professional investors conduct due diligence in order to assess the people and the opportunity described in a plan. They will call references including people not suggested by the entrepreneurs. They will call actual or potential customers, suppliers, and other resource providers. They will talk to competitors, both

actual and potential. And, they will grill the team based on the questions they believe must be answered before they will invest.

I recently participated in a meeting at which an entrepreneurial team tried to convince a group of individuals to invest. The team leader had a well-practiced pitch, complete with color slides and attractive props. At several points in the meeting, the presenter noted that "the business model was proved," by which he meant that there was substantial evidence that the company knew how the opportunity would play out. Unfortunately, the individuals to whom the presentation was being made had done some homework. One had called a potential advertiser, and another had called someone in the retail channel. Each gave a sharply divergent story about the company, its business model, and the likely evolution of the relationship with the company. If the presenter had only hedged his bets by describing the process by which he intended to convert promises (or hints) to reality, his pitch would have been successful. It was not.

The process of investigating a potential investment is driven by experience. After investing in a few companies, you begin to build up a sense of what can go right and what can go wrong. You learn to ask questions that you wish you had asked in the last unsuccessful deal you did. You develop a repertoire of tools to ferret out what is really going on in a venture. One friend always asks the same question when he visits a company seeking investment: "Why are sales so bad?" In some cases, the entrepreneur launches into a discussion of the failings of the sales force or the manufacturing problems confronted by the company. In other cases, the entrepreneur takes offense and describes why sales are going great. In either case, my friend has the information he needs to assess the business and its management team.

One final comment about due diligence is appropriate: it is not infallible. Before Bain Capital invested in Staples, it commissioned a survey of small businesses on their use of supplies. The results of the survey were not consonant with the assumptions made in the Staples business plan. The founder, Tom Stemberg, insisted that Bain Capital revisit the issue and check how much small businesses actually spent on supplies as compared with what they thought they spent. As it turned out, Stemberg was right, and Staples is now a multi-billion dollar business. Bain Capital did invest, which turned out to be a wise decision.

Summary and Conclusion

In summary, a business plan is neither necessary nor sufficient. Many successful businesses never had a formal plan and many unsuccessful ventures had a beautifully crafted but irrelevant plan.

A business plan must provide reasonable answers to the following questions:

- Who are the people involved? What have they done in the past that would lead one to believe that they will be successful in the future? Who is missing from the team and how will they be attracted?
- What is the nature of the opportunity? How will the company make money? How is the opportunity likely to evolve? Can entry barriers be built and maintained?
- What contextual factors will affect the venture? What contextual changes are likely to occur, and how can management respond to those changes?
- What deals have been or are likely to be struck inside and outside the venture? Do the deals struck increase the likelihood of success? How will those deals and the implicit incentives evolve over time?
- What decisions have been made (or can be made) to increase the ratio of reward to risk?

Among the many sins committed by business plan writers is arrogance -- believing they have a completely proprietary idea or an insuperable lead. In today's economy, few ideas are truly proprietary. Moreover, there has never been a time in recorded history when the supply of capital did not outrace the supply of opportunity. The true half-life of opportunity is decreasing with the passage of time.

A plan must not be an albatross, something that is cast and concrete, hangs around the neck of the entrepreneurial team, and drags them into oblivion. As Steinbeck said, "the best laid plans of mice and men ..... :" the world changes, and the team must change accordingly.

A plan must be a dynamic call for action, one that recognizes that the responsibility of management is to fix what is broken prospectively and in real time. Risk is inevitable, avoiding risk impossible. Risk management is the key, always tilting the venture in favor of reward and away from risk.

A plan must demonstrate mastery of the entire entrepreneurial process, from identification of opportunity to harvest. To paraphrase George Bernard Shaw on the subject of love affairs, "Any fool can start a business - it takes a genius to harvest one."

A plan is not a means for separating unsuspecting investors from their money by hiding the fatal flaw. In the final analysis, the only one being fooled is the entrepreneur.

The ultimate tools in business are people, the leaders of the venture, the people who work at the venture, and all of the suppliers, including the financiers. Picking the A-team is the only way to manage reward and risk in the long term.

Personalizing

Writing a business plan can be a terrific educational experience. It is an integrative exercise, requiring the venture team to bring to bear a wide range of skills and experiences. It is human and it is analytical. Working on a plan can be a useful tool for gaining commitment and consensus among team members, even if the plan turns out to be impractical.

The real purpose of this note is to get MBAs and others to think about their careers using the entrepreneurship lens. To what degree do they know what an opportunity is and how to marshal the required resources? What is missing, and how can the gaps be addressed?

We live in a golden age, one characterized by tremendous opportunity and a myriad of examples of successful entrepreneurship. A young dropout from college, Bill Gates of Microsoft fame, ends up as the wealthiest individual in America. Three young graduates from Harvard Business School, David Thompson, Bruce Ferguson, and Scott Webster, built Orbital Sciences Corporation into a multi-hundred million dollar, publicly-traded company whose mission is to commercialize space.

Writing a business plan is useful as part of a lifelong educational experience. If and only if the writer has the skills, experience, contacts, and attitude that are required for the business, then, by all means, the Nike model should be invoked --

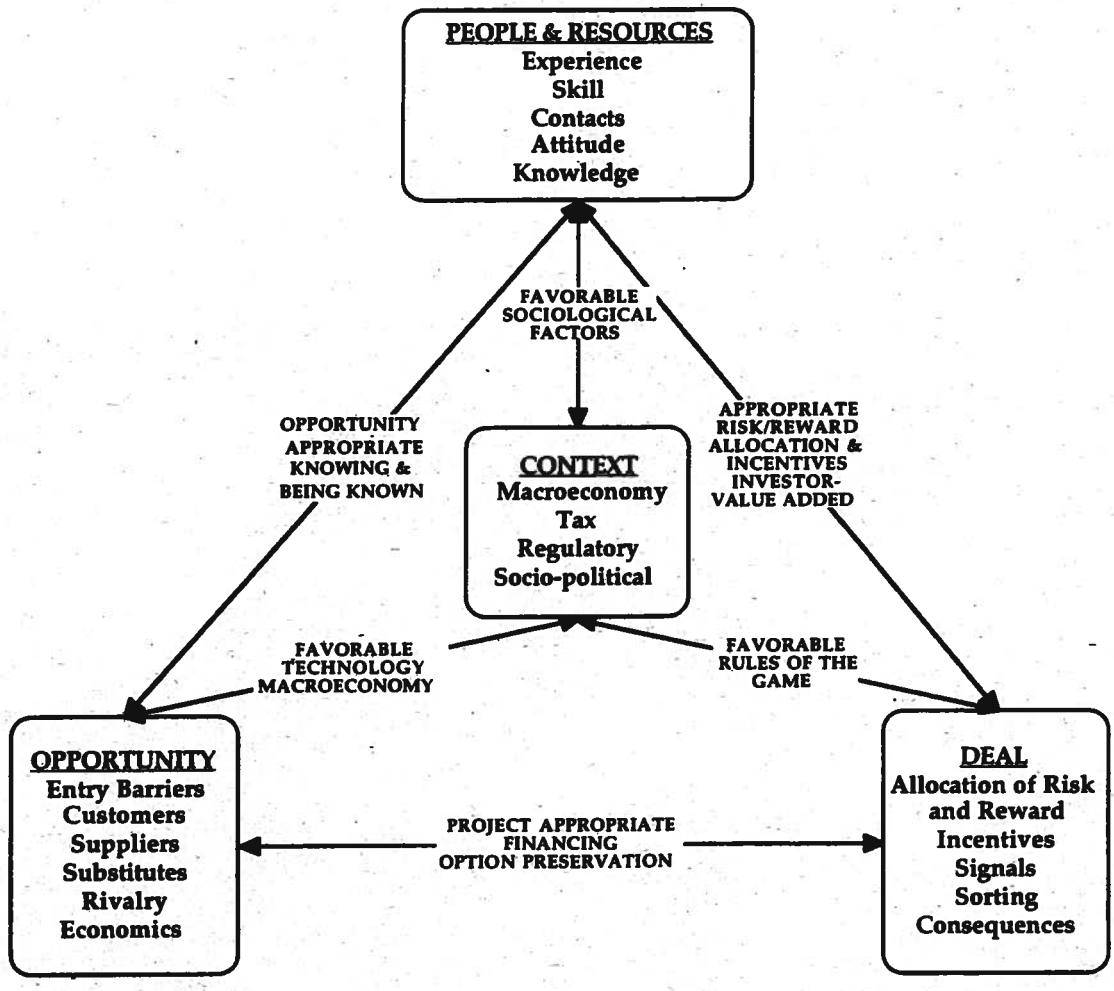
Just Do It!

If not,

Just Say No!

Appendix 1

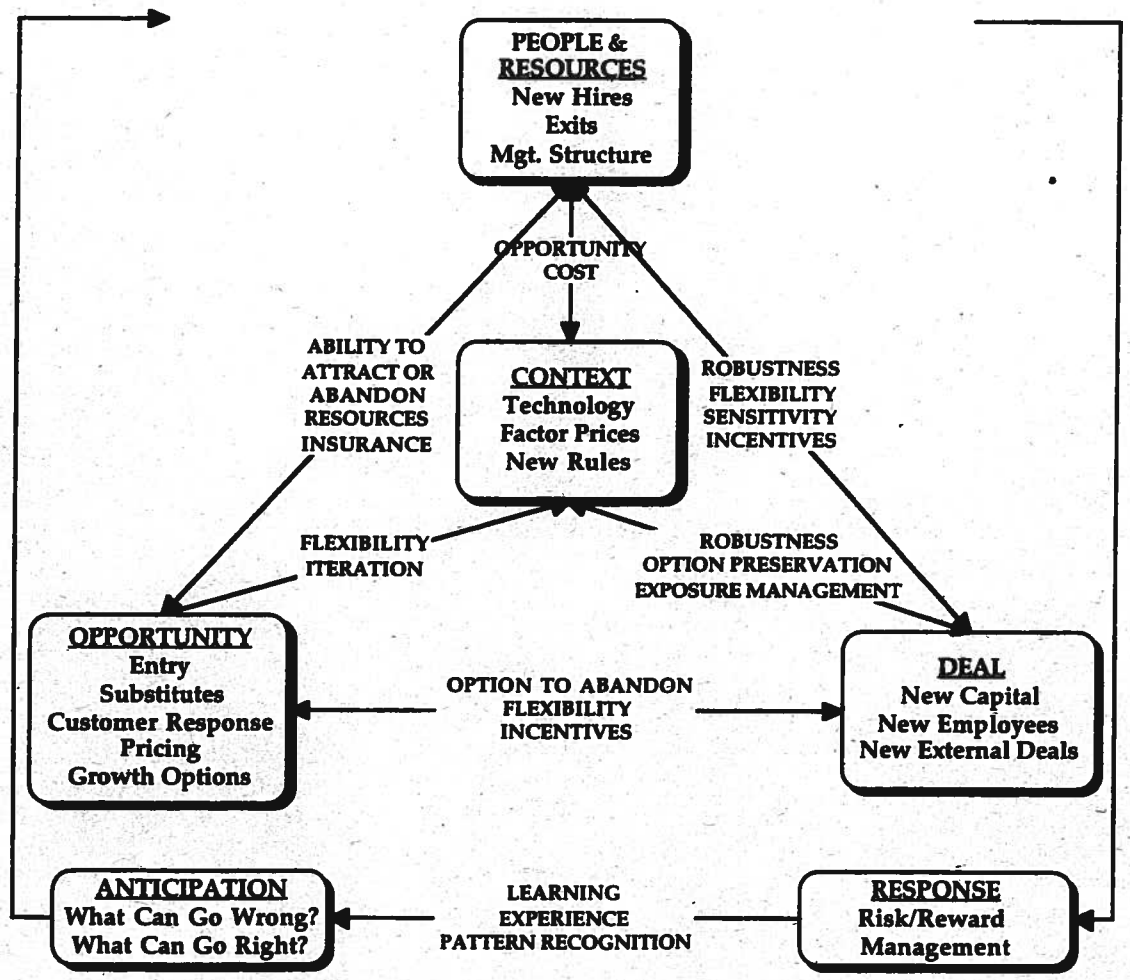
THE CONCEPT OF FIT



Appendix 2

DYNAMIC FIT MANAGEMENT

CHANGE (GOOD AND BAD NEWS)



Appendix 3

Translation Glossary for Business Plans

Business Plan Phrase	What It Really Means
We conservatively project ...	We read a book that said we had to have sales of $50 million in 5 years, and we reverse engineered the numbers ...
We took our best guess and divided by 2 ...	We accidentally divided by .5 ...
We project a 10% margin ...	We did not modify any of the assumptions in the business plan template we downloaded from the Internet ...
The project is 98% complete ...	To complete the remaining 2% will take as long as to create the initial 98%, but will cost twice as much ...
Our business model is proved ...	If you take the evidence from the past week for the best of our fifty locations and extrapolate it for all of the others ...
We have a six month lead ...	We have not tried to find out how many other people also have a six month lead ...
We only need a 10% market share ...	So too do all the other 50 entrants getting funded ...
Customers are clamoring for our product ...	We have not yet broached the issue of them paying for it. Also, all of our current customers are relatives ...
We are the low cost producer ...	We have not produced anything yet, but we are confident that we will be able to ...
We have no competition ...	Only Microsoft, Netscape, IBM, and Sun have announced plans to enter the business ...
Our management team has a great deal of experience ...	... consuming the product or service ...
A select group of investors is considering the plan ...	We mailed a copy of the plan to everyone in Pratt's Guide ...
We seek a value-added investor ...	We are looking for a passive, dumb-as-rocks investor ...
If you invest on our terms, you will earn a 68% IRR ...	If everything that could conceivably ever go right does go right, you might get your money back ...