ENTREPRENEURSHIP IN IT

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1.0 ENTREPRENEURSHIP:

Entrepreneurship is the lifeblood of a free market economy. Entrepreneurs are the people who bet their own time and, typically, of their net worth to implement ideas that create new things and new wealth. Where others see only a problem, entrepreneurs see an opportunity. When they are successful, they transform industries and entire economies.

1.1 The Seed Sown – The Rise of Entrepreneurship:

Since the 1980s, the world of work has changed dramatically. We have all witnessed the turbulence resulting from waves of corporate restructurings and downsizing. Thus it is not surprising that the career aspirations of those people left in the work force would also start changing. Indeed since the old corporate ‘psychological contact’ implying a guarantee of lifetime employment to loyal workers has now become virtually null and void: many workers departing from corporations prefer to try a new career direction rather than return.

1.2 New Career Patterns:

Indeed, we see how new patterns in corporate hiring practices have had a substantial impact on the language and strategies of people in the labour force. For example, many people who in the past would have preferred traditional corporate full-time employment have now become acknowledged entrepreneurs, choosing to describe themselves as “independent contractors” to earn interim income via “foot-in-the-door” assignments. Often these assignments are with potentially attractive employers who may not have full time openings, yet still have work that needs to be done. The contractor gets a chance to show off his or her skills prior to trying to secure traditional employment should an opening eventually arise or be created. Thus, in the new paradigm, wearing an entrepreneurial hat can often be an effective jog search strategy and can also provide interim income.

Moreover, another new pattern that is developing is the rise of the “situational entrepreneur”. Some departing employees are now using the windfall of an attractive severance package to buy a business not because they are so committed to entrepreneurship per se but rather because they wish to “buy a job”.

This paper has been presented at the Fourth Biennial Conference on Current Trends in Entrepreneurship Research organized by EDI, Ahmedabad during November, 2000.
For various reasons, often due to their age and economic status, they believe that their chance to earn a solid income is better served by entrepreneurship than by seeking another full-time job. These examples represent just two of the many new career patterns and configurations occurring in today’s complex workplace.

Entrepreneurship, I think, has a very little to do with making money. It is, instead, an attitude, a way of thinking. It goes beyond simply starting a company. In other words, not all people who start their own organizations can necessarily be categorized as entrepreneurs. Entrepreneurs challenge assumptions, recognize opportunities in periods of change, reveal patterns where others see chaos, and mobilize limited resources to achieve an objective.

Entrepreneurship is simply finding new opportunities to do things better, and then seizing the opportunity.

Relentlessly pursue new opportunities. Commit to innovation. Challenge traditional boundaries of thought. That’s what entrepreneurship is all about.

1.3 The Five Roads of Self-Employment:

Making a sound decision to become an entrepreneur is not an overnight process. Indeed such a major career transition should involve a careful analysis of many subjective and objective factors.

For example, early on you examine factors such as your motivation and commitment. Next you proceed to more objective realms such as designing your business idea and then seeking evidence of its worth in the marketplace. You may now be ready to review key facts about the five general categories of entrepreneurship:

1. Starting A Business
2. Buying a Business
3. Buying a Franchise
4. Starting a Consulting Business
5. Becoming an Independent Contractor

All of these have their pros and cons. For example, some of these are more suitable for first-time entrepreneurs whereas others are more suitable for serial entrepreneurs. Due to the lack of space, we would not go into details.

1 http://www.dbm.com/career/employment/fiveroads.html
2.0 **ENTREPRENEURSHIP IN IT:**

Here are the five principles of the business revolution in the new information economy:

1. Ideas are more valuable than factories, equipment, natural resources, and cash.
2. It’s not enough to have good ideas. One must implement those ideas more quickly than ever before.
3. Companies compete globally.
4. Companies are less hierarchical than they used to be
5. Companies have many, shifting alliances.

Business revolutionaries believe these principles are applicable to any industry, but they think that technology companies precipitated the revolution and hence, best exemplify them. Silicon Valley, in other words, is a managerial model for agriculture, mining or manufacturing or any business at all.

New, technology based firms can be divided into four categories based on two systematic factors:

- The novelty of technology applied by the new, technology-based firm
- The novelty of the customer needs targeted by the firm

The four categories are:

1. **Application innovators** are companies applying *existing* technology in an established market. Often, these companies act as agents of technology diffusion. Even though the technology applied by application innovators may be sophisticated and demanding, it is not new to the world. Many application innovators can be expected to target relatively narrow market niches, using customer specialisation as an important differentiating asset. The bulk of new, technology-based companies probably belong to this category.

2. **Market innovators** excel in developing new product concepts. The technology applied by market innovators does not have to possess any radical features as such. The innovative impact is produced by a new combination of existing technologies. For example, the basic components needed for the creation of a personal computer were widely available before the introduction of the first personal computer. As the success story of Apple suggests, the new product concept may sometimes lead to the creation of completely new industries.

3. **Technology innovators** introduce new generic technologies into existing markets. Thus, technology innovators often directly challenge the existing status quo of the industry they try to penetrate. If the competence base needed to develop the new technologies is far enough from the
competence base of the existing players, technology innovators may be able to push existing players out of the market. It seems more probable, though, that a technology innovator is either pushed to serve a narrow market niche, or the technology offered by it is rejected by the market.

4. **Paradigm innovators** are firms introducing new product concepts based on a completely new technology. Some paradigm innovators possess the potential of initiating radical innovations, changes in technological systems, and sometimes even changes in technological systems and in the prevailing techno-economic paradigm. Paradigm innovators can be assumed to depict strong technology links with sourced of advanced technology and basic research.

All these four types of technology firms form the base of (I) Technological Entrepreneurship, or specifically Infopreneurship for IT entrepreneurship.

Infopreneur is the new word for the new breed of entrepreneur who is changing the course of history.

2.1 **Challenges to Infopreneurs:**

To make the wildest dreams come true, infopreneurs have several challenges to resolve. First and foremost, they need to resolve the conflict between freedom through privacy and the pervasive nature of technology. It is their responsibility as infopreneurs to balance the benefits. While the industrial economy was built on mass production, the infopreneurial revolution is built on data distribution. Moving quality data is the key. In this context, the second challenge is to integrate information technology to revitalise old business and to recapture lost customers. The great attraction is helping the customers do more with less.

One more challenge is to apply their knowledge toward what turns people on. The fastest path to success here is when you build your business, surround yourself with top talent, and reward them with equity. For an example, just look at Infosys. It has more than 1000 employees who have become millionaires through their stockholdings.

The final challenge is to understand how information links people and improves productivity. Digitised information has become a global currency. When you leverage data distribution to meet needs and solve problems, you have established a very powerful competitive advantage.

2.2 **A few guidelines for Infopreneurs:**

The goal of infopreneur is to turn data into rupees, not vice versa. Here are some components of the recipe to help one establish a new approach for the business:

- Add value
- Fill a need
- Provide instant gratification
- Link your business with the tie that bind
• Make it simple
• Try to get what you pay for
• Respect the system
• Stay focused and patient
• Be realistic
• Give your customers what really want
• Make a profit in order to progress
• Recognise the value of ads on the internet
• Make the change from platform to forum
• Rapidly develop technology
• Be prepare for universal access
• Seek virtual support
• Take advantage of global mobilisation
• Think local, act global
• Know what you are looking for
• Provide ease of interactivity
• Shape the future
• Keep up with the speed of change
• Recognise information’s potential

2.3 *Bridging the Gap between Information Technology and Entrepreneurship:*

Linking entrepreneurship with information technology is key to moving rapidly into the 21\textsuperscript{st} century.

The challenge is to grow the size and scope. We need to create a strong culture for innovation, for new product creation, and for new business start-up. To accomplish that goal, must focus on providing a suitable breeding ground for the venture capitalists from beyond the region who will invest in the country.

2.4 *Measurements for Success:*

According to Jon Goodman, Director of the Entrepreneur Programme at Southern California University, the following are important traits for technology entrepreneurship:

• Tenacity
• Technical skills to run the business and produce results
• Belief in your abilities
• Passion
• Choice
• Deep knowledge
• Imagination
• Ability to envision alternative scenarios
• Self-determination
2.5 **Conditions for Success**

Studying Silicon Valley as a case, we can identify following factors which help shape up success in IT entrepreneurship:

- **Collaboration:**
  The casual lifestyle of Silicon Valley leads to fluid social interaction, networking, and collective learning. Competitors recognise the value of cooperation through informal support, joint ventures, and licensing agreements.

- **Entrepreneurial Spirit:**
  The long history of success encourages risk-taking with no stigma attached to failure. Culture of *individualism* also fosters the spirit to be on one’s own.

- **Innovation:**
  A high level of experimentation leads to innovation, and this flood of new ideas creates a self-sustaining chain of rapid development.

- **Funding:**
  The informal networks promote access to capital within the heavy concentration of private “angle” investors and venture capitalists. (50% of U.S. venture capitalists are based in Silicon Valley).

- **Research:**
  Silicon Valley companies put an emphasis on research, spending 16% of sales on R&D – twice the U.S. national average. 719 major research centres are located in this area, including SRI, Xerox PARC, and the USGS.

- **Human Resources:**
  The strong education system replenishes the pool with well-trained graduates, and the benefit of opportunity attracts a diverse, talented work force. Rapid movement between jobs is considered acceptable.

2.6 **Case of Silicon Valley:**

Everyone has now realised that the real heart of the Silicon Valley success story is the entrepreneur, a character that is not easily invented, fostered, or even understood. Jean-Baptiste, the French economist credited with coining the label, describes the entrepreneur as one who “shifts economic resources out of an area of lower and into an area of higher productivity and greater yield.” And the statistics bear this definition out. While the return on investment for American business in general over last 30 years has averaged 16 percent, the average return of entrepreneurial companies in technology is well over 50 percent.

\[http://www.gsb.stanford.edu/ces/conditions_for_success.html\]
With the Internet tornado destroying geographical boundaries, swirling across the corporate landscape, and radically changing the way businesspeople communicate, gather and process information, and buy and sell products and services, even Bill Gates is sounding breathless about all the new opportunities. "These are the good old days, "Mr. Gates told 1,200 world leaders in Davos, Switzerland. The venture capitalist Tim Draper agrees. "There has never been a better time to saddle the naked ambition of the entrepreneur," he told a group of enthusiastic Israeli entrepreneurs at a recent gathering in Jerusalem. Though a full third of all venture capital raised around the world is still invested in companies in Northern California, money is certainly beginning to spread around the globe. Israel alone has spawned more than 70 venture capital firms in the last five years.

The black magic of Silicon Valley is ultimately about attitude; you have to be able to take risk. It won’t hurt --- so go for it. The worst that can happen is that you have to go back to your day job! The Silicon Valley way is to get behind what works and what customers want—even if you have to chuck your technology in the process.

The not-invented-here syndrome was killed right around the time that the Internet was commercialised. Successful technology entrepreneurs cannot be protective either. Entrepreneurs must share their ideas and be open to doing business in different ways. The best entrepreneurs move quickly. The best decision is the right decision. The next-best decision is the wrong one, because then you will learn what the right one was supposed to be. The worst decision is no decision at all. This kind of attitude carried people like Mr. McNealy, Mr. Gates, Larry Ellison, and Steve Jobs to the helms of multibillion-dollar companies. If they can do it, we can too!

2.7 Wealth creation through IT:

It is only recently that there is some acceptance, in India, of the idea that creation of wealth is the only way to solve the debilitating problem of poverty. Mahatma Gandhi’s dream was to wipe the tears of every poor person in the country. Fulfilling this dream requires a consensus on the following tenets:

a. The only way we can solve the problem of poverty is by creating new wealth legally and ethically; not by redistributing existing wealth.

b. There are only a few people who can lead the task of creation of wealth, just as there are only a few good surgeons, professors, and lawyers.

c. These people are human beings and they need incentives to create wealth.

d. The job of the government is not to create wealth but to create an environment where these leaders are enthused to create more and more wealth.

There are two kinds of wealth creators – those that add to existing wealth passed on to them by the previous generation of wealth creators; and those that create wealth from scratch.
Here, we are concerned about creating wealth from scratch. Entrepreneurship refers to such a creation of corporate wealth by leveraging sweat equity. In general, entrepreneurship translates to leadership and innovation. Lack of adequate finance forces an entrepreneur to take a path hitherto un-trodden and create a niche for himself. A necessary but not a sufficient condition for entry of entrepreneurs into an industry is that it must afford opportunities for innovation executed with sweat equity at least in the initial stages of the enterprise. The software industry worldwide is full of successful entrepreneurs. Rapid advances in technology and the consequent productivity gains have opened great market opportunities for innovation and, thus, ensured a steady stream of entrepreneurs in the American software industry. Whether it is Bill Gates of Microsoft or Larry Ellison, the common factors are: sweat equity, innovation, a brilliant vision, a well thought out strategy and flawless execution.

A quick study of entrepreneurship in the Indian IT industry for over 20 years reveals following points:

During 1979-1981, ten to twelve entrepreneurs (professionals) started software companies for operating in the domestic and export markets. As of today, only one or two of them have survived, succeeded and been consistently among the top five Indian software export houses. A case study of these ten to twelve companies is a great education. We can draw certain conclusion from these case studies and can define some criteria for success.

The physiology of successful Indian IT companies and pathology of unsuccessful companies bring out the following criteria for success:

- **Shared vision:**
The founders of the company must articulate a clear vision of what they want their company to be in the long run. This vision must be something that provides for a clearly definable synergy between corporate objectives of the enterprise and personal aspirations of the entrepreneurs and the professionals working for the enterprise.

- **A marketable idea:**
Unless you have a good idea that adds value to a customer, there is no point in proceeding further. Your product or service must provide one or more of the following benefits – reduce cost, reduce cycle time, and improve productivity to improve free time – for users of the product. Most failures are due to negligence of this cardinal principle.

- **A sound strategy and an implement able action plan:**
Strategy is about making oneself unique in the marketplace. A strategic plan that clearly brings out the competitive advantages of the idea of the entrepreneurs, that masks the weaknesses of the entrepreneurs, that is realistic, and that ensures sustainability is needed. A realistic action plan that had the required resources is needed to put this strategy into action.
• **A layer of competent management:**
The bane of most IT entrepreneurs is that they are primarily technocrats and hardly understand managerial issues in building an enterprise. Indeed, there are entrepreneurs who cannot read a balance sheet and hardly distinguish between term loans and working capital. They have a healthy contempt for anything other than technical challenges! Such an attitude is a sure recipe for unmitigated disaster. A successful enterprise will bring together complementary skills in technology and management. Surely, success in an enterprise requires a good understanding of human motivation, finance, leadership, technology, quality, and a host of other skills.

• **A shared value system:**
A value system for a group of entrepreneurs is like the rudder for a ship. The temptation to bend your own sea of Do's and Don’ts is very compelling but the ability to stand firm in the face of an adverse situation is what separates men from boys. There are plenty of examples wherein enterprises flounder because the entrepreneurs could not come out with a shared value system.

• **Professionalism:**
Several budding entrepreneurs criticise their employers and do exactly what they criticised when they start their company. Professionalism is drawing a line between personal needs and company resources, treating all your colleagues with respect, and dignity, being issue-based and not personality-based, establishing and following person-independent rules and procedures in the company and showing integrity and honesty in all transactions with your customers, colleagues, vendor-partners, government and the society.

• **Divorcing control from management:**
Indeed, if there is one critical issue in succeeding in entrepreneurship, it is the ability to divorce control from management. In the US, any entrepreneur will know that his venture capitalist will put in a management structure independent of his shareholding in the company. You, as the entrepreneur, will be asked to perform the role best suited to the organization's needs. We all know the story of Steve Jobs and how he himself brought in John Sculley to head Apple when he realised the need for professional leadership. You must recognise your strengths and contribute to the organization only in that role.

• **Spirit of sacrifice:**
Nothing can ever be built unless there is some sacrifice at least in the initial period. Most entrepreneurs fall prey to the trappings of the so-called “Industrialist syndrome” and end up jeopardising the interests of the enterprise.

• **Pride in creation of wealth:**
There are entrepreneurs who are very apologetic about creation of wealth. For heaven's sake, there is absolutely nothing wrong in creating wealth by legal and ethical means. Do not ever confuse creation of wealth with charity. First, you create wealth efficiently and only then can you donate your share of the profit to any charity.
• **Ideology, intellectual arrogance and the enterprise:**
There are several instances where entrepreneurs have destroyed their enterprise just because they went on an ill-founded ideology trip. For example, one of such entrepreneurs felt that his company must produce compilers and word processors in India and compete with Microsoft’s and Borland’s even though it was clear to everybody but him that such a strategy was absolutely unwise and disastrous. His whole argument was that we Indians are second to none and that we will prove to the world that we can produce system software better than anybody else. Obviously, he did not succeed as much as his superb intellect should have enabled him to.

• **R&D and the bread-and-butter stream:**
It is a truism in any business that the bread-and-butter stream of your enterprise pays for all costs including R&D. A smart enterprise derives its revenues from a bread-and-butter stream, pays for the operational costs and uses a small percentage of this revenue (usually 5% to 10%) to conduct R&D in promising new streams. Some of these new streams will, in the future, become bread-and-butter streams for the enterprise. There are a couple of entrepreneurs who tried to derive a large part of their revenues from R&D and they are in serious trouble.

• **Leadership-by-example:**
In enterprises dominated by white collar and knowledge professionals, you must lead by example. Today’s professional has global level skills and opportunities and he is aware of it! Any discrepancy between what you preach and what you practice will be easily analysed by your younger colleagues and articulated well enough to create a dissonance; After all, Mahatma Gandhi was not wrong!

Speed and imagination are the two hallmarks of any successful entrepreneurs. Those who leverage these two attributes will survive and succeed in the coming millennium of intense competition. One can be sure that Indian entrepreneurs will use speed and imagination very effectively to become the leading wealth creators for this nation.

3.0 **MAJOR ISSUES INVOLVED IN IT ENTREPRENEURSHIP:**
Sustainable business leadership requires embracing co evolution and going beyond the dualism of competition vs. cooperation. Co evolution means cultivating innovation in ourselves and others. Competition and cooperation as the most important concerns of business are dead. Today, the challenges of rapidly coevolving with others to shape the future are much more important.

IT entrepreneurship is one area where co evolution is required more than anywhere else. There are a variety of requirements of an IT start-up. Most of these requirements such as Content, Technology, etc. today are outsourced. That makes a lot-of-sense as a start-up organization cannot have expertise in all the areas.

Forming a company of any kind is a Herculean task. Starting a technology company is even more so. The main concern has to be product and, these days, how it is delivered. There are all the usual business chores to be dealt with: marketing, content, public relations, branding… it’s endless.. Not only is it impossible for one
person to handle all that needs doing, but even a fair-sized group of very smart, experienced people is likely to need help with at least a few tasks.

Fortunately it’s possible to outsource a lot of this work, and for most technology companies, it is mandatory. It just is not practical to do all the accounting, advertising, or legal work in-house. For a start-up, it often makes good sense to enter into business alliance with other firms to take care of some of the jobs that more-established companies handle in-house, such as public relations and marketing. The resources these firms offer can prove a huge relief to company founders, who usually have months of around-the-clock work behind them and are looking at many more.

3.1 FINANCE/INVESTORS:

One of the most critical factors for the success of any start-up is its ability to raise adequate money to run the business. One of the most difficult tasks that new owners face is find the money needed to start a new business. On the one hand, investors are flooded with money and looking for good investment opportunities, while on the other hand, many entrepreneurs are not able to raise the finances to covert good business ideas into successful business ventures. There is enough money available in the market to support good business ventures, what is lacking is the correct approach and presentation of their ideas on the part of the entrepreneurs. The basic requirement in raising finance for your business is that the idea should be appealing to investors. Start up businesses often find it difficult raise funds from conventional financing sources because the present a tremendous risk to lenders and investors. Commercial lenders tend to shy away from new small businesses because they believe the risks of failure are too high. Commercial lenders want to see a history of success and a solid credit record. Before venturing into business, entrepreneurship should critically evaluate their business for its commercial viability. The business plan should stand the scrutiny of prospective investors as a viable business promotion.

Entrepreneurs can and do tap a broad range of sources for capital: their own assets, family friends, former business associates, finance companies, commercial banks, Angel Investors and venture capital firms. Approach the angel investors/venture firms only if you are willing to sell stock to them. They will buy private stock in your company, hoping to sell it at a profit when your business has grown.

Most financiers will require to scrutinise certain financial statements such as your “Business Plan” before they are willing to invest in your business. The plan should reflect your personal business goals, and should outline your business strategy, market analysis, business team and financials.

One of the most important points for entrepreneurs to remember is that there is no standard formula for raising finance. Attempting to slot your business into a rigid financing “formula” can limit your own innovative thinking. You need to do a SWOT analysis and think through for yourself what the strengths, weaknesses, opportunities and threats are, for your business. Your task is to present the most attractive overall portrait of your particular business by emphasising its strong points
and identifying its weaker traits, and the plan you have for countering these weaknesses. Your overall approach to, and formulation of, your business plan should be such that your business should be found appealing to investors.

3.1.1 **Angel Investors:**

Angels are typically wealthy individuals who allocate a small part of their net worth to investments in high risk/high reward early stage businesses. Angel financing, though popular for very long time, was earlier concentrated in the unorganised sector. Recent trends indicate that angel funding is becoming a matured business. With the emergence of professional angle networking firms, angel investment has now become an organised source of funding; start-up businesses have trouble securing conventional financing because they present a high risk to lenders and investors. The result is that most of the start-up businesses are funded through the owner’s own resources, such as personal resources. Family members, friends, and investments by privacy contacts or “angels” provide most the remaining “seed” funds for new small businesses.

No standard “angel” profile exists, but these investors are often individuals or groups of either local professionals or businesspersons who are interested in assisting new business. They are not typically interested in controlling the business, although they usually want an advisory role. In addition, they may make financing contingent upon the business’s adherence to certain goals or practices. Most entrepreneurs already recognise that potential “angle” investors for their business might be just about anywhere. Networking within your community and your business circles can often provide a good starting point. Potential financing contacts can arise through your business associates, affiliations with relevant trade associations, inquiries through your local banker, accountant, local chambers of commerce, and through other small business entrepreneurs.

*Angels are at demanding at any other investor is:* They want a CEO who takes advice, and their interest wanes if you do not give them an exit strategy. They look at minimum internal rate of return of at least 30% over five years.

“Angel financing” is often the first round of financing for early-stage companies.

For the entrepreneur, angel financing often provides the critical first funds needed to attract key employees and to develop a technology or a product to the point of commercialisation or to a stage where more significant venture capital funding becomes available.

*Angels operate in a number of ways:* sometimes through groups of pooled funds, or individually. Angels are even available now through Internet links and networks. Typically, angel investors are those individuals who know the entrepreneur from a family or business relationship or understand the business, either through the angel’s own business experience or through prior investments. An entrepreneur considering raising equity through angel financing should consider the following in structuring a deal with angels:
Angels usually invest in equity shares: Some angels ask for preference shares, with certain rights and liquidation preferences over the common shares. Some even ask for convertible debt, or redeemable preferred shares, which provide a clearer exit strategy for the investor but also places the company at the risk of repaying the investment plus interest. If the angel asks for preferred shares or convertible debt, the entrepreneur will need to consider the ability to repay the investment as well as the possible impact of the investment in future financing rounds. Some angels ask for a right of first refusal to participate in the next round of financing.

Angels often serve on the Board of Directors following an investment: As the company raises future rounds of financing, the issue arises as to how long the angel should continue to have the right to be elected to the Board. One alternative is to have the board right disappear once the Company raises a certain amount of equity financing or if the angel’s ownership percentage falls below a certain level. Structured correctly, angel financing can provide not only needed capital but also momentum to an early stage venture, allowing the company to grow and raise additional equity to propel its growth into the future. As in all stages financing, entrepreneurs should work with advisors who have the experience necessary to assist the entrepreneur regarding the mix of contract rights and restrictions appropriate to the particular circumstances.

Angel investors are not from the organised sector: The terms of angel financing depends entirely on what you can negotiate with a particular investor, but almost any type of debt or equity financing is a possibility. Some angels may offer loans at very low interest rates simply to help a new business or the community; others may expect specific rates of return on an equity investment. Some deals involve a debt instrument that allows the investor an option to convert the debt into an equity investment at either a specified time or if certain conditions are met. The investor can thereby protect himself or herself by retaining a debt claim if the business does not do well or can profit by converting the interest into equity ownership if the business succeeds.

Most commonly, however, angels will want an equity interest in the business and some guaranteed “exit” provisions, such as a mandatory buyout, “put” option requiring the business to repurchase the stock at the investor’s option, or a public offering of stock. Angel investors expect minimum annual return of 30% plus.

For decades, thousands of entrepreneurs had to swallow their ideas for lack of capital and along with it died their dreams to make it big on the Indian corporate scene. But not anymore – today the number of venture capitalist, including angels chasing promising ideas, is ever increasing. Not that there any dearth of ideas in India and the enterprising spirit, but the viability of the concept and the people behind it matters, which even the venture capitalist emphasise upon.

A year ago little did anyone know what a venture capitalist stands for except may be finance professionals But the success stories and wealth generated, thanks to Sabeer Bhatia of hotmail and Rajesh Jain of India world fame, has kicked off a new rage even among the little known employees in the Indian corporate. The result being 4 to 5 portals popping up every day in India.
Despite the much hoopla, the definition of different kinds of venture capitalist is mired. But the general perception is the angels, private equity funds, incubators and VCs, all of whom are a bunch of investors with piggy bags of money at their disposal.

It is indeed true, that the venture capital industry has come off age, going by. Along with the increase in foreign investment as well as local, the VC industry is setting out strategies for themselves as well as the industry.

3.1.2.1 Prime Sectors:

There are about 30-odd registered venture funds in India. While the venture capitalists recognise the potential of high growth areas and go through the learning process, the InfoTech and telecom sectors are considered as clear favourites by them. However, they are now spreading their tentacles into mind ware-media, entertainment, health and pharma too. With the healthcare industry is in its infancy and the pharma sector all set to boom once again, the VCs are now according greater significance to these areas along with services and retail sector. And all this is happening at a time when the traditional economy model is collapsing.

The VC activity is fast catching up as wildfire, and going by the recent Nasscom study, India is all set to become one of the top five global locations in the creation of technology ventures with annual investment of over $10 billion. The report further adds that the VC industry is on take off stage and that angel investments in high-tech firms in India will touch $750 million in 2000 and $1200 in 2001. The industry is gung-ho about the high growth predictions and some of the VCs even believe that “all will go well despite the competition.”

3.1.2.2 Success & Returns:
The success rate and the rate of return for the venture capital industry is not yet clearly defined. However, most venture capitalists expect a return of above 30 percent depending on the type of funds.

It is now widely believed that one of the 10 ventures turn successful. However some put the success rate in venture capital funded companies at 70 percent. If so then how do the VCs make good the money invested? Well, as said, the few that click cover up their investments and as well may be with the desired profits. A section of the VCs believe that in 3 to 5 years the future of VC funding in India will be brighter than ever, but warn against expecting too much overnight. May be you should hold on your ideas for a while….. they may fetch much more tomorrow.

3.1.2.3 Accessing Venture Capital Funds:
Venture Capital (VC) funds, both domestic and offshore, have been around in India for some years now. However, it is only in the at 12 to 18 months that we have seen intense activity amongst entrepreneurs proactively seeking out venture capital funds. It is interesting to note that for everyone investment, which is, funded by VC, anywhere up to one hundred ventures are not funded by the VC. As such, understanding the dynamics behind VC funding is important while seeking funds.
VC funds are broadly of two kinds; generalists or specialists. From the investee company perspective it is critical that the funding be obtained from those who understand the business. This backing of smart money for a growing company can prove to be invaluable as focused/specialised funds open doors, assist in follow on round of funding and act as an excellent sounding board on strategy. In as sense the investee company choosing a Venture Capitalist applies as much as does a VC fund’s choice of the investee company.

Venture Capitalists are driven by the profit motive. In effect the VC and the entrepreneur are really on the same side, since VC’s do not seek to profit through arbitrage. VC funds invest in the company, with a view to build and facilitate growth. At the time of exit, leaving behind an ongoing concern painstakingly built over 3 to 4 years is a matter of pride for a VC fund. Apart from ensuring returns for its investors such as company serves as an example of the calibre of the VC fund also; a reference of sorts of a good track record. Hence, with a view to de-risking the investment most VC’s tend to follow a similar set of guidelines, written or otherwise.

As such, while qualifying a potentially winning investee company, venture capital funds look at a select band of generic parameters:

- **The Management Team:**

  First amongst such parameters is the quality of the management team, consisting of the entrepreneur as well as professionals in the team. Success or failure of the venture is fundamentally a people game – the best ideas, backed by a great business plan; well funded, cannot be a winner without a winning team.

  It is important to distinguish the entrepreneur clearly from the professional management team. In the field of information technology, where, in India the average entrepreneur is around 30 to 35 years of age and reducing, he or she may not possess adequate experience or a track record in the chosen area. The value of the idea, the vision, putting the team together, getting the funding in place, are, amongst others, some key aspects of the role of the entrepreneur. VC’s will insist on a professional team coming in, including a CEDO to operationalize the idea in the absence of a complete team.

  In the overall team, VC’s will look for positive reinforcement on personal integrity, transparency as well as leadership, from the team, and more specifically from the entrepreneur.

  Many Venture Capitalists tend to be hands on in a strategic sense and will be with the entrepreneur on the board of the company. In such cases, the VC fund manager will seek personal chemistry with the entrepreneurs; a meeting of the minds facilitates the ability to listen to each other out of respect and nothing else, thus facilitating working together to build the company.
• **The Idea:**

The second key factor venture capital funds look at is obviously the idea and the potential of the idea to be monetised resulting in growth in valuation and profit. In effect the business model. Here key factors include:

**Scalability:** Venture funds look for scaleable markets enabling the investee company to also be scaleable in terms of the business model. The scalability potential, at a country level or a regional/global level is critical in building valuations, revenues and profits. In a scaleable model the presence of $ revenues provides a hedge against potential rupee depreciation.

**Competitive Entry Barriers:** Does the business model allow for adequate entry barriers to competition? Entry barriers in the form of technology, products and now in terms of speed of entering and securing markets/customers.

**Creation of Value:** Does the business model allow for creation of intellectual property, patents, methodologies, processes and Brands, which will add to increased valuations? Increasingly the value of building brands is becoming critical to valuation increase in a company. In this day of the Internet it is an entirely possible for an Indian entrepreneur to think of and build a global company, with speed as a key entry barrier and brand as a major asset. In essence, the importance from a valuation perspective, of softer assets, is increasingly becoming critical for a VC fund.

• **Valuation**

The third key factor is valuations. VC funds are sensitive to valuations whether for a start up or an ongoing concern. Valuations typically are drawn from parallels in the stock market, business projections and experience. Expectations of valuations by investee companies vis VC funds will differ. However, the prime driver is not only the state of the business today but also expected returns by the VC fund in the future. In India, while calculating returns, VC funds will take into account issues like rupee depreciation, political instability – such issues tend to suppress valuations today. Presence of intellectual property, brands or predictability of future revenues and profits enhance valuations.

Linked to valuations is of course the stake or percentage share of the company, which a VC funds takes. In a seed stage company, where the entrepreneurs bring to the table a great idea in combination with a world class management team and no capital, the VC fund will typically take a stake of above 50% and even up to 70% depending on the funds required. E.g. If the pre-money valuation agreed upon is Rs. 5 crores and the fund requirement is Rs. 8 crores than the share of the VC ownership will be 61%. In the US markets, this is normal; Indian entrepreneurs are still uncomfortable with the VC ownership will be 61%. In the US markets, this is normal; Indian entrepreneurs are still uncomfortable with the VC “taking control” in a seed stage project. It is critical to understand that the VC is owning stock commensurate with the financial risk being taken.
In early stage or expansion stage companies VC funds tend to take lesser ownership based on valuations determined on factors mentioned earlier.

- **Exits**

A fourth key factor is the issue of exits. For the VC fund to earn it must exit. Exit can be in the form of a trade sale or an IPO. Here structuring for tax optimisation while existing is essential as well as the time frame of the holding. For the investee company and the entrepreneur, life after exit is critical, in the event of IPO, the VC and the entrepreneur are really creating an ongoing concern with fiduciary responsibility to a larger set of investors. VC funds will discuss exit options at the time of investment.

- **Multiple Rounds of Funding:**

While investing, VC funds look for investee companies, which have got Angel funding already. Angel funding is smart funding at the startup stage. Angel funding also means that the angel has spent time to grow the company. Angel funding is specialist funding giving very high value add. Typically for an early stage, expansion stage or a seed stage investment, co-investments by Venture funds is a practice increasingly being followed. VC funds with complementary strengths e.g. one focused on a given sector and the other say a geography/markets, are the ones most likely to get together.

- **Portfolio Balancing:**

One of the key internal requirements of VC funds in deciding upon investments is portfolio balancing. Most Venture Capital funds invest in companies at seed stage, early stage and at the expansion stage, in the life cycle of a company. However, if for example a VC has invested in a portfolio of companies predominantly at seed stage, VC’s will focus on expansion stage projects for future investments to balance the investment portfolio.

In summary, VC funds go through a certain due diligence to select a good investment. The due diligence starts at the management team level and goes on to encompass the idea and the potential of the idea to be monetised as well as exit opportunity evaluations, for a seed company. For a running concern, the above set of due diligence parameters are supplemented by legal and accounting due diligence typically done by an external agency; e.g. one of the Big 5 audit concerns.

In the event of a seed stage opportunity VC’s tend to take up to 2 to 3 months to decide whether to back a project or not; for early stage or expansion stage projects being valuated in India; the legal and accounting due diligence cycle itself will add another two months to the final go ahead signal for a VC fund. Comparatively in US Company the time cycle in far smaller at less than 30 days in many cases, or an average of 60 days in most cases.

In effect, next time you are going to raise Venture Capital Funding do keep 2 to 4 months from time fund raising starts to final disbursement for Indian companies or up to 2 months for USA structured companies.
3.2 CONTENT:

3.2.1 The Importance of Content on a Commercial Web Site:

There are many things to consider when designing your web page. However, content is one very important element you should focus on because content is what involves the most important part of your web page; the audience. If your audience has an unpleasant or frustrating experience in visiting your web page, your site is not fulfilling its purpose, which will eventually result in a major loss in readers. Thus, you must “tailor” your content for your audience in as many ways possible, whether it be through formatting, content shaping, or netiquette so that visitors can get the most out of your site.

How do you create a Web site that will make a significant contribution to your organization? The responsibility is on the design team, but content is critical.

All too often, organization will have a web site built only to put it out on the web and then forget about it. Within a few months, or a year, the site becomes out of date. In web design parlance, this is known as a ‘cobweb’.

Many organizations are wise enough to know that they need to keep their site current and fresh. So, they collect changes they need to the site and they periodically call up their web developer, who, in turn, makes the requested changes to the site. This process is slow and expensive. There’s a lead time between when the new content becomes available and the web developer is called, and between when the developer is called and the changes are made. The developer typically charges by the hour for the modifications, which adds up quickly.

Some organizations make the changes to their web site themselves. They call up FrontPage or Home Site or some other HTML editor and they directly change the site and upload their changes to the web server via FTP. This process can work when somebody has been properly trained and is careful about the changes they make. However, all too often, the staff person maintaining the site unintentionally makes adjustments to the site’s overall look and feel. As time elapses, the site gets uglier and uglier. Or, what might happen is that the staff person maintaining the site finds the whole process to be hard and time consuming so they do not do it anymore! Or at least not nearly as often as they should.

There is, however, a solution that eliminates all of the above problems: A Content Management System.

A Content Management System is software which allows staff people to add, delete, and modify their web site’s content easily and directly.

Key benefits of this system include:

- The whole system is web based. All somebody needs in order to maintain the site’s content is a browser connected to the Internet and a login/password. Content is maintained through the use of HTML forms. No special software is needed on the staff person’s computer whatsoever.
• The interface is simple. Anybody who knows how to use a browser to surf the web can use the Content Management System with little to no training.
• It's immediate. Once somebody makes a change and hits 'submit', the web site is updated with the new information immediately.
• The system is designed to allow users to maintain only the content of the site WITHOUT being able to adjust the look and feel. This prevents the site from degrading in appearance over time.
• Once it is set up, there is no reason to call me to make changes. It just works. This saves time and money.

Web sites are an integral part of an organisation’s operation. No longer relegated to the role of electronic billboards, sites are used to actively promote companies and products, deliver services and information, manage transactions, and facilitate communications. Changes must occur quickly, daily, hourly, or even minute-by-minute. This need for rapid change, the “ripple effect”, changes can have throughout a site, and the sheer size of today’s dynamic business sites make it impossible for all revisions to flow through one or two people. Complexity and speed have created the demand for automated ways to effectively manage Web content.

But as with most technologies, not all Web content management solutions are created equal. The design philosophy behind the solution, as well as the architecture employed, can directly impact the suitability of the product for your organisation’s sites. Selecting a Web content management solution that does not properly address your requirements can make it difficult to enhance the site’s functionality, size, or scope. Overall, your organisation’s productivity and growth will be constrained when content changes cannot keep pace with the business environment and everyone, from content providers and designers to IT professionals – must work harder to compensate for the site’s technological shortcomings.

In contrast, the right Web content management solution can enable your organization to save time and money, improve communications, strengthen business relationships, and increase revenues. The right solution also can provide the scalability, flexibility, and enterprise system interoperability necessary to meet future site requirements; an important consideration when the future can arrive in a matter of months. It is an important decision, worthy of further investigation.

3.3 TECHNOLOGY:

Technology is the base of a high-tech IT start-up. The technology needed to develop the end product or service can come from a range of sources. When technology emerges solely from science and engineering, the technology is pushing products into the market such as in the case of Wireless Application Protocol. In contrast, when technology is required in order to satisfy needs, the market is pulling, for instance e-commerce technologies. One difficulty with new technology is its acquisition. The best way, and in some cases the only way, to transfer technology is to transfer the people associated with the creation of that technology.

Because technology is rarely measured, many ventures start without knowing how much technology they need, how long will it take acquire it, or how much will it cost. The
founders of an IT start-up must understand the firm’s technology well enough to measure it.

Core issues such as Architecture, Platform etc. are very important to be defined in the beginning itself in case of Net ventures.

There are two ways in which the Netpreneur can go about building the technology part if the venture:

Build his/her own team of technical people
Enter into a business alliance with a technology company.

Both ways have their own pros and cons.

Even though on one hand building own team is very time-consuming, on the other hand, it offers a lot of flexibility. A lot of infrastructure is also needed to allow own team to work. Office space, computing facilities, and all kind of requirements pop up. Also, human resource management becomes even more critical.

The better alternative, especially for Net start-ups, is to enter into a business/strategic alliance with an existing information technology company. The IT company will already have technical expertise which can be readily employed to develop the site rapidly as there is no learning curve involved. The level of involvement is very low when compared to owning a technical team. In this case, it is more like a project management.

But there is a downside to it; How do you ensure the same level of commitment from the technology partner, as you would expect from your own team. The solution is to tie the partner’s fortunes with yours. The most practical and practiced way these days in the cyber space is to enter into an equity-alliance with the technical company. That will fetch some equity money while at the same time ensuring commitment. Of course, for the technical company to sign on the dotted line of partnership, it has to believe in the venture the same way as you do.

A possible equity model could be a staggered equity stake model. According to this model, total equity stake to be given to technical partner is staggered over a time horizon. A part of this total offered stake is given upfront at the beginning of partnership. The rest of the stake might be given on a monthly or quarterly basis. There monthly/quarterly stake offerings can be made conditional by tying these up with expected performance clauses.

Technical business alliance offers one more advantage. In return of the equity stake given, you ask the technical partner to postpone its cash flows arising out of the development work going in their premises on your venture. Also, the manpower rates that the technical partner will charge you have to be much lower than the industry standards.

Possible disadvantages of technical alliance as compared to owning a team are:

- Limited or lack of control on the technical team.
- Quality of people cannot be ensured always.
4.0  FUTURE OF IT ENTREPRENEURSHIP IN INDIA:

Almost half of all H-IB visas were granted to Indian nationals last year, according to the Immigration and Naturalisation Service. China ranked second, grabbing just 9% of the visas.

But increasingly, Indians are doing the hiring themselves. Thanks in large parts to mentoring and organised networking efforts, more Indians are heading technology companies of their own.

In fact, this phenomenon has prompted the magazine Silicon India to create the Si Tech Index, which tracks the performance of 20 firms founded and managed by Indians both in the U.S. and India. The stock index jumped more than 200% last year. That's compared with 19.5% for the Standard & Poor 's 500 index and 102% for the Nasdaq 100.

Most Indian –led technology companies are no more than 3 or 4 years old. Before that, it was a rarity to see Indians at the helm of start-ups.

4.1  Better Networking:

Once major reason for the change has been more organised networking among Indians:

The Indo-US Entrepreneurs (TIE) has emerged as the pre-eminent networking group for Indian entrepreneurs.

TIE: hosts monthly Angel Forums, in which budding entrepreneurs pitch their business plans in hopes of receiving angel investing or mentoring from charter members. Lastly year, 37 venture capital firms were TIE sponsors. It hopes to attract 60 this year.

Sunil Wadhwani, CEO of iGate Corporation, an IT services firm in Oakdale, Pa., estimated that he has provided between and $500,000 in angel funding to Internet companies founded by Indians during the past year.

But an entirely different scenario existed 10 years ago. This network was pretty weak.

In fact, Wadhwani launched his company without any venture capital funding. The first time it got outside help was three years ago, when Wadhwani took the firm public.

Even just five years, the outlook was bleak. In 1995, K.B. Chandrasekhar, chairman of Santa Clara, Califbased Exodus Communication Inc., said he “knocked on the doors of every venture capital firm,” but the view was that Indians while skilled technically, did not possess the managerial talent to lead new companies.

“The credibility of India was not high at that time because few Indians had been entrepreneurs,” said Chandrasekhar, who is also CEO of Sunnyvale, Calif-based application service provider portal Jamcracker Inc.
In fact, Chandrasekhar’s firm was on the verge of bankruptcy when TIE members helped him with an initial $700,000 in funding.

Srini Anumolu, co-founder of Sunnyvale-based eLance Inc., an electronic market place for services, said the Internet also has aided Indians.

Before he co-founded eLance in 1998, Anumolu had tried unsuccessfully to run a start-up in San Franscisco during the early ‘90s. But back then, the environment was tough, he said. People needed a lot of capital and a sales distribvution channel.

The Internet levels the playing field because you do not need a dedicated sales force or shelf space in stores to get a new business running.

With respect to the generals lack of infrastructure, three types of infrastructure need to be developed: (1) governmental, (2) educational and (3) business. At this point the governmental infrastructure works against entrepreneurship, rather than supporting it. The educational and business infrastructures are just beginning to show signs of transformation, driven by the role of economic desperation in creating the entrepreneurial spirit. Training and incubator initiatives have been undertaken by academics and businesspeople. In a sense these programmes have created small oases of entrepreneurial economic activity in the harsh desert of a rapidly failing centrally planned economy that so far has been unable to transform itself.

4.2 Cyber Economy:

Yes, Internet mania has arrived in India, have no second thoughts about it. The energy level, the hope and the hype all match Silicon Valley levels, as any veteran of that Internet glasshouse can tell you.

After the frenzy generated by announcements of a national VC fund, an MoU between Nasscom and OTCEI for Internet IPOs, and setting up of local chapters of the highly successful angel group. The Indus Entrepreneurs dies down, what is to be seen is that though the path has been paved, India is not quite there. As yet.

For starters, there will still be challenges in the exit strategy for companies, which choose the IPO route. The recent Asian Internet Forum at the Internet World conference in New York revealed that Asian companies that have gone public have faced many management obstacles, highlighting the need to introduce more openness and accountability. Indian companies like Infosys have risen to this challenge admirably, but it remains to be seen how well other public-bound companies perform.

Second, we need excellent networking fora, peer evaluation, and global inputs into crucial start-up activities like business plan assessment. Are the companies on the right track? Are their revenue and growth estimates feasible? Is the competitor analysis adequate? Organisations like IIT-Bombay have started some entrepreneurial competitions in the field; McKinsey’s proposed business plan event India Venture 2000 com should be a big draw as well
The third issue revolves around legal aspects of the CVC process. This whole area for Internet start-ups in India is still embryonic, and entrepreneurs will have to do a lot of work to understand the finer workings and implications of shared equity, distributed risk, and public offers. Sure, technology and business are extremely crucial considerations – but so are the legal and financial aspects of running a start-up.

Fourth, where do Indian financial and consulting institutes fit in? Observers not steeped in the workings of Internet financing were rather bewildered that the valuation of India world, the brokering of the buyout deal, and a big chunk of the funds for the acquisition, all of which came from US-based institutions and investors.

Have no doubt about it, the Internet economy has a distinct Silicon Valley (read: US) stamp on it. How we go about emulating and eventually home-growing this expertise and wealth will be a big challenge for Indian organizations hoping to rock the Internet cradle.

Fifth, though numerous angel investors have jumped into the fray, where are the Indian IT giants and other corporate in the investment money game? Companies like Wipro are only recently announcing plans to fund start-ups spawned by their employees—most welcome and encouraging trend worthy of emulation by other Indian players.

With determination, passion, luck, and an eye out for these give aspects of the internet financing game, India should finally earn its place in the cyber firmament.

**5.0 CONCLUSION:**

In spite of the formidable challenges presently faced by India, I believe that entrepreneurship will be a major factor in the expected and unavoidable transformation of the country. The longer range potential of the Indian market is attractive to both local and western companies. In fact, there is at present hardly any local or foreign competition in technology-intensive products and services. There is a large pool of well-trained engineers, scientists and skilled workers available, and wage levels are modest. The younger generation, if properly trained, could develop many highly-motivated entrepreneurs and business persons. Also, many enlightened and progressive Indians realise that social independence can only be achieved by entrepreneurial and innovative small and medium size companies.

Judging by the run-away success of IndiaNet.Inc. and the attention that it has attracted so far, all one can say is WAY TO GO to Indian ITT Entrepreneurs.
Appendix –A1

IT in India

India is a major player in the IT sector with particular strengths in programming and solution-based software. Over the last two years, the growth rate of India’s IT sector has exceeded 50 per cent, and user of the Internet has increased by over 160 per cent per year. The successes of IT entrepreneurs in India are testament to the strength and vitality of the country’s IT sector.

India’s IT sector has grown dramatically over the last decade. IT industry revenues have increased eight-fold over the decade, from A$75 million in 1988-89 to A$5.9 billion in 1998-99. Today, India is acknowledged as one of the most important based for offshore IT services, with 1203 of the Fortune 5000 companies among its customers. India has a strong IT presence in the United States. American-Indians now generate approximately US$60 billion in revenue annually and manage 40 per cent of the ventures in Silicon Valley. India’s strong ties with the United States have further substantiated its position in the marketplace as a global IT leader. The success of India’s IT sector, particularly its software development capabilities, is revolutionising the Indian economy. IT is creating significant employment opportunities, generating wealth and foreign exchange and driving massive social changes. Software driven IT is at the top of India’s national agenda; it has become an instrument and a model for the modernisation of the Indian economy.

As we move into the new connected economy, ideas are quickly becoming more important than assets—how intangible more valuable than the tangible. Knowledge intensive industries are the fastest growing parts of the new connected economy, and Information Technology (IT) is the driving force behind this growth. IT is used to disseminate knowledge; it is the enabler of unprecedented change in the new connected economy; and it is revolutionising business models around the globe. IT is empowering business owners to lower costs, raise revenue, create greater organisational efficiency, and improve partner relations. Ultimately, IT is empowering businesses to become more competitive and more profitable.

Fuelled by the demands of the new connected economy, the global IT landscape is rapidly evolving to better meet the needs of business. Emerging trends include:

- Increased IT Based interaction with business partners and customers,
- Applications moving towards e-Commerce,
- Software packages increasingly delivered services,
- Greater-emphasis on extracting business intelligence from available data,
- Integration and convergence of voice, data and communication and
- Increased adoption of outsource models by companies.

These global trends are responsible for the convergence of services, web-enabling applications and embedded software, shifts in product-service dynamics, dramatic changes to customer environments, and evolving business models. India has emerged
as a major player in this new global IT environment. Indian IT sector has particular strengths and capabilities and yields clout in the IT arena.

Indian and India-centric companies have reached critical mass and India now has two InfoTech companies lasted on the NASDAQ. The market capitalisation of the Indian IT industry exceeded A$40 billion in November 1999. The global and financial community is showing considerable interest in the Indian software and service sector, and sustaining the growth of the software industry is at the forefront of the government of India’s agenda.

When analysing the evolution of the Indian IT sector, an ineluctable question is what drives the success of the industry—especially in a country where the PC penetration rate is about three computers to every 1000 people and IT spending as a percentage of GDP is currently less than 1 per cent (versus 3.5 per cent in the US).

A number of reasons exist for this:

1. First, the Indian software industry has been built predominantly on an export driven model. IT generation in Indian commercial establishments and government is still well below international standards.

2. Second, the success stories that abound with respect to Indian IT capabilities, be it in India or the United States, all share a fundamental advantage of advanced development skills and technical expertise. This advantage is spawned and fostered through educational initiatives in a number of technical institutes, universities, and engineering colleges. The output of trained manpower at degree/diploma level has increased from 1000 in 1983 to about 67,785 in 1998. India is expected to continue to lead the skills market, even in the low-end data processing and IT enabled services markets, simply because of the sheer availability of resources and the sheer size of the market. Cost will then cease to be a driving advantage.

3. Third, the IT industry requires a relatively lower level of capital investment and infrastructure for EGCs; this is notable in a country with lower access to institutional capital.

4. Fourth, there is significant government backing of the IT industry, an identified thrust sector not only because it is a considerable foreign exchange earner, but also because it is a front-runner of the modern knowledge society. Currently, 14 state governments have IT policies and seven more have set up IT task forces and committees.

5. Finally, relatively lower operating costs have also worked to the advantage of the Indians in terms of securing business contracts and facilitating growth. The advantage of low cost manpower, however, may soon be eroded due to decreasing compensation and incentive differentials, and wage arbitrage.

The Indian IT industry has evolved in scope and capabilities and moved from a perceived lower-cost model to one that is internationally recognised for its excellent quality and high reliability. India retains the largest number of groups with the highest
Capability Maturing Model in the world, and it is now a world centre for application development outsourcing. Most of the large players in the Indian IT industry, especially those in the software sector, have quality certifications such SD ISO9000 and SEI Level 5 and are familiar with current client-networking, e-Commerce, Internet Java, CASE tool, GUI, and 4GL technologies, as well as computer peripherals and VLS1 design.

A1.1 The Growth and Trends:

The IT industry in India has witnessed incredible evolution and explosive growth over the last decade. Compounded annual growth rates between 1990 and 1998 have been over 50 per cent almost twice the growth rate experienced in the US software sector during the same period. Over 1000 IT companies have proliferated, especially in the software sector. The total value of business generated in the software sector during the period 1997-98 is estimated to be A$6610 million. In 1999, software exports were valued at an estimated A$3.9 billion and are expected to account for 4.5 per cent of total exports; the latter figure is expected to rise 23 per cent by FY02. In relation to Fortune magazine’s top 500 companies, 158 of these outsource their software requirements to India. IT stocks like Wipro, Infosys Technologies, NIIT, Tata Infotech, Satyam Computers and Pentafour Software have overshadowed those of giants like Telco, Tisco, Grasim CC, Hindalco and Mahindra & Mahindra. The aggregate market capitalisation of the six leading Indian IT companies outstrips that of industry majors that make up the index composite on a revenue-per-revenue basis.

The boom in the Indian software industry has put the country on the global IT map. It has revolutionised the Indian economy, creating considerable employment opportunities, generating wealth and significant foreign exchange, and driving massive social changes. Software-driven IT is today at the top of India’s national agenda. It is an instrument and a model for the modernisation of the Indian economy.

Notwithstanding these high growth rates, India’s share in the world software market is still comparatively low. However, India’s inherent competitive advantage in terms of software exports stems from housing the world’s second largest pool of IT manpower. The high quality and relatively low cost of India software provides the country with a strategic opportunity in the world market. Currently, India’s software industry employs more than 200,000 people, and it continues to rank among the fastest growing sectors in the economy.

Key facts about the Indian IT industry are presented below:

- In the 98 financial year, the Indian IT industry is estimated to have earned revenue of $6912 million, a growth of 36.2 per cent over the revenue of A$5075 million in 1996-97.
- In the last five years (1993-1998), the Indian IT industry has recorded a CAGR of 32.7%
- IT spending in India is currently less than 1 per cent of the GDP as compared to more than 3.5% of GDP in USA.
- The IT manufacturing sector has been growing at an average rate of 340 per cent annually over the past decade.
• The IT industry has over 150 major hardware players supported by over 700 ancillary units engage in subassemblies and equipment manufacturing.
• The major sectors that are witnessing a special thrust on adoption of IT are insurance, banks, financial institutions, customs, telecom, education and home/individuals.
• The penetration levels of personal computers (9PC) in India are three computers per 1000 people

A deterrent to the growth of the domestic IT market has been the lack of adequate IT infrastructure. With a low PC penetration and even low Internet penetration, domestic opportunities for web-based application e-Commerce have not yet matured. Computer penetration is mostly restricted to English speaking cities. There are efforts to develop applications and peripherals in local languages, but they are sporadic. The poor access to venture capital has also hampered the development of entrepreneurial growth companies (EGC) in the IT sector.

The hardware industry is witness to fierce competition from multinationals and domestic companies. However, the IT industry has shown remarkable resilience. Hardware revenues for 1999 are up by about 11.16 per cent, as compared to the previous year. There exists a strong general awareness of the impact of technological change and its effect on business processes and integration which, in turn, is expected to drive IT spending and increase the size of the domestic ITY market. Although not at the forefront of development, technologies in telecommunications, artificial intelligence, computer-aided systems engineering, and computer integrated manufacturing are also growing.

The Indian IT industry, especially with respect to software, was built on a low-cost, export driven model. Today, the ITY industry is having to rethink and reorder its internal dynamics. The flurry of activity on the stock markets with IT hi-tech companies commanding extremely favourable valuations is commanding a spurt of investor interest and renewed focus on private equity and venture capital funding deals. After a decade of robust growth, the Indian IT industry is in the throes of consolidation with a number of smaller firms merging operations and larger companies acquiring their way to quick market share and revenues. Many Indian companies have established subsidiaries in the United States and are now exploring the possibility of overseas acquisitions; especially in the United States, to bolster revenues and business development. India currently has an 18.5 per cent market share in the global customised software market. This figure is expected too increase significantly as a result of expansion and global acquisitions. While the cost advantage is eroding as most software revenue continues to be derived from turnkey projects and onsite development, Indian companies are realising the competitive need to move up the value chain and develop high-margin and high-risk products and solutions.

A1.2 Market Dynamics:

The Indian IT spectrum consists of the operations of multinationals (liaisons offices, branch offices, and wholly owned subsidiaries) and domestic Indian entrepreneurial growth companies (EGCs). IT companies spawned by the Indian Diaspora in the United States and the UK may also be included in the spectrum. Another point of interest is the
presence of India technical talent in a number of the world’s leading IT industries and companies.

The Indian software development and solutions sector has experienced a higher degree of entrepreneurial activity than the electronic components and hardware design-engineering sector. This is due primarily to market changes and lower capital costs. Poor access to capital, which in the past has deterred growth, is improving. The Indian IT industry is now taken much more seriously by the financial community. Consequently, the sector has witnessed increased financial activity with the domestic consolidation of small and fragmented EGCs, overseas acquisitions, IPOs, private equity funding, and robust stock market performance. However, access to pure IT venture and risk capital is still in its infancy.

India is increasingly emerging as a development centre, with an ever-growing number of MNCs setting up subsidiaries and operations. Some of the biggest names in the global IT and telecommunications industry have set up in India, including Intel, Texas instruments, IBM, Microsoft, Computer Associates, Hewlett Packard, Sony, Sun Microsystems, Verifone, Analog Devices, Development centres for insurance companies and the outsourced operations of British Airways, Swissair and United also tapped into the Indian market. The MNCs are either wholly owned subsidiaries, joint ventures with Indian companies, or strategic tie-ups for marketing and technical alliances. The data has been segmented along the size of the company as well as the size of package development. It is significant to note that software SMEs as well as small packages have predominantly entered into a marketing collaboration. This is indicative of a lack of expertise in that area, and represents an opportunity for investment and development by those who possess such expertise. By contrast, large software firms as well as large package manufacturers have no significant leaning towards any kind of collaboration.

A1.3 Opportunities:

The vast global market presents a source of tremendous opportunity in terms of products and packages, and outsourcing. The domestic market has also been performing well with the increasing popularity of the Internet and a growing demand for personal computers. Strong market segments for software companies continue to be in the banking and financial services and manufacturing industries. The main areas of opportunity after the Y2K boom include Euro currency solutions, embedded software, offshore software development, and systems integration.

Government is also emerging as a large market as an increasing number of national and state departments increases their use of IT. The financial sector presents one of the largest opportunities for IT, including bank computerisation and networking, credit cards, transaction automation, ATM, electronic fund transfer, foreign exchange and treasury management, stock exchange computerisation, insurance, and leasing. Multimedia is also an emerging opportunity caused in part by the convergence of the telecommunications, broadcast and IT industries. The multimedia market size in India is estimated to have reached A$700 million in 1999. Global outsourcing and IT enabled services are emerging as a major window of opportunity with a number of global majors outsourcing most of their development and maintenance activities. Package enabled re-
engineering and the global ERP markets have contributed to software revenues, though the Indian market has shown signs of slowing. There is a market for ‘bolt-ons’ and smaller tier two company applications; Indian companies like Ramco with its Marshall solution are leading this market.

The Indian IT training and education segment, valued at about A$315 million, has posted a growth rate of about 30 per cent in 1999. A growing IT awareness and a shortage of skilled personnel have been traditional demand drivers. The market is dominated by NIIT (National Institute of Information Technology) and Aptech Computers. The training segment has witnessed particularly high growth rates (more than 60 per cent) in 1995 and 1996, attributed largely to a growing awareness of IT as a career option for graduates and the necessity of IT literacy. The growth drivers will continue to be the booming software exports market and the widely perceived need for IT literacy among graduates.

A1.4 Indian software capabilities:

The Indian software industry employs 200,000 people and has an annual turnover of A$3.7 billion for the period 1997-98. It continues to grow at rates far surpassing those of world standards of 50 per cent annually. About 60 per cent of Indian exports are received in the United States and 22 per cent in Europe. The three biggest exporters of Indian software are Tata Consultancy Services, Wipro, and HCL. The domestic market is worth A$1.3 BILLION, WITH PACKAGED SOFTWARE WORTH A$520 MILLION AND AUTHORIZED DUPLICATION WORTH A$280 MILLION. Indian companies nearly dominated the financial software market.

Cheap labour costs and a vast pool of English speaking technical expertise have caused tremendous growth in the global software market. Still, Indian accounts for only 1 per cent of the software produced in the world. About half of the value of software exports is drawn from on-site development; these exports have been decreasing each year.

The Indian software sector is currently focusing on developing software that involves intellectual property rights. This initiative is being pursued in order to derive multiplier income. Almost all income now is based on labour hours spend multiplied by the wages. Rising input costs, mostly employee costs, are beginning to have an adverse effect on profitability margins. Salaries in this sector have been rising by 30 per cent annually. Companies such as NIIT and Infosys are looking to acquire US companies and to list on the NASDAQ and American Stock Exchange. Infosys Technologies was the first Indian company to list on NASDAQ, followed by Satyam. Human resource management issues are merging, and innovative schemes for valuation and incentivising (employee stock options and performance linked incentive plans) are being introduced. Meanwhile, global software giants such as Microsoft, Baan, Cisco. SAP, and Computervision now have development subsidiaries in India. Some of the hardware giants such as IBM, Compag and Digita now have a software development presence as well. The packaged software market in India grew 14 per cent in 1998-99, with revenues of A$480 million. Elimination of duties, an increased use of legal software growth in use of ERP solutions and increased adoption of suites and RDBMS were the main drivers for growth.
Application development tools now account for the largest share in the Indian packaged software market. The fastest growth is being exhibited by application solutions such as ERP. In the coming years, application solutions are expected to become a much larger segment of the packaged software market; the expected boom in the ERP market will fuel this growth. The share of system software is expected to decline due to falling prices and increased bundling of operating systems with PCs.

Growing at over 20 per cent in 1998-99, the Indian IT maintenance and services market is slowly gaining momentum. A significant deterrent is the perceived attitude change toward the implementation of IT. Hardware and software maintenance is the largest component of the IT services market in India with a share of over 38 per cent. Customised software development and LAN/WAN implementation are important components as well.

A1.5 Future Expectations:

The growth in the Indian software sector has been linked to overall growth in industrial production. It is expected that industrial growth will improve. In the first two months of 1999, there has been an improvement in diesel consumption, steel output, cement consumption and railway freight. Worldwide GDP is also expected to improve from 2 per cent in 1998 to 2.5 per cent in 1999. Growth in industrial production, then, will likely have positive effects on the growth of the IT sector.

IT spending across sectors is also expected to improve, adding impetus to the proliferation of Indian IT SMEs. Spending in both the public and private arenas is expected to increase in 2000. Banks and financial institutions will continue to computerise rapidly. However, the directive issued by the Central Vigilance Commission will have a limited impact until year 2000, slowing computerisation investment among the smaller banks.

Home, small office and small business segments will continue spending on IT products like PCs and peripherals. Although these segments will continue to grow at above rates, IDC believes that growth might taper off following 1999. Currently there is low penetration in the Indian ISP market. However, the Internet subscriber base will show dramatic change in growth in the near term. Still, access charges are unlikely to change dramatically, curbing growth to some extent.

NASSCOM-McKinsey report on India’s e-biz future (December 1999) says that India could build e-business of up to $1.5 billion by 2004 in the business-to-business (B2B) and business-to-consumer (B2C) form of commerce and, by 2008, the value of e-biz9mess in India could expand to around $10 billion. E-business are defined as those that operate through the Internet, allowing electronic exchange of information, goods, services and payments.

The report states that 0.3 per cent of household income of the country’s population that is likely to be spend on the net by 2004, rising to 1 per cent by 208. The report also outlines a list of ‘should haves’ that cover areas such as the absence of a regulatory regime and cyber laws, and good telecom infrastructure.
The study says the Indian software industry could grow to $50 billion by 2008 if the Indian government brought about dramatic improvements in its telecommunications infrastructure. It expresses the hope that bottlenecks to e-business growth in the country will soon be removed.

The study recommends seven steps for India’s IT industry to thrive:

- build a base of world-class “knowledge workers”;
- create a favourable regulatory environment;
- create Indian-based multinational IT companies;
- build a world-class telecommunications infrastructure;
- develop an entrepreneurial tradition;
- create brand-name recognition for Indian IT products; and
- expand India’s IT market to create new market niches.

The study also suggests that Indian companies should begin developing management skills needed to develop direct relationships with customers so that they can add more value to their products, as different from the current practice where overseas offices support domestic “software factories.”
Appendix –A2

Prominent VCs

Traditionally, the role of venture capital was an extension of the developmental financial institutions like Industrial Development Bank of India (IDBI), Industrial Investment Corporation of India (ICICI), and State Finance Corporation (SFCs).

The first origins of modern venture capital in India can be traced to the setting up of Technology Development Fund (TDF) in the year 1987-88, through the levy of a cess on all technology import payments. TDF was meant to provide financial assistance to innovative and high risk technological programmes through the Industrial Development Bank of India. This measure was followed up in November 1988, by the issue of guidelines by the (then Controller of Capital Issues (CCI). These stipulated frameworks for the establishment and operation of funds/companies that could avail of the fiscal benefits extended to them. The industry’s growth in India can be considered in two phases. The first phase was spurred on soon after the liberalisation process began in 1991. In 1996, the Securities and Exchange Board of India (SEBI) came out with guidelines for venture capital funds to adhere to, in order to carry out activities in India. This was the beginning of the second phase in the growth of venture capital in India. As of December 1999, SEBI has the funds lined up for registration; ICICI Venture, Unit Trust of India’s India Technology Venture Fund and the Andhra Pradesh Industrial Development Corporation (APIDC) Venture fund. The Indian Venture Capital Association (IVCA), is the nodal centre for all venture activity in the country. The association was set up in 1992 and over the last few years, has built up an impressive database.

- Alliance Venture Capital Advisors Limited
- APIDC – Venture Capital Limited
- Baring Private Equity Partners (India) Limited
- Canbank Venture Capital Fund Limited
- HSBC Private Equity Management Mauritius Limited
- ICF Ventures Private limited
- ICICI Venture Funds Management Company Limited
- Risk Capital and Technology Finance Corporation Ltd.
- Chrysalis Capital
- e-Ventures India Holdings
- IFB Venture Capital Finance Limited
- Indus Venture Management Limited
- Indus East Holding Limited/Sutter Hill Investments Mauritius Limited
- Industrial Development Bank of India
- Industrial Venture Capital Limited
- International Venture Capital Management Limited
- JF Electra Advisors (India) Limited
- Marigold Capital Management Limited
- Pathfinder Investment Company Private Limited
- Small Industries Development Bank of India
- Walden Nikko India Management Company
Venture funds in India can be classified under:

- Financial institutions led by ICICI ventures, RCTC, ILFS, and so on, and private venture funds like Indus, and the like.
- Regional funds like Warburg Pincus, JF Electra (mostly operating out of Hong Kong)
- Regional funds dedicated to India like Draper, Walden, and so on
- Offshore funds like Barings, TCW, HSBC, and so on.
- Corporate ventures like Intel, Infosys, Microsoft, Computer associates and so on
- Incubator funds and Angels like National Venture Fund and Infinity Venture Fund.

The size of investment is generally less than US$1 million (A$1.53 million), US$1-5 million (A$1.53-7.6 million), US$5-10 million (A$7.6-15.3 million), and greater than US$10 million (A$15.3 million). As most funds are of a private equity kind, size of investments has been increasing. IT companies generally require funds of about A$1.1-1.5 million in an early stage, which falls outside funding limits of most funds and that is why the government is promoting schemes to fund start-ups in general, and IT in particular. However, in addition to the organised sector, there are a number of players operating in India whose activity is not monitored by the IVC. Add together the infusion of funds by overseas funds, private individuals, ‘angel’ investors and a host of financial intermediates, and according to industry estimates the total pool of Indian venture capital today stands at Rs. 50 billion.

Some of the IT companies that have received funding through this route include:

- Mastek, one of the oldest software houses in India;
- Geometric Software, a producer of software solutions for the CAD/CAM market;
- SQL Star, a Hyderabad-based training and software development company;
- Microland, networking hardware and services company based in Bangalore;
- Satyam Infoway, the first private ISP in India; and
- Rediff on the Net, an Indian website featuring electronic shopping, news, chat, and so on.
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