The McGraw-Hill Companies

# *From* ENTREPRENEURS *to* LEADERS

**Building Billion Dollar Software Product Companies from India**

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## Building Billion Dollar Software Product Companies from India

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# Prologue

*"So many of our dreams at first seem impossible, then they seem improbable, and then, when we summon the will, they soon become inevitable."*

*—Unknown*

## About the Book

This book started taking shape in late 2008. By then, I had been a part of nFactorial Software for almost a year. It was founded to mentor early stage software product companies. We advise entrepreneurs in all strategic aspects including product vision, team, sales and funding. nFactorial consists of three of us, who are in our second start-up in the last five years.

In addition to working closely with partner companies, we are constantly engaged with different players in the entrepreneurial ecosystem. Founders of early-stage companies and those with product ideas meet us to discuss their plans. There are interactions with venture companies (VCs), angel investors, mentors and advisors, and organizations and communities that work with entrepreneurs.

Considering that India's information technology (IT) industry is mostly built around providing services, it has been a revelation to meet many people with product concepts, ranging from mildly interesting to some really good ones. But quite a few of them did not think about translating their idea into a viable business. Usually a plan for building the product was in place, but not for selling it effectively. We also realised that their research on market opportunity and competition was limited. They had not considered if their idea had sufficient depth to deter existing and new players from quickly providing similar functionality. We met bright entrepreneurs who were still struggling valiantly after several years, and others who gave up after just a few months.

Small companies often encounter clients who exploit their vulnerability with complicated contracts and stiff payment terms. They need help with product pricing, licensing, negotiating agreements, and avoiding contract terms that expose them to undue risks and liabilities.

Those that have built a product, signed a few customers, and scaled to the first few crores in revenue, face challenges in transitioning to the next level. The founders are actively involved in every activity, from sales to engineering to operations. It takes self-learning to relinquish some responsibilities and groom a second level of leadership.

Start-ups struggle with funding. They attempt consulting or services to finance their product, and find that you cannot do both successfully. Some get angel funding, but often give up too much equity. There are few VCs who invest in small companies, and even they have become cautious after the 2008–09 recession.

It is evident that most entrepreneurs are in business for the first time, and not equipped to deal with many of these issues. They are usually smart enough to eventually figure things out, but learning on the job is expensive. Some mistakes can be potentially fatal—failure to sign a Non-Disclosure Agreement with a competitor, giving too much equity to an angel, providing exclusivity to an OEM or reseller, or not protecting intellectual property (IP) in agreements.

I empathize with entrepreneurs for the challenges they face. It has been 20 years since I co-founded my first company. It was an exciting time, but I still remember the many difficult moments. There was nobody to turn to for advice. One had to take decisions and learn various aspects of running a business on one's own.

Today, the situation is not very different for product start-ups. Though the services industry is well established, there are few role models of successful product enterprises and leaders. At nFactorial, while mentoring portfolio companies or meeting other entrepreneurs, it became clear that everyone is grappling with common challenges and need advice on similar issues. So I began thinking about writing a 'how to' book to reach out to a wider audience of product entrepreneurs.

## Scope of the Book

Back in early 1980s, it would have been almost impossible to find even a handful of software entrepreneurs in India. The Indian economy was socialist—it consisted of industries and companies that were controlled mostly by the government or large business families. People preferred safe, life-tenured jobs at such organizations. Starting one's own business was not feasible for most Indians.

In the current liberalized and high-growth Indian economy, entrepreneurship is being viewed as a vital ingredient to trigger innovation, generate competition and create value. However, the road to being an entrepreneur is often lonely, arduous, and fraught with challenges and risks. On the positive side, it is filled with possibilities of real accomplishment, empowerment and joys of creating something unique. A first-time entrepreneur needs to be aware of both sides, and can benefit from guidance on how to start and build a business.

Examining the software landscape, it was evident that India is already a global leader in IT services. Yet, some observers are critical about India's lack of innovation

and product capabilities. A few companies and entrepreneurs are now challenging this claim through products being developed in India.

They have a long way to go. Product ventures are operating under the shadow of their big brother, and their revenue is less than 4% of the services industry. While there were six services companies with $1–6 billion sales in 2008–09, the top six Indian product firms had revenue that was only 1/10$^{th}$ ($100–300 million). (I am excluding i-flex which was at $594 million but became an Oracle subsidiary in 2008–09).

As I started thinking about the book's scope, I realized that its canvas had to be much larger than just entrepreneurship. People start a business in order to make it successful. Reflecting back 10 years to what the services business had been, and projecting forward to where the product industry can be 10 years from now, I decided to set the book's underlying theme as 'Building billion dollar software product companies from India'.

Accordingly, the book spans the entire lifecycle, from an idea to building a successful and large software product business. It is relevant not only to first-time entrepreneurs but also for leaders and management teams at companies in different stages of growth.

Organizations can be broadly classified into four phases of maturity, as summarized below:

- Start-ups (pre-revenue): nominal revenue
- Early stage (upstarts): $0.5–4 million (Rs. 2–20 crore)
- Mid-stage (growth companies): $4–40 million (Rs. 20–200 crore)
- Large (icons): aspiring to $1 billion (Rs. 5000 crore)

The above revenue criteria are an approximation. To be classified as a growth company, for example, the year-on-year percentage increase in annual sales should be high. Consumer Internet companies cannot be judged on revenue, which tends to be all over the map in their case. Their size is instead determined by factors such as number of visitors and growth, user stickiness, and market leadership.

Start-ups refer to companies that have just been founded and are busy building their product. Early stage ventures have developed some momentum, and 'upstarts' amongst them are beginning to challenge established players with new technology and a fresh business model. In mid-stage, successful strategy and execution can result in rapid growth with well-accepted products and growing clientele. Large product companies, with over $100 million in revenue, are still very few in India. There are no product 'icons' yet with $1 billion annual revenue.

This diversity provides insights into the shifting challenges and transformations that a company experiences as it evolves. By extending the book's scope all the way to large corporations, entrepreneurs and management teams can get a wider perspective.

## Purpose of the Book

My primary goal in writing this book is to aggregate relevant information and insights related to creating and building software product companies in India. It will be satisfying if that helps leaders of product ventures navigate successfully past standard pitfalls, and improve their chances of long-term success.

Indian product firms are in desperate need of talented engineers and sales people to compete effectively with global enterprises. Readers who have joined or intend to join a product firm will gain a better understanding of the dynamics, opportunities and challenges that exist. Those in a start-up will know how eventful that can be. You get to share the joy of building a new product and company from scratch, without as much risk as the founders. In addition, there may be long-term gains through employee stock options that are typically offered by early-stage companies.

Hopefully, the book will persuade more people to become part of a relatively new industry that is on an exponential growth curve. The compensation may be lower compared to an export-oriented services business, but learning and professional growth will be more rapid.

## Practical Orientation

I have avoided theoretical discussions related to various aspects of entrepreneurship and leadership at different stages of building a large business. Instead, the book takes a real-world approach and relies on experience gained over the past 25 years. It uses simple language to explain concepts, forsaking management and legal jargon.

The chapters cover practical aspects such as validating a product idea, building the initial team, creating a company pitch, preparing a business plan for investors, how venture company (VC) funding works, product positioning and pricing, setting up sales channels, and structuring the organization. An overview of related material such as sales pitch, financial planning, product return on investment (ROI) calculations, VC presentation, equity dilution chart, etc., is made available.

As every company and situation is different, the book discusses underlying concepts and principles related to various topics, backed with some examples. Companies should adapt various concepts to their specific situation.

The content is addressed directly to 'you'—representing a current or potential entrepreneur, and leaders working at Indian software product firms. It addresses typical challenges that you will face, and choices that will have to be made as you build your company.

## Case Studies

There are many outstanding books about stalwarts from the IT industry and how they built hugely successful companies. They are our heroes. We respect them, but it is hard to imagine ourselves in their shoes and relate directly to their experiences.

Those in product space especially do not benefit much since the business dynamics in services is quite different.

We profile founders and product organizations that are still evolving and in different stages of their lifecycle—from start-up to a large enterprise. With few India-based product firms, readers will benefit from these case studies (three from each of the four stages of growth).

These include India's biggest product successes—i-flex (now Oracle Financial Services) and Subex which is a leader in operations support for telecom. Mid-stage ventures are represented by Compulink and Kale Consultants (one of India's earliest entrants into software products). SaaS (Software as a Service) companies like MakeMyTrip.com (India's largest online travel services venture) and Carwale.com (largest domestic auto related portal) are profiled. The early-stage companies and start-ups covered may be lesser known names today, but may eventually become popular.

These stories shed light on the typical joys and struggles, ambitions and fears, opportunities and risks, external environment and ecosystem that product companies and their founders operate in.

## Words of Wisdom

Two chapters are written in first person by two highly acclaimed industry visionaries, Nandan Nilekani and Mark Leslie.

Nandan Nilekani is renowned globally as one of the founders of Infosys, India's most respected and successful software company. He was CEO at Infosys from 2002–2007. After becoming Co-chairman in 2007, he left Infosys in June 2009 on the request of India's Prime Minister to head the unique identification number (UIN) initiative for the country. He has been listed as one of the 100 most influential people in the world by *Time* magazine in 2006 and 2009. Nandan has played a stellar role in founding or nurturing a number of key institutions such as NASSCOM, and is on the board of several institutions. He has been the recipient of numerous prestigious awards, including Forbes Asia 'Businessman of the Year' and Padma Bhushan, one of India's highest civilian honors. In the epilogue, Nandan provides his unique perspective on how IT products can provide transformational benefits to various challenges facing India.

Mark Leslie became the Founding CEO and President of VERITAS Software in 1990. In just 10 years, Mark took his company from $100,000 in annual sales and 12 employees, to a global enterprise with $1.5 billion in revenue and 5,500 employees. In 2000, VERITAS became the 10$^{th}$ largest independent software company by revenue, third largest by market capitalization, and achieved the distinction of becoming a *Fortune 1000* company. It is a spectacular story, and his descriptions of VERITAS' technology and sales strategies hold relevance even today. Mark's reflections on leadership qualities in this book are timeless and worth emulating by entrepreneurs and company heads.

## Learning from the Past—Captives and Product Services Companies

The emergence of Indian IT product companies is becoming possible due to the solid foundation laid by the IT services industry over the past 30 years.

In particular, product businesses are gaining from the experience and knowledge of two kinds of companies that emerged in the 1990s. One kind is the captive, or fully owned Indian subsidiary of a global product enterprise. The other is the services company which specializes in outsourced product development (OPD). Both have produced engineers and managers with vast experience in building products for the global market. However, none of them had to ever learn how to sell products. This is a crucial ability which today's product entrepreneurs require to become successful.

One of the case studies is devoted to the compelling story of an OPD services leader, Persistent Systems. Founded in 1990 by Dr. Anand Deshpande, CEO and MD, it has grown steadily to over 4,200 employees, 175 clients and $110 plus million in revenue by 2009, and went public in March 2010. Unlike most services firms which carry out IT projects—onshore or offshore, Persistent is engaged in the highly specialized work of co-engineering products for global independent software vendors (ISVs) from India.

Over the past two decades, I have also been associated with creating and building several OPD and captive companies. My first venture was Frontier Software founded in 1988, and later I was part of another start-up (In-Reality Software) in 2003. The companies were acquired by VERITAS Software (now Symantec Inc.—a $5 billion global product enterprise), and Symphony Services Inc. (a leading US headquartered OPD services company), respectively. I continued to manage their Pune subsidiaries for several years after each acquisition, helping them grow to more than 500 employees. During these years, over 100 software products were developed for around 50 clients. In particular, my 11 years of close association with VERITAS Software, as it transitioned from a start-up to a multi-billion dollar product leader, proved to be a rich source of learning.

I have shared a few relevant experiences and observations from my career at these organizations. This first-hand perspective balances what is essentially an outsider's view into the various case studies quoted.

My new company, nFactorial Software, is mentoring early stage product companies. Most of the practical material, and some of the case studies, are derived from these engagements.

## What this Book is Not

This book is not intended to be an exhaustive review of the current state of software product industry in India. Instead it is geared towards offering practical suggestions for typical issues faced by product companies, backed by real-world experiences.

Except for a high-level discussion on game-changing technologies that are creating opportunities for start-ups, there are no explicit suggestions about product ideas or business potential in specific industry segments. Entrepreneurs already know what they want to do, and the book's intent is to provide additional guidance to increase their potential for success.

## Structure of the Book

There are seven chapters and an epilogue in the book.

Chapter 1 (*The Rise of Indian Software Product Companies*) describes the emergence of product companies, and why it is important for India's IT industry. It compares software services and product companies.

In Chapter 2 (*Lessons in Leadership*), Mark Leslie, founding CEO and Chairman of VERITAS Software from 1990 to 2001, shares his insights on what goes into successful leadership. He charts unique strategies adopted by VERITAS Software, as he steered it from a start-up into a Fortune 1000 company. Mark accomplished this in the Bay area (the US) from 1990 onwards, when the US software product industry was not much bigger than in India today.

Chapters 3 to 6 use the analogy of a marathon to represent the four stages of a product business. We look at typical challenges faced and transformations required to move an organization up by one level.

Chapter 3 (*Off the Starting Block: The Initial Trigger and Plan*) explores why entrepreneurs decide to start new ventures, and the early decisions that they need to make. Chapter 4 (*The First Mile: Forming the Team and Signing Up Clients*) describes the initial struggle to define the company direction, sign up clients, build the core team and ramp revenue to Rs. 20 crore. Chapter 5 (*Finding the Rhythm: Growing the Team and Customers*) is about mid-stage companies accelerating towards achieving Rs. 200 crore revenue. Chapter 6 (*In Sprint Mode: Dynamics of a Successful Large Organization*) focuses on large corporations—specifically on how to scale, growth models, and strategies for becoming a billion dollar (Rs. 5000 crore) company.

Each of these four chapters is divided into two parts. The first part identifies three key success factors relevant at that stage of the company's growth. These are similar in nature across different company sizes but change subtly in terms of specifics. For example, revenue growth is critical to an organization of any size. But the sales strategy to achieve it changes dramatically from founder-led networking in a start-up, to a multi-dimensional sales approach at a large company.

While analyzing success factors, the book provides detailed inputs for today's entrepreneurs. Topics such as bootstrapped growth, sales pitch, business plan, product pricing, licensing model, VC funding, and IPO planning are covered in relevant chapters. It could be that a topic like VC funding, covered in the chapter on mid-stage companies, is relevant to your company too. Similarly, product pricing, though covered in one place, is a topic that is applicable at every stage.

The second part of these chapters features three Indian product companies. The case studies exemplify the points covered in the first part. Each company's product, evolution and current game plan is reviewed. We analyze how they have executed on success factors, and discuss strategy changes required for achieving the next stage of revenue growth.

Chapter 7 (*The Home Stretch: Looking into the Crystal Ball*) is a look into the crystal ball to predict how India's billion dollar product companies can emerge. It reviews different facets of an evolving ecosystem that is nurturing the green shoots of India's product industry. Some new ideas for supporting entrepreneurship are suggested. Concentrated clusters of technology companies, in close proximity of industry and educational institutes, enable innovation. The Bay area in the US is a classic example. Two new concepts are proposed: Software Product Innovation Centers (to create similar technology hubs) and Software Product Innovation Fund (which is an extension of a micro-finance model to venture capital). We discuss whether Tata's 'Nano' strategy can be replicated in IT. Finally, we consider how emerging game-changing technologies like mobile, virtualization and cloud computing (mapped to what I refer to as I-computing and Sky-computing) are offering innovative start-ups the means to leapfrog past existing players.

This book is about building billion dollar product companies from India. In the *Epilogue—A Different Kind of Billion*, Nandan Nilekani, one of India's most successful and renowned IT entrepreneurs and visionaries, takes a radically different tack. In a motivational note to software entrepreneurs and leaders, he shares his thought-provoking views about aiming at a different kind of billion.

Unlike most books, you need not read this one sequentially. You may have particular interest in companies of a particular size, and can directly jump to that chapter.

## Today's Self-confident Entrepreneurs

In August 2008, nFactorial co-hosted an event along with the Pune OpenCoffee Club (POCC), an informal network of entrepreneurs. There were presentations by a Bay area VC firm and a corporate development manager from Google. The room was overflowing with nearly 80 people, either existing or wannabe entrepreneurs. During the presentations, there were many questions around eligibility criteria for funding or acquisition. After the meeting, one of the participants posted a blog on the POCC website describing the meeting as between "2 rich men and 40-50 seekers". The riposte was swift, and suggested a more appropriate description: "2 seekers and 40-50 entrepreneurs rich in ideas".

The exchange is just another indication of the self-belief that exists in today's youth, that was not present 20 years ago. Building a billion-dollar product enterprise in India may seem like an ambitious dream today. But the convergence of talented and self-confident engineers, enhanced opportunities in today's India, global recognition and reach of Indian IT, and increased usage of software, augurs well for this dream to turn into reality. I hope this book furthers that cause.

**Shirish Deodhar**

# Acknowledgements

I never thought I would end up writing a book. But having written it, I want to use the opportunity to acknowledge and thank those who have played a role in my professional career.

For this book, Pradnya Jawadekar provided assistance on interviews and initial drafts of a few case studies, Chetan Mehendale gave excellent inputs for two chapters, Nandu Madhekar did detailed editing of my early writing, and Ameeta Bhide helped with the illustrations. Their contributions are warmly appreciated.

It has been a pleasure working with the team at Tata McGraw Hill Education, and I thank them for being very supportive throughout the book's publishing and marketing process.

The case studies are an important aspect of the book since they provide real-world context for the topics covered. I sincerely thank the entrepreneurs and CEOs who readily agreed to be interviewed, and have their companies profiled. I am also grateful to my industry friends who agreed to be quoted, specially C. Mahalingam (Mali).

I am deeply indebted to Nandan Nilekani and Mark Leslie for having spared their valuable time to contribute a chapter each. I am sure that readers of this book will find their insights highly motivational.

I have worked at many companies since 1981, some founded by me and others that were much bigger. This includes Burroughs Corporation, Tata Electric Companies (R&D), Tata Unisys, Frontier Software, VERITAS Software, In-Reality Software, Symphony Services and nFactorial Software. At these companies, and also in those of our clients, I had the opportunity to work with thousands of highly capable and dedicated colleagues. Together we built many products, most of which were successful, and a few that were not, despite our best efforts. To you all, my heartfelt thanks for your mentoring, cooperation and help during our time together.

In particular, I would like to express my gratitude to V. Sairam and Madhu Popat, for the hard work and unstinted support they provided for 14 years at Frontier Software, through good times and challenging ones for the company. Fred van den Bosch, with whom I shared an almost equally long working relationship, has been a wonderful person to work with and learn from. I also thank Pramod Shedde, Dr. Prakash Hebalkar, and the late Dhananjay S., who played short but pivotal roles in the early days of Frontier Software.

At the start-ups that I was associated with, I have been very fortunate to have ideal business partners. Anil Singhal and Narendra Popat started as mentors, but are now amongst my best friends. Madhukar Bhatia, Hemant Joshi and I have been together for over 10 years, first as colleagues at VERITAS, then at In-Reality Software and Symphony Services, and now at nFactorial Software. We have complete trust and confidence in each other, which makes for an excellent working relationship.

One's professional career, especially during the tough times as an entrepreneur, is balanced by support from friends and family. I thank all of them too, not just for the wonderful times we have spent together, but also for excusing me when I could not join them due to the pressures at work.

My two daughters, wife and mother have been my sustenance all along, and I deeply cherish their love and support.

SHIRISH DEODHAR

# Contents

## Author's Profile

***Shirish Deodhar*** has over 25 years of software industry experience in the US and India, during which he incubated and built several successful IT companies. As co-founder of nFactorial Software, he currently mentors early stage software product companies.

Prior to this, in 2004, Shirish joined Symphony Services Inc., after his previous start-up, In-Reality Software, merged with Symphony. As SVP, he scaled the Pune subsidiary to 700 employees and 30 clients in four years.

From 1999–2003, he was President of the India center of VERITAS Software (now Symantec Inc.). VERITAS was a client of Frontier Software, which Shirish founded in 1988, for providing R&D services to global product companies. After VERITAS acquired Frontier, he grew the India center to 16 product teams and 500 employees.

Shirish did his B-Tech (EE) from IIT Mumbai, followed by MS (EE) from the US. He has a US patent, several excellence awards, and 10 technical papers to his credit.

# 1

# The Rise of Indian Software Product Companies

*"The future has a way of arriving unannounced."*

*— George Will*

## Indian IT—10 Year Leaps

The exit of IBM from India in the late 70s is considered to be the trigger for the emergence of domestic IT companies. In 1980s, the Indian industry was dominated by government and large business houses. This included a few software firms such as Tata Consultancy Services (TCS), Tata Burroughs (now known as Tata Infotech), Patni Computers, ICIM (known as Zensar today), and CMC (now a part of TCS).

There were a few exceptions of course. A team of outstanding entrepreneurial engineers started Infosys in 1981, and one of India's earliest product companies called Kale Consultants (profiled in this book) was founded in 1983.

Back then, becoming a doctor or an engineer was on the priority list of many young people. And many graduates from the Indian Institutes of Technology (IITs) and other top engineering colleges would eventually go for their post-graduation to the United States (US) and take up employment there. They were simultaneously envied and castigated for abandoning the 'motherland'. But these expatriates soon climbed to senior positions in US companies. Many would become successful entrepreneurs, and some eventually investors and partners in VCs. Though this phenomenon was termed as 'brain drain' back then, the 80s became the decade when India indirectly and unknowingly invested in the US. Gradually, the credibility and networking gained by the Indian Diaspora would yield immense benefits and get acknowledged as a net 'brain gain'.

In 1990, however, the Indian economy faced a huge balance of payments crisis. It reached rock bottom when gold from the treasury had to be sent to the

UK as collateral for a loan. The government was forced into an economic liberalization program, which gradually dismantled some of the bureaucratic chains stifling India's entrepreneurial spirit.

Operating an IT company was still a challenge because hardware imports were difficult. The communications infrastructure (phones and networking) was pathetic and the local industry's appetite for software was literally non-existent. Despite this, the software industry began to emerge, seizing whatever opportunities were available. Most of the initial gains were through onsite placement of engineers (derisively termed as 'body shopping').

However, things changed by the end of the decade. This period was marked by the famous Y2K (or Year 2000) scare. Most of the software developed previously used two digits to represent the year. There was a fear that critical software, especially in banking, insurance and even in missiles and airplanes would malfunction as the year transitioned from 99 (1999) to 00 (year 2000). Companies in the US and Europe launched a massive effort to modify the existing applications (apps) in order to be Y2K-safe. This required many software engineers to be deputed at client site, and most of this business came to Indian companies.

Customers saw the quality of Indian engineers at first hand, including their fluency in English. They began to outsource work directly to India. Thus, the previous millennium ended with the Indian IT industry establishing credibility and strong business links with global clients.

Post 2000, just when business opportunities created by Y2K began to taper off, there was an upheaval in the US software industry. The gold rush of internet companies suddenly became the nuclear winter of dotcoms in 2001. Many start-ups had sprung up on the premise of delivering software apps accessed over the internet. They had received massive VC funding, and had spent enormous amounts on hardware and communications infrastructure. When expected revenues were not realized, most dotcoms shut shop and many large companies in telecom, hardware and software shrank significantly or had to file for Chapter 11 (bankruptcy).

This created an unexpected opportunity for Indian services companies. IT spending dropped drastically in US. Software product vendors along with IT departments with shrinking budgets were forced to reduce their cost of development. They began to partner with Indian firms since the outsourcing paradigm had already been validated in the 90s. The presence of Indians in key positions, including ownership, at US companies, led to a rapid adoption of this model.

Shifting gears from onsite placement in the 90s, Indian IT has now matured to become part of a global delivery model in which teams in different locations build software collaboratively. Companies like Infosys, TCS and Wipro are global brands that are listed on NASDAQ. Analysts monitor their results closely to track trends in global IT spending and off-shoring.

The IT industry seems to be ascending to the next level in the value chain every 10 years. If the 80s represented investment in the US with migration of

talented workforce from India, and the 90s the creation of credibility, then the twenty-first century's first decade represents the advent of Indian IT as the world's leading provider of services and business process outsourcing. Going by this trend, it can be predicted that the current decade (2010 onwards) will mark the rise of India's software product business.

### The Gaps in Indian IT's Success Story

Even as the world acknowledges the incredible rise of India as a software power, there are dissenting voices. One claim is about decreasing competitiveness. Offshore services industry is primarily based on cost. As salaries increase in India, the work will gradually shift to lower cost locations like China, Vietnam and Philippines.

Another claim is related to lack of innovation. The work outsourced to India is dismissed as being at the low end of software coding and testing. Teams in US or Europe still do the creative tasks of understanding the market requirements and translating them into product specifications. They are responsible for high-level architecture and detailed design. The argument that very little real innovation happens from India is sought to be substantiated by the low number of PhDs, patents filed and the absence of any major software product company.

However, many examples in the book will show that significant innovation has been happening, both in services and product enterprises. However, India needs a few billion-dollar product success stories for the world to sit up and take notice. And they are sure to emerge through the efforts of the present generation of leaders, who are already beginning to create successful product companies of the future. When that happens, all reservations about India's innovation capabilities in software will be put to rest.

## Product Business is Very Different from Services

What is the difference between software services and products? Why is it important for India to be developing products?

### First Invest, and Then Reap

The business cycle in a services company starts with sales, and ends with project or product delivery. On the other hand, a product company must first invest in building the solution. Then begins a long and complex business cycle to sell, support and continuously evolve the product. This reversal of sales and engineering sequence has a profound impact on how product organizations get built.

Services industry provides manpower to build software apps and products, which belong to the customer. Typically, IT departments of retail, manufacturing, financial, insurance and other businesses require new applications, or

enhancements to existing ones, for in-house use. They turn to Indian companies for design and implementation. Needing long-term support, global product companies establish extension engineering teams at Indian subsidiaries or services companies.

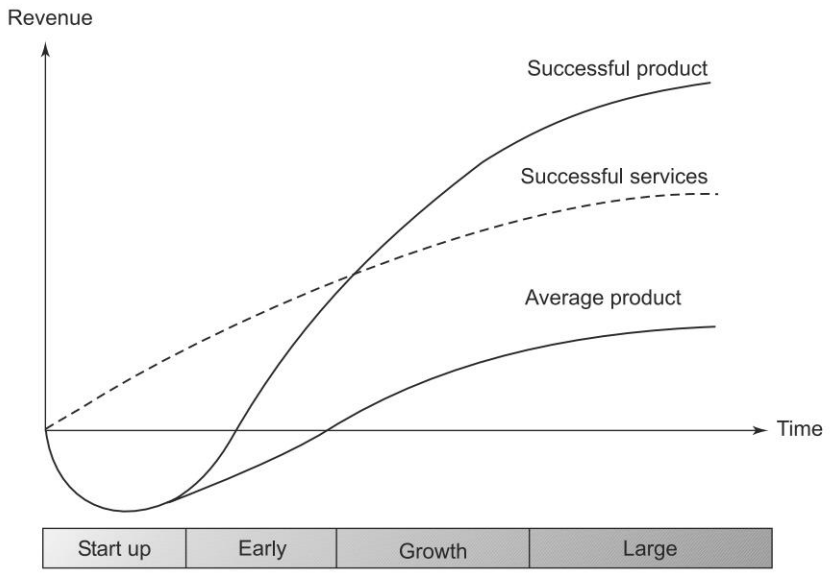
In services, clients own the Intellectual Property (IP). All gains (cost savings, productivity improvements, revenue) and risks are entirely the clients'. The service provider gets paid in proportion to the cost of development, irrespective of whether the pricing model is fixed cost or time and material (T&M).

This means that the services revenue growth is directly linked to number of engineers. The industry's competitiveness is determined by cost of engineers. But the number of trained software engineers in India, cannot scale indefinitely. Even today, good talent is becoming scarce. Salaries are rising to a point where low-cost economies such as China, Vietnam and Philippines have started to compete. Nevertheless, superior talent, project management expertise, processes, and English language skills continue to provide an edge to India. However, others are catching up, thereby causing a slowdown in the industry's growth rate.

In comparison, products have the potential to fetch non-linear revenue. A product business creates intellectual property. Once developed, the same solution is sold repeatedly to a large number of buyers.

The graph below shows the famed hockey stick revenue model for a successful product company. A services organization can have positive revenue from day one, and grow very quickly too, but the headcount-centric model will eventually become a drag.

**Successful product = exponential revenue**



## Build it Right, then Sell it to Many (and Keep Repeating)

Building a software product is more difficult than doing projects or providing services. With projects, software is developed to meet the exact specifications of the client. Work begins only when the contract is signed.

The project scope can be defined accurately in consultation with the customer, and deployment happens in a controlled environment at client site, with known hardware and software. Support requirements are minimal.

Changes to specifications, or defects during development or after deployment, usually have limited financial impact. In T&M contracts, the vendor is paid regularly, based on efforts put in. Hence, changes and delays may in fact, bring in more revenue. Fixed price bids usually account for contingencies like delays. If specifications are changed, the vendor can ask to re-negotiate the price. Quality issues may cause loss of credibility, or at worse, project termination and denial of future contracts.

A product, in contrast, will be shipped to thousands, or even millions of users. Specifications are based on the seller's understanding of customer needs. Therefore, a deep knowledge of market and domain is required. Clients are not guaranteed, and marketing and sales functions are critical. Selling cycles are longer and more cumbersome.

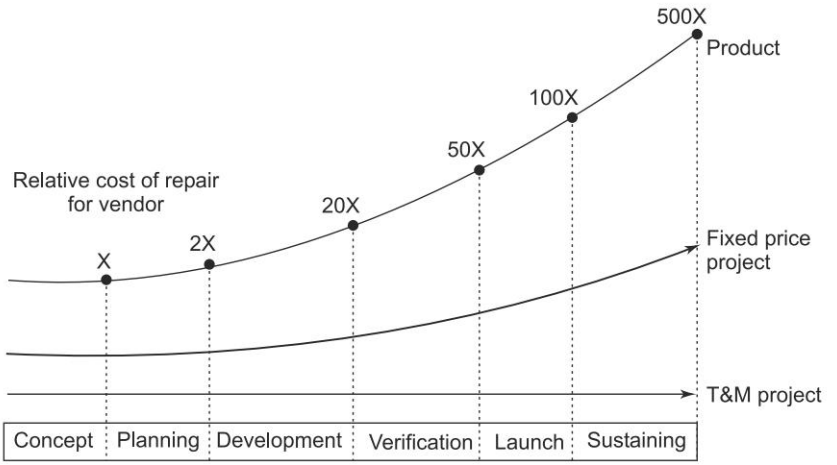
Quality has to be outstanding, since the product will be used by a variety of users, and on a plethora of platforms and configurations, and not all of it can be anticipated in advance. As the diagram below shows, the cost of fixing a defect increases exponentially depending on when it is detected.

A post-release defect creates negative publicity and costs lot of money. A patch to fix the problem has to be developed and distributed quickly to the users. Even Microsoft has faced this problem repeatedly when hackers have exploited vulnerabilities in its operating systems. In another instance, a US-based personal finance company inadvertently exposed the private account details of several hundred individuals to other users. Such snafus can expose a product company to expensive lawsuits.

A product business requires highly structured engineering and organizational discipline. Formal reviews are necessary at every stage (architecture, design, coding) to catch deviations from the requirements. Rigorous testing and quality assurance (test/QA) processes should be followed to detect defects before product release. Test labs must replicate the myriad deployment environments that users may have. This can become complicated for multi-platform products that support a variety of operating systems (Windows, Unix, Linux) and databases.

The installation procedure must be highly automated and work flawlessly in all possible system configurations. New versions, patches, and future upgrades must install without any disruption to existing software and data at user sites. A strong support organization (on phone, email or onsite) has to be built.

**Importance of product quality**




Unlike projects, there is no end date for product engineering. They must continue innovating and releasing new versions with more functionality and advanced features, to stay ahead of competition.

Product organizations often have a significant revenue component derived from services such as consulting, customization, integration and solutions. Unlike a pure services business, these are used to underpin and drive their product sales.

The ecosystem for products is more complex, consisting of engineering teams, product management, marketing, sales, consulting, professional services, distributors, system integrators, resellers and investors.

## Cloud Services and Mobile Apps

In addition to vendors of traditional on-premise products that are shipped or downloaded via web, a different generation of providers is fast emerging. They are leveraging new technologies and business models, often interchangeably referred to as cloud services, Web 2.0 or SaaS (Software as a Service). (Not all SaaS products are truly cloud based but the differences are not relevant for this discussion.)

SaaS considerably simplifies application deployment and upgrade challenges. Software is hosted at one site (vendor's own or through a provider). This reduces development cost since the deployment environment is controlled. There is no distribution expense, though deployment charges can become considerable to support a large base of users.

The SaaS model is important for India. Making geography irrelevant, it enables anywhere, anytime apps and services for a flat world. Indian Web 2.0

ventures can now reach out to the world market without the huge cost of sales that enterprise software companies have to bear. They can compete directly against global players.

Cloud services adoption will depend on resolution of a few major concerns. One is security of personal and corporate data in the cloud. Secondly, guaranteed near 100% uptime will be critical for mainstream enterprise apps to move to the cloud. Reliable access will be a big factor in India for a few years, despite the phenomenal growth in broadband connectivity. Uptime has been an issue even in US, with large players like Google and eBay facing major outages in their online services.

The most widely used cloud service is web-based e-mail such as Google's Gmail. The standard bearer for commercial SaaS apps is Salesforce.com, which crossed $1 billion in revenue in 2009 in just ten years. It provides web-based Customer Relationship Management (CRM) solution for sales, service, marketing and call center operations.

With over 1.5 billion people going online, SaaS offerings will only proliferate. Amazon.com, which started with selling books over the web to consumers, is now a full-service online merchandise store. Examples in India include IndianRailways.com (train bookings), MakeMyTrip.com (travel services), naukri.com (job related portal) and shaadi.com (matrimonial related).

Similar to cloud services, software apps on mobile phones are becoming more common, driven by the explosive growth in usage. In 2009, cell phone ownership had reached 3.5 billion worldwide and over 400 million in India. Cell phone growth is highest in India, with 10+ million being added each month, cutting across income barriers. The Indian mobile market is unusual in its extensive usage of texting (SMS) and multiplicity of languages. With its ubiquity, mobility and low cost, it is the ideal delivery platform for simple apps (and supporting middleware).

Though SaaS and mobile app vendors often look like a services rather than software firm, they are included in the book because software is the foundation and key differentiator for their business.

There is another reason. With its late liberalization, India largely skipped making huge investments in an entire generation of technology (land lines, minicomputers and even standalone software apps). This proved to be a boon in disguise, and led to rapid adoption of latest advances like broadband and mobile by a booming market. In similar fashion, consumers and businesses may take to this new breed of software products. Small and Medium Enterprises (SMEs) especially benefit from SaaS by not having to invest upfront in IT infrastructure (servers, software licenses) and buying subscriptions only as required. Similarly, the hand-held is rapidly morphing into a highly integrated device, and is poised to become the key accessory for humans to interface with their environment. The vast majority of Indians will skip the PC and directly use an integrated device at work and home.

Chapter 7 goes into greater detail on how I-computing (integrated handhelds) and Sky-computing (virtualization, cloud computing) are becoming game-changers in the way business is conducted and how each of us interacts with the world. Since the Indian psyche is different, entrepreneurs can build unconventional solutions that reflect local reality for domestic users. The intersection of new technologies and India's growth economy has opened a window of opportunity for new firms to leapfrog past existing players with exciting new products.

## Some Numbers Related to Software Services and Products

The table below captures India's software growth since 2001, and projections till 2015, relative to the US industry.[1, 2]

**Indian software services growth—Recent and projected**

| | 2001 | 2008 | 2015 |
|---|---|---|---|
| Revenue (excludes BPO, hardware) | $4 billion | $40 billion | $193 billion |
| % of GDP | 1% | 3% | 8% |
| # software professionals | 200,000 | 1,200,000 | 3,700,000 |
| US software market | | $452 billion | $810 billion |
| Indian IT revenue compared to US | | 9% | 24% |
| # software professionals in US | | 3,200,000 | 4,010,000 |
| India:US ratio of s/w professionals | | 1:2.5 | 1:1.1 |

Note: Numbers are approximate and rounded for easy comparison.

Indian IT revenue has grown by ten times in seven years, and is expected to be five times larger in the next seven. As of 2008, over 75% of the industry revenues came mostly from services exports. India controls nearly 65% of the global offshore IT services market, but this represents only 5% of total global spending on software services.

In contrast, as per a NASSCOM study[3], product revenues of Indian ventures were only $1.4 billion in 2008. Not a single local firm features amongst the top 10 product vendors in India. The list is headed by Microsoft, which also had $60 billion in 2008 global sales.

By 2012, Indian product sales are estimated to grow nearly ten-fold to $12 billion. This marks an increase from 0.5% ($294 billion) in 2008 to 2.2% ($537 billion) in 2012, of the global market. More impressively, the Compounded Annual Growth Rate (CAGR) of 36% in India will be four times that of the world. The domestic market will represent 41% (32% in 2008) of this much bigger pie.

The Indian product industry lags services by 10 years (the magic number again). It's 2008 and projected 2015 revenues match services revenues in 1998

and 2005 closely. If current trends continue, then product space can become as visible and significant by 2019, as services business was in 2009.

The impact of Indian product companies may actually be larger than the projected $12 billion by 2015 for three reasons. First, SaaS and mobile consumer service companies are not covered in the NASSCOM numbers, and they will be the face of future software companies. *Economic Times*[4] has estimated 2008 SaaS sales in India at $70 million and projects cloud computing "to hit the $1 billion mark soon".

Secondly, large Indian product enterprises are acquiring companies abroad. For tax reasons, they may continue to be non-Indian entities, and their revenue may not get counted.

Lastly, many Indian companies will establish headquarters in the US, but originate and develop global products from India. This eases acceptance of the product by global clients and facilitates greater access to funding. Israeli companies have followed this strategy for a long time. Again, for tax reasons, product revenues will be credited in US, and only reimbursement of India center expenses will get counted as Indian services revenue.

NASSCOM estimates more than 350 software product start-ups since 2001, of which nearly 100 companies were founded in 2007 alone. Since the NASSCOM study excludes Web 2.0 and mobile start-ups, the actual count is probably 2-3 times higher. Interestingly, 2008 was the first time that the industry gave birth to more product ventures (52%) than services[5]. The top 10 companies still dominate, accounting for 84 per cent of the product revenues. However, there are over 200 midsized and early stage firms that have started generating revenues. Surprisingly, the same study mentions that 350 product companies were also founded between 1985 and 1990, but most died out or switched to services. The Indian market then was not mature enough. It had a low penetration of IT, import barriers, and relatively high cost of hardware compared to other inputs.

Indian product companies have already achieved pre-eminence of sorts in the core banking sector. Seven Indian Banking, Financial Services and Insurance (BFSI) products[3] feature in the top 20 globally preferred list. The FLEXCUBE product from i-flex (now part of Oracle) has been ranked as the number one banking solution in the world by IBS UK, for five consecutive years. Companies such as i-flex, Nucleus, 3i Infotech, TCS, Infosys etc. have combined annual revenue of around $800M (4.5% of the global $17.4 billion revenue in this space) and dominate the market in Asia and Africa.

## Why More Indian Software Product Companies will Emerge

Any discussion about building products from India is lost in the hype and din about India as an IT services powerhouse. However, the mostly unnoticed surge

in product start-ups marks the beginning of a new movement, with potential to re-invent the Indian software industry. Emergence of globally recognized Indian product companies will represent the final step in the software value chain. If India can become the hub of the world's most successful IT services as well as product companies, it can truly lay claim to being a knowledge superpower.

Building products requires a mindset, capabilities and an environment, which is very different from delivering services. Achieving this final frontier won't be easy and Indian entrepreneurs face major challenges. There are very few role models who have built successful product companies, which limits access to mentors, who can provide guidance. Access to market requirements is difficult, since major consumers of software products are in Western markets. IT spending in India is growing but still limited and global vendors are preferred. Finally, early stage funding is a major problem, and getting engineers to work in start-ups is a big challenge.

An increasing number of motivated entrepreneurs are working to overcome these handicaps, just as founders of services companies did in the early 1990s. A convergence of factors is ensuring the emergence of successful Indian product companies:

- A large pool of talented engineers and managers who have worked at global companies in India and US
- The rapid growth of local market and increasing adoption of IT with India-specific requirements especially for consumer facing apps
- Technology disruptions including the emergence of cloud computing, which make national boundaries irrelevant, and reduce cost of global sales
- Flair for innovation and risk-taking amongst a generation that has grown up in post-liberalized India
- Self-confidence that comes from an economy that is the second fastest growing in the world
- Weakening US economy that is motivating an increasing number of experienced software professionals to return to India

Since services culture dominates Indian IT, the book will continue to highlight how software product companies differ from their services counterparts, and the specific challenges that they must overcome.

## Impact of 2008-09 Global Economic Slowdown

The US housing loan crisis and subsequent economic downturn has cast a dark shadow over the global economy. IT budgets and overall spending are impacted by the credit squeeze. Certain sectors like financial services and manufacturing are hit more than others. To balance this, governments are pump-priming the economy by spending more on infrastructure. Core sectors comprising education, healthcare and legal practice are unlikely to be impacted. The US President

Obama's plan to make significant investments in green technology, health services, and alternative energy, should provide new opportunities in these areas.

Nobody knows how long the slowdown will last. Estimates range from six months to over two years. Indian economy is supposedly less exposed to global markets, so the prediction is that it will record an upturn earlier than others.

Funds that invested in growth stage companies now prefer to buy stock in blue chip publicly listed ones, since they are trading at very low P/E (price to earnings) ratios. Early stage funds are playing safe by investing in ventures with revenues of at least few crores. Pre-revenue start-ups are squeezed the most—with angel and seed funds drying up. Businesses that get funded are seeing lower valuations (down by 40% by one estimate). This trend will continue for some time.

With credit drying up, M&A activity has reduced globally. Companies with cash reserves will seek to acquire attractive but under-valued global firms. Wanting to optimize spending, buyers will prefer smaller companies with great technology and some client validation, since they will be available at a reasonable price.

IPOs will be deferred for quite some time. Even after economic recovery is underway, buyers will first invest in attractively priced blue-chip stocks.

IDC estimates that globally, between 2010 and 2015, IT energy expenses will exceed IT equipment cost and the gap will keep rising. Green tech products will see demand and growth. Technologies like virtualization and cloud computing will gain traction since they lead to server and storage consolidation, and save space and power. The ability of open source to lower total cost of ownership will increase its popularity.

For Indian product companies, this is a window of opportunity. It will be easier to find good talent at moderate salaries. Growth in India has slowed but is still above 6%. CIOs want to save money, and are becoming more willing to look at high-quality local products available at reasonable price instead of expensive international products. Global companies may reduce sales effort in emerging countries like India. Domestic product companies can therefore aspire to increase market share, even if the overall IT spending is lower.

In tough times, the key is ensuring adequate capital to stay the course. Expenses must be cut to conserve cash, and sales must emphasize your product's value proposition (how buying it increases revenue or cut costs, far exceeding its price).

## Quest for India's Billion-dollar Software Product Company

Writing in Harvard Business Review, Larry Geitner[6] suggests that organizations must battle through successive phases of evolution, each of which contains a

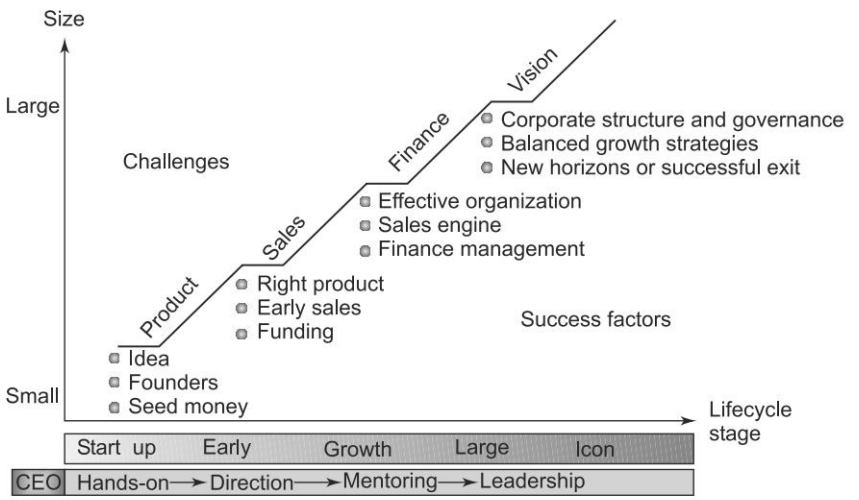
relatively calm period of growth that ends with a management crisis. Studying the Fortune 500 list, he describes four to five points of significant turbulence (revolution, as he calls it), which must be overcome by effective leadership.

Adapting his premise to software product companies, these periods of turbulence can be mapped to the transitions across each of the four lifecycle stages—start-up, early, growth and large. Organizations begin to plateau towards the end of each phase, with existing strategies and behaviors yielding diminishing returns. They must re-invent themselves along three dimensions (product, sales, and finance), to emerge successfully into the next growth trajectory.

Perhaps the most important transformation is within the entrepreneur himself/herself. In early stages, s/he is at the vanguard of all activities (engineering to sales and finance). Eventually, s/he must mature into, or replace himself/herself with a leader who is capable of motivating the organization to achieve uncommon goals.

The accompanying figure maps challenges, success factors and leadership transitions required on the journey to becoming a billion dollar enterprise.

**Inflexion points on the growth highway**




I have covered each of these four inflexion points in separate chapters. But before that, let's get a full-lifecycle view, from another place and time, of the leadership required to create an iconic enterprise. Mark Leslie, founding CEO of one the most successful product companies (VERITAS Software) in Bay area, California, writes in his own words about the exciting journey from a start-up to a billion dollar powerhouse, in just ten years (1990-2000).

# 2

# Lessons in Leadership

## [. . learnt while taking VERITAS from start-up to $1.5 billion in ten years (1990-2000)]

*"The best leader is the one who has sense enough to pick good men to do what he wants done, and the self-restraint to keep from meddling with them while they do it."*

*— Theodore Roosevelt*

### Introducing Mark Leslie, former Founding CEO, VERITAS Software

It took him just ten years to add four more zeroes to the top-line of his company. In the time that it takes a student to go from Kindergarten to High School, his company went from being a start-up with less than a $100,000 in annual revenue and 12 employees, to a global enterprise with $1,500,000,000 in revenue and 5,500 employees. In 2000, it became the tenth largest independent software company by revenue, third largest by market capitalization, and achieved the distinction of becoming a Fortune 1000 company. Along the way there were many challenges, there were ups and downs, but there were also many successes to celebrate. It has been a fantastic journey, and he has been an exceptionally worthy traveller.

This is the story of VERITAS Software, and its brilliant founding CEO and Chairman, Mark Leslie.

In the following pages, Mark shares his observations, insights and personal convictions about what goes into creating a large, globally successful multinational company out of virtually nothing. Written in his own inimitable style, Mark's story provides invaluable lessons in leadership for just about everyone —from first time entrepreneurs to seasoned CEOs.

His observations are particularly relevant to Indian product companies. In 1990, when he took over at the helm of VERITAS, the US product industry was similar in scale to India today (US—$5.4 billion[7] then, $200 billion today, India—$1.4 billion in 2009). At the end of 1989, Microsoft had not yet crossed

one billion dollars in revenue. Computer Associates was the largest ISV and the only one above $1 billion. The other competitors like Oracle, Novell and Lotus were all around $500M.

The USA of the 90s was different from India today. It was a developed economy, with an active computer industry that was dominated by systems vendors like IBM, Digital Equipment, Burroughs and NCR.

Nonetheless, strategies adopted by Mark and his leadership team are a textbook and universal example of how to seize opportunities in an evolving market and build a great company.

### Profile

Mark Leslie is currently the managing director of Leslie Ventures, a private investment company, and a lecturer at the Stanford Graduate School of Business. He serves on the board of Network Appliance and a number of privately held high technology companies. Mark also serves on the board of Overseers for the New York University Faculty of Arts and Sciences and is the Chairman of the New York University Science Advisory Board. He received a Bachelor of Arts degree in physics and mathematics from the New York University and completed Harvard Business School's Program for Management Development.



## Rise of a Phoenix

It was cool that evening in February 1990. It had been a hard winter but January had been relatively mild, and in February there were already signs of an early spring. At 4 pm, the VCs fired the CEO of Tolerant Software, and by 5 pm introduced me to the management team as their new CEO. It was a typical day at the office for the VCs, but a big day for me and the company. That evening marked the start of an incredible decade long journey that took the company from a start-up to a respected member of the Fortune 1000.

The change started with the name. Within 10 minutes of taking over, I had announced to the management team that we were going to change our company name. As this team had recently changed the name from "Tolerant Systems" to "Tolerant Software", this was not a particularly welcomed idea. It is not that I had anything against the name itself, but I felt that it represented the old company that had dealt primarily with hardware. A fresh identity would help, as we morphed into a new independent software company, and took it into the millennium and beyond. There was a company-wide contest to choose the new name. In the end, we narrowed it down to three, and finally chose VERITAS, as being

the cheapest to defend according to our attorneys. I liked VERITAS because it decorated the crest of Harvard University, where I had studied. VERITAS means Truth in Latin, and it lent the company a dignified and a classy aura.

Tolerant Systems had started out as a hardware company in 1982 making microprocessor based fault tolerant systems, running a variant of UNIX called TX. I had joined the board of Tolerant Systems in 1988, but the company had been running into strong headwinds. In early 1989 the company had missed its most recent quarter by a wide margin, and there was no other choice but to shrink from two hundred employees to twelve. We had to reinvent ourselves, our products and business, if we were to survive. The company decided to get into the software business, with a new set of products based on the operating system software that we had developed to make UNIX bullet-proof for commercial computing apps. On the sales side, we adopted an OEM-based distribution model in which the products were delivered to system manufacturers for incorporation into their version of UNIX.

As the company transitioned from a hardware company to a software company, I could see the advantages of this new business model. Tolerant Systems was a hardware company and its IP was embodied in the form of physical machines that it made and sold. The process of making and shipping machines can be expensive, difficult to scale, and error prone—thereby sapping profit margins. On the other hand, IP as embodied in software is easier to make and distribute—the value is not in a manufactured physical object, but software that is very cheap to package and deliver (on a CD, or even as a file over the internet). This is a great business, with no cost of goods. As an example, in one customer transaction, VERITAS sold its software on a single $1.50 CD for a total license fee of $20 million!!

When I took over as the CEO of Tolerant Software, or VERITAS as it was soon to be known, we were already convinced that being in the software business was the only way to survive and succeed. It was a strategic decision that paid rich dividends in the years to come.

A key strategic deal to enter this market place was the recently completed one with AT&T UNIX Division. This relationship allowed us to effectively 'rent space' in the AT&T UNIX monopoly. The agreement allowed us to develop next generation file and disk technology, based on the pre-existing technology developed by Tolerant. AT&T agreed not to develop these components, and both the companies would market and sell the products on a 50/50 revenue sharing basis (later renegotiated to 85/15 share in VERITAS' favour). The perceived customer risk because of VERITAS being a start-up, was underwritten by a clause that awarded source code rights to AT&T and provided exclusive access to customers if VERITAS went under.

We were 'rebooting' as VERITAS in 1990, going from hardware to a pure software products company. VCs generally do not like 'restarting' companies—

they think it's like sifting through the debris of your last idea that crashed and burned, in the hope of finding something to salvage. In other words, it becomes 'technology in search of a market'. However, I do believe that restarts can also be like the proverbial Phoenix rising from the ashes of its dead past. Sometimes you just have to go with your best judgement even if it means going against conventional wisdom. VCs can be wrong too!

## Sprinting to an IPO

During its hardware years, Tolerant Systems had developed a forerunner of today's RAID systems by incorporating disk volume management and a journaling file system on its fault tolerant boxes. We planned to use this existing work as the basis for a new line of products. Our initial vision was to become an OEM supplier of Operating System (OS) components to UNIX systems companies, make UNIX more available and robust, and therefore more suitable for commercial data centre usage. We wanted to ride the UNIX wave into the 1990s and establish a strong strategic position in the process. Even as we were trying to establish our identity as VERITAS, we aspired to become the de-facto industry standard through the broadest distribution of our products, demonstrate profitability and then go for an IPO.

Accordingly, between 1990 and 1993, we closed more than 60 OEM agreements and slowly but steadily went on to establish industry standard file and disk management software for UNIX.

After achieving this broad penetration we took the first steps to extend the company's strategic opportunity. Our business strategy was simple—we would provide a 'lite' version of the file system and volume manager at very low cost, with native UNIX OS version from companies such as Sun and HP. We hoped that this lite version of the components would make customers want to look at the 'enterprise' versions, that had more powerful features, and buy them directly from VERITAS. This was a fresh and unique variation of the popular 'first try, then buy' sales strategy and we were probably the first to do it in the 90s. Today, many companies base their business around this model, especially for products developed in the open source domain.

> *"A journey of a thousand miles begins with a single step."*
>
> *— an old Chinese saying*

Looking back, it's now clear that we had capitalized on a unique opportunity to make UNIX more enterprise-ready. The window existed only for a small duration because of the specific circumstances in 1990 (rising acceptance of UNIX, few systems companies, VERITAS with the right technology, which would have taken others some years to build themselves). Success is often about being in the right place at the right time, and then executing effectively on that opportunity.

On 9th December, 1993, we went for our IPO after being profitable for more than a year. It was a "micro IPO" where we raised $16 million and had a market cap of $64 million after the IPO. My message to our employees at the time was clear. This was a small step, like a college graduation that marks an achievement, but it was only a 'commencement'–the beginning of a new phase. The future value was going to be greater than the current one, and I encouraged everyone to focus on execution excellence to achieve it.

I think building a great company is like building a cathedral; those who start it will hopefully not see its completion. The IPO is not a harvest but only an accomplishment to savour for the moment, and then to put behind as you get ready to meet the future.

The next challenge was to expand the scalability of the company even as we sought to establish the VERITAS brand. We were providing operating system components to system manufacturers in return for royalties. The question we grappled with was, "How much will a customer pay us in royalties before they design us out (or threaten to design us out), to lower their royalty rate." This was compounded by the fact that the industry was consolidating (from almost a hundred system manufacturers globally that were delivering UNIX based systems, there are only a handful today). To make a long story short, we calculated that it would be extremely difficult for us to build a revenue stream of greater than $50 million in our current model of products sold through the OEM channel.

In 1994, we set out to devise a new strategy for the future. Our vision for the next five years was to cross $100 million or more in annual revenue. On the technology side, we wanted to develop additional OS technologies to sell through the OEM channel, define an appropriate product segmentation to create an end-user market, and develop integrated higher level products called "Editions" (for example, we soon had Oracle Edition, MS Exchange Edition etc.). On the business side we resolved to build direct and reseller channel capability. Most importantly, we desired to acquire backup technology so as to leverage our position as the industry standard for file and disk management. Finally, we sought to strengthen our position by expanding to other platforms such as Netware, OS2 and NT.

Though we had achieved our initial objectives of creating software products with strong IP and high margins, we realized that our target market was limited. We could no longer afford to remain a simple OS file and disk module supplier, and needed to expand our horizons to become an "end-to-end storage management" company.

## The Need to Reinvent

From my experience with VERITAS, I have come to understand that the process of reinvention in a company's lifetime is not only desirable, but almost mandatory. Any idea has a finite lifetime and the customers are always asking the question–

"*what have you done for me lately*?" For a company to survive and succeed, it must constantly be looking to add more value to their offerings. An industry leader faces threats from existing players and emerging competitors who leverage new technologies and trends. It is better that you yourself have a replacement strategy for your products, rather than getting killed by a competitor (which is not only possible, but is really just a matter of time). You never know how the world may change—as Andy Grove (co-founder of Intel Corp. and industry visionary) states, "Only the Paranoid Survive." Great companies are those that are willing to make the transformational changes when required, sometimes even putting the entire company at risk in a bid to save it.

Throughout the latter half of the 90s, we took significant steps to reinvent ourselves as a storage management and backup company through our mergers with OpenVision ('97) and Seagate ('99). The 1997 merger with OpenVision combined two equal sized companies, both with $36 million in revenue and around 200 employees. Because of the risk and complexity of merging two equal sized companies with different cultures and products, one investor described this as "*a collision of two garbage trucks*", eliciting a visual that I always enjoyed. Similar to the time when we decided to try and raise the old Tolerant from the dead, we were convinced it was the right thing to do, despite great scepticism from the investment community (our share price declined by over 60% between the time we announced the deal and finally closed and started the integration). It would enable us to enter the backup business, provide us with a huge distribution channel, including OEM and reseller network, and direct access to global 2000 end-user customers.

It was an exceptionally difficult merger because the two companies had very different cultures. Looking back I can say that it was "***the***" pivotal company maker deal for VERITAS. We trusted our judgement even though it seemed to go against the conventional wisdom, and it worked. It's interesting to note that at the completion of the merger, the senior management team of the company included four executives from OpenVision and only three from VERITAS (with me as CEO). It was a true sharing of leadership of the new company.

Our merger with Seagate in 1999 was another such instance of a merger between 'equals'. Both companies had $200 million revenue and nearly 1000 employees. It made us the largest independent NT enterprise channel and gave us a dominant position in the backup and NT channel space. We gained critical mass and became a clear industry leader.

Our vision post IPO had been to cross $100 million in revenues in the subsequent 5 years. By 2000, we actually crossed a billion dollars in revenue (which was by all accounts definitely more than a $100 million!).

## In the New Millennium

It had been an eventful decade. We had built software products, re-negotiated all our major OEM agreements, created a very successful "editions" business with

focus on the Oracle market, expanded into the NT market, developed a world class end user/reseller sales force, acquired a product (called FirstWatch) for High Availability (HA) failover (giving us more than 75% of Sun HA installed base), and entered (via OpenVision and Seagate) and came to dominate the backup market—from revenues of $20 million in 1996 to about $660 million in 2000 (33x in 4 years!). We had become a clear market leader with a 40% market share.

At the turn of the century, we had become a billion dollar software company, tenth largest in the world by revenue and third largest by market capitalization and ranked in the Fortune 1000.

Of course, none of this would have been possible but for all the talented and dedicated people we had at VERITAS.

Where could VERITAS go from this pinnacle? In early 2000, my dream was building the complete server stack to compete with the reigning software giant, Microsoft. The strategy would involve acquiring VMWare, followed by Red Hat, Jboss, MySql, etc. Unfortunately, some dreams are not meant to be. Having decided to retire from active operations, I hired a successor and slowly let the new person and team, chart the future of VERITAS. By 2001, I progressively gave up my roles as CEO, President and Board Chairman. The new management took over, and decided to pursue a different strategy. In 2005, VERITAS was acquired by Symantec for $13.5 billion, more than two hundred times the value of the company at the time of its IPO twelve years earlier, and ceased to exist as an independent company.

## Leading People

### Stewardship versus Proprietorship

I believe that the first principle of leadership is that the leader needs to conduct himself / herself in all ways as a 'steward' and not a 'proprietor'. I feel very strongly about this principle and cannot emphasize it enough. True leadership is not about 'me', but about 'us'. It is not about *"What can you do for 'me' today to make 'me' more successful?",* but rather about *"What can 'we' do today, so that 'we' can together share in the rewards of success in the future?"*

### Leaders have to Create the Environment, and be Accessible

A good leader must be both visible and invisible. As a visible leader, your job is to do all the visible tasks, like management by wandering around (MBWA), attending large public meetings and conferences, making presentations and sales pitches and being the face of your company.

However, the real work of leadership is behind the scenes. It's creating the environment where people can independently apply their intellectual judgement

and energy while advancing the objectives and goals of the organization, achieve a personal sense of accomplishment in their work, and share the rewards of success.

You must be highly accessible to your people for answering questions and giving guidance and advice, yet you must also give them the space to do their job as best as they can. Leadership is not to be confused with management, which is merely getting complex tasks done through other people.

Some of the visible things that you do, can be thought of as glamorous, but you cannot become a slave to the glamour. Glamour is seductive and therefore dangerous. Whatever it is that you need to do, glamorous or otherwise, think of it as doing your job for the team.

## Judgement and Trust

Each business is unique and there are no formulas, fads or magic bullets to make it a success. Good leaders need to be genuinely open, listen to everyone constructively, learn, hold their opinions while they collect information, but ultimately they need to trust and act on their own judgement.

At the same time, leadership is also about being a good judge of the people working for you. Remember that the further you are from the problem, the less you know about it. Trust the people on the front lines to know more about it than those at higher levels. The line manager knows less of the problem and the next level manager knows even less. In fact, at the top you literally know little about anything anymore. You need to trust your people to make the right moves and take the right decisions as the situation demands. In other words, a leader has to trade situational knowledge for judgement, experience and perspective.

As a leader, not only do you need to trust your people but they need to trust you in return. The first level of trust is built on fair play that is visibly exercised. You must be loyal to the mission above all else, and seen to be that way. You must think of the people before you think about yourself. Not only that, but you must think of all equally, because if you are loyal to just one, you are loyal to none. You must be the keeper of equity and fairness of your organization. Great leadership comes from a deep sense of trust between you, the leader, and the people you lead. It is critical as the leader that **you take the first step–you must trust first**. There are times when you will be let down, and disappointed, but know that in the long run the payoff is much greater than the cost.

## Empowerment

As a business grows, so do your responsibilities as a leader, and it becomes practically impossible to do everything yourself. It is important for you to have the right people in the right places, and empower them to take decisions. You need to guide them by asking the right questions, provide them with the required

knowledge and authority, and allow for an acceptable margin of error. Holding back on information that they may need, does not make you more powerful—it only makes your people weaker. A captain is only as good as his team, and unless the team knows the game, it cannot win. Allowing your people to take decisions has real meaning for them and also develops their own judgement and maturity. Empowered individuals are loyal to the company and the leader, and loyal empowered individuals are a real force multiplier in business.

Even though a leader may want to be the best at everything, the hallmark of true leaders is that they know their own strengths and weaknesses, likes and dislikes. They know how to compensate for their weaknesses with other's strengths, and get them to do the things that they themselves dislike, but others may enjoy doing. Complementary sets of skills make for a highly successful team.

## Honest and Open Communication

From the very beginning, I wanted VERITAS to be an IP-intensive company, with knowledgeable employees doing business in an honest, fair and ethical manner. It's important for a company to get the culture right, because all of us spend more time at work than any other single activity in our life. The outcome of our efforts is not always predictable so the quality of the daily experience is important. A company is defined by the values and the culture it embodies and we wanted a culture built on fairness and trust.

I believe that an open communication was critical for the success of the company. We had weekly meetings in the lunchroom, where I told all employees the so-called company secrets - quarterly results, annual results, upcoming products, experimental projects, new contracts and such.

At VERITAS, we turned around the question from "*what should we (management) tell them (the employees)?*" to "*Is there any reason not to tell them?.*" There was employee participation too in key decisions—the 3:1 reverse split in 1991 and the OpenVision merger in 1997. It's unusual for companies to include employees in these types of decisions.

Just as we were open and honest, we expected our people also to be open and honest with us. As a leader you are expected to fix broken stuff, and you cannot do that if you don't know what's broken. You need to convince people that you need to hear the truth, and not what they think you want to hear. Also, it goes without saying that you must never shoot the messenger, who brings bad tidings.

## Respect, Graciousness and Caring

In addition to being open and honest, we also wanted a culture that was respectful, gracious and caring. Many times leaders are required to be tough when the occasion demands. Be it going after a competitor, negotiating a hard deal, firing

an executive who is a friend, or reducing the workforce, there are tough and unpleasant tasks to be done for the greater good. As a leader, you should learn to do all of these with caring and grace, and treat the people and companies involved with a high degree of respect and dignity.

### Dealing with Adversity

The world is never in a steady state, and change is the only constant. In such a scenario, there will always be ups and downs and there will be some tough days filled with despair. These are the times when everyone will look to you for guidance and solutions. While you always need to communicate candidly and directly, this becomes even more important in bad times. At the same time, you need to be calm and show your people a little bit of light at the end of the tunnel (but without giving false hope), and ask them to focus on the things that you all can do to make a difference. Dark days are real leadership opportunities, and overcoming adversity together forges teamwork and trust, like steel tempered in the hottest furnace emerges stronger.

Similarly, when things are great, you need to remind people that there will be dark days again—but take care to do this without scaring them or creating undue panic!

## Last Words

Life is all about choices, and by definition, whenever we make a choice, we let go of the countless other possibilities that could have been. We can never know if our choice is correct at the time we make it. Only hindsight can tell us, and at times, even hindsight cannot tell us if the other possibilities we let go, could have been better.

Achieving success in anything requires

- Focus
- Commitment
- Intensity
- Endurance

Without this, success is about merely getting lucky. It is popular to think that 'we can do it all' at the highest degree of performance in all areas. I believe that true success in any particular area of endeavour entails great personal sacrifice of other dimensions of one's life.

I also feel that each of us should pursue our dreams and destiny. As you go on your own personal journey, whatever that may be, I want to leave you with my favourite quote from Sidney J Harris:

*Regret for the things we did can be tempered by time;*
*It is regret for the things we did not do that is inconsolable.*

# 3

# Off the Starting Block: The Initial Trigger and Plan

## (Start-ups—Low and pre-revenue companies)

*"Daring ideas are like chessmen moved forward; they may be beaten but they may start a winning game."*

*— Johann Wolfgang van Goethe*

### Taking the Plunge

Standard wisdom has it that entrepreneurship is growing in India especially after liberalization and recent accelerated economic growth. However, the reality is that entrepreneurship is more common than we realize. Professionals like doctors and lawyers set up their own clinics and private practice. Many Indians in the unorganized sector (numbering in the tens of millions) are contractors or self-employed, though it is true that most of the work is marginal with limited income. It is only amongst the salaried middle-class that an attitudinal change is happening. Young and educated professionals today are looking beyond secure jobs, and aspiring to start their own business.

Why do young professionals turn entrepreneurs? The underlying reasons can be a desire to be independent, wanting to convert a bright idea into a profitable business, emulating a role model, or a sense of adventure. Becoming rich is another often-quoted reason, and the only wrong one. Start-ups, especially in products, are possibly the highest risk investment of your time and money.

### An Entrepreneur by Accident

Sometimes, one becomes an entrepreneur by accident. This was the case with me. Through my teenage years, I was the quiet and studious type. The elders in my family predicted a career as an engineer or academic.

After graduating in Electrical Engineering from IIT, Bombay, in 1980, I left for the US. Following a Master's degree from University of Hawaii in 1981, I joined Burroughs Corporation into a group, which was building the first of its kind optical memory drive for computers.

One's first job often shapes the future attitude towards work. At Burroughs, the Optical Memory team operated like a start-up. It was led by one of the most charismatic Vice Presidents (VP) that I have ever worked for. Ed LaBudde was brilliant, inspiring, extremely goal-oriented and a hard task-master. Looking back, Burroughs was a memorable and exciting period in my career as an engineer.

Optical disks (called CDs now) were at an experimental stage, offering storage density that was over thousand times that of existing hard disks. This resulted in unacceptably high error rates even with small surface defects. Within a month of joining the team, I and a senior consultant made separate presentations on alternative proposals for an error correction system. The consultant came up with a practical, inexpensive but partial solution. My MS thesis had been on that subject, and with nothing to lose, I proposed an innovative approach that would theoretically fix the problem. However, it was risky and expensive. Though I was new to the company and without any previous work experience, Ed picked my solution. The system was built in one year, worked as promised and led to a US patent in my name.

I did not forget the opportunity that Ed gave me. In future hiring situations, I would always prefer a candidate who had good potential, displayed strong motivation but had limited experience. People always contribute best if they feel that they are learning on the job and growing as professionals.

Despite a working prototype, with the economy in downturn, Burroughs cancelled the futuristic project to cut the expenses. Ed and many members of the team left the company to form a start-up, which became quite successful. Since Burroughs had filed for my green card, I could not leave. After the excitement of a start-up team, I experienced the bureaucracy, fuzzy decision-making and sloth of a large company in my last few months. This experience subtly influenced my preference towards start-up culture over large corporate environments.

After getting my permanent residency, I returned to Mumbai and worked for a few years, first in hardware at Tata R&D Labs, and then switching to software at Tata Unisys.

In January 1988, I happened to accompany my wife to a job interview scheduled in downtown Mumbai with a US company called Frontier Software Development (FSD). We met Narendra Popat, President of the company, who turned out to be a very warm individual. Instead of an interview, he invited both of us for an open and freewheeling discussion. He talked about his business partner, Anil Singhal, and their vision of building a new generation of distributed Local Area Network (LAN) management products. To keep costs down, they wanted to source bright software engineers from India. This was quite common, back

then. Indian software companies hired engineering graduates, trained them in software development on specific platforms, and sent most of them to the US for onsite work.

During the meeting, I spoke about my background and plan to become an independent consultant. I was not thinking explicitly in terms of being an entrepreneur since the concept was quite alien in the late 1980s. Narendra and I struck an instant rapport. Their LAN management product required development of a proprietary network sniffer card. Frontier had planned to hire a hardware engineer in US. Instead I would now design the hardware. One thing led to another, and Narendra asked whether I wanted to be a co-founder of their Indian subsidiary.

The start-up experience at Burroughs had remained at the back of my mind, and I jumped at the offer. Since forming a 100% subsidiary in those days required government approvals, we instead established an independent company owned by three of us. The total paid-up capital was only Rs. 30,000. I initially thought that all we would do is provide services to Frontier US. However, some latent entrepreneurial instincts surfaced. Over the next ten years, Frontier Software India ended up as a provider of product development services to many US and Indian companies.

## Taking a Calculated Risk

The software industry has been a breeding ground for entrepreneurs. It grew in the 1990s largely unnoticed by politicians and the government, and therefore faced less red tape than other businesses. Entrepreneurial companies have been the norm, and their success has encouraged more to join their tribe.

However, the industry is dominated by services firms, which are flourishing. As we saw in the first chapter, while there is a growing momentum in creating a parallel product industry, those entrepreneurs still face an uphill road. There are limited role models. A few incubators and mentoring organizations are beginning to advise and support product start-ups. There is a proliferation of networking events and competitions to encourage them. Yet a lot more remains to be done to nurture these green shoots.

There is also a small risk of entrepreneurship getting romanticized. Some entrepreneurs may start a new business without being prepared for the high risks and the long struggle. Conversely, others may be too apprehensive of what it entails, and don't know how to proceed. We therefore take a realistic look at entrepreneurship in product space, covering positive aspects and difficulties associated with it.

Most entrepreneurs find the initial one or two years to be extremely difficult. This period is characterised by 'high infant mortality' syndrome. An estimated 70% of US start-ups fail. The rate may be higher in India since this is a relatively new area. Besides struggling to finance the business, entrepreneurs will be pay-

ing themselves very little (if any) salary. This is a double whammy, and hence staring a new venture requires a careful thought. Your heart may tell you to go become an entrepreneur, but your mind must assess all the ramifications.

There is a tendency to believe that a great idea leads to a successful product. In reality, most companies fail because of poor execution in transitioning from concept to a commercially viable product. Plan well before you start a company. Think about the potential customers, likely competition, product pricing, and how to sell. Estimate the cash required for the first one or two years, and how that can be arranged.

In the following pages, we analyze three key success factors—idea, founders and seed money—that are critical for a product start-up to get off the starting block.

## Success Factor 1: Idea with Business Potential

Every engineer dreams of building his/her own product. Most ideas don't progress any further, either because it was idle thinking, or on further reflection, they become less interesting. When a concept refuses to die, and you feel driven to explore it further, then some basic analysis must follow. What problem does it solve? Who benefits from the solution? Can you quantify its impact on the beneficiaries?

Ideas emanate in a number of ways. They can be a solution to problems that you observed at work or elsewhere. Perhaps you have spotted new opportunities arising from evolution or disruptive change in technology, environment or circumstances. For example, the advent of the PC, internet, and broadband connectivity over the past three decades, led to software that provided unique new functionality (e-mail, internet chat) or simply a new and better way of doing old things (online purchases).

Many companies have succeeded by catching a new technology curve early, and overcoming existing players (Microsoft with PC operating system, Novell with networking, Hotmail with internet mail, and recently SalesForce.com with SaaS).

Responsiveness to technology shifts is not an attribute of only small companies. IBM, for instance, has adapted to several generational changes in hardware and software. After its formal naming in 1924, IBM has seen competitors appear and fade away in the punched card, mainframe, minicomputer, PC, networking and the internet eras. Through them all, it has remained the No.1 technology company by re-inventing itself.

In comparison, here is what the CEO (Ken Olson) of Digital Equipment Corporation (DEC), a mini-computer vendor and strong IBM competitor, had to say in 1977, *"There is no reason for any individual to have a computer in their home"*.

Not surprisingly, DEC was eventually over-run by the PC revolution. IBM, on the other hand, launched its PC in 1981, and tied up with Intel and Microsoft, to emerge stronger.

Your generic idea should be transformed into a rough product concept. Entrepreneurs should have sufficient domain and technical expertise to conceptualize how the idea, combined with its practical implementation, can address specific user or industry challenges. You can then, scope the problem and formulate a distinct and bounded solution.

The next step is to explore who your customers will be. At the most basic level, the product should provide a good solution to a known problem for a reasonably large set of people. The product may enhance a capability (what it can do), process (how to do it), performance (speed of doing it), or usability (ease of use) relative to the current methods. It must be reasonably unique and fairly difficult for someone else to quickly emulate.

Ideas don't have to be unique to be successful. Excel overtook Lotus 1-2-3, the leading DOS spreadsheet, only because Lotus failed to make the transition to Windows quickly.

Sometimes, leaders don't recognize disruptive changes. In a 1998 paper, Google's founders described an innovative concept called PageRank, which took advantage of the Web's link structure to produce a global importance ranking of every web page. This helped users quickly make sense of the vast heterogeneity of the World Wide Web. AltaVista, the leading search engine amongst 30+ others at the time, turned down the chance to buy Google for $1 million, saying spam would make PageRank useless. Yahoo also declined to purchase Google, supposedly because they didn't want to focus on search, which they felt only sent users away from Yahoo.com.

Size also does not guarantee success. After their search engine and Gmail made Google into a challenger to Microsoft, they attempted to target Microsoft's cash cow (MS-Office) with an online spreadsheet in 2006. Analysts expected this to eat into Excel (and Office) market share, but the latter continues to dominate. Still, in 2009, this competition forced Microsoft into announcing a future online, free version of MS-Office.

Ideas are like movie scripts. Most of them sound familiar. They are often a combination of previously seen sub-plots, with new twists added. Still, many of them become successful, especially if they have some novelty and are executed well. Even remakes succeed if presented differently. Very rarely do you see a hit movie with a truly unique script.

## 'Density' of Your Idea

Scientists believe that the universe was formed by a big bang resulting from the outward push of extremely hot and dense state of matter. Great ideas too must

be capable of solving a reasonably large problem in a demonstrably superior manner.

It took time for the universe to be created. Similarly, the initial implementation may have to be limited for a narrow market. Yet, the idea must have the potential (density) to expand over time for a bigger set of customers. You should be able to show balance between initial focus and future potential by saying, "Here is what my first product will do for these clients, but this is what it can lead to in future."

Most first time entrepreneurs don't pay sufficient attention to the following questions:

- What value does my idea provide?
- How is it different from current way of doing things or existing products?
- How big can my company become with this product?

An idea should be expressed in terms of the problem it solves. The solution approach or underlying technology is not important. What matters is being able to state tangible results that will be delivered to potential customers. Typical impact areas for a business are increasing revenues, reducing costs, improving operational efficiency, and faster time to market. For an individual consumer, it could result in more convenience, time or cost savings, improved lifestyle and so on. A good idea can usually be explained concisely in two or three sentences.

Ask yourself whether your idea is the equivalent of throwing a rock at a glass barrier (problem), or a handful of pebbles. Remember that even a large number of pebbles (incremental improvements) will not break through the glass wall. Of course, you can always make a rock by densely packing many pebbles together.

The internet is a good starting point to assess the competition. Besides known players, explore sites listing recently funded companies, to get leads on the emerging players. You should talk to colleagues and those knowledgeable in that space. Be careful and disclose only the minimum high-level concepts.

Chances are that you will discover several companies that are doing something similar. Make a comparative analysis to see if your idea has key stand-out elements. Having a few existing players validates the market opportunity. But if there are too many players, you have to be very confident that your product is really disruptive. Google was not the first search company but succeeded because of superior technology and a brilliant revenue model (based on online ads). Salesforce.com became a market leader by adopting SaaS (Software as a Service). Their delivery model simplified its adoption by small and medium companies, thereby beating entrenched products.

Your product does not have to be the best right at the start. Sometimes, if the market is large and not served by existing products (India, for example), a local product will have an initial edge. Companies can win some market share with local presence and lower price. However, becoming a leader eventually requires a clearly differentiated and superior offering.

Always be paranoid. Look for existing players to cover the gaps and new companies to launch innovative products. Speed is the essence. Introducing a product on time, with the right features, and scaling rapidly in revenue, is vital for a new company.

The final step is a hard-nosed assessment of the economics. In a later chapter, we will learn how to prepare a detailed business plan. For now, the table below illustrates the basic steps to validate the product's business potential.

**First cut analysis of product's potential**

- Identify and estimate the universe of potential customers.
- Assess the value to customers in terms of reduced cost (time, efficiency), increased revenue, higher profitability, and better quality of life. Quantify the value in (say) dollar terms for each customer profile (the product may support different kinds of customers and markets).
- Estimate the price of the product. One way is to compare the price of competing products (and how much more value you offer). Another is to estimate value to the buyer (as per the previous point), and determine the price point at which the buyer recovers his investment in a limited time, say 18 months.
- Market potential = Total potential customers x Price of the product.
- Estimate the cost and time of building the product.
- How do you intend to sell the product? What will be the cost of selling a certain number of copies?
- In the initial period (maybe a few years), your total costs will exceed estimated revenue. Calculate when you expect revenue to exceed expense (referred to as becoming 'cash flow positive').
- Minimum funding required = the accumulated excess of cost over revenue until you become cash flow positive.

One company we know is building a consumer product for Indian salaried professionals. It assessed the market as follows:

**Example: Assessing market potential**

| City | Total Pop. | Working Pop. (1/3rd) | > Rs. 20K Monthly Salary | Target - 5% (Mumbai), 1% (India) | Sales (USD) |
|---|---|---|---|---|---|
| Mumbai | 21,000,000 | 7,000,000 | 1,750,000 | 87,500 | 8,750,000 |
| India | | | 8,500,000 | 85,000 | 8,500,000 |
| **TOTAL** | | | | **112,500** | **17,250,500** |

It calculated $100 as a viable price based on the features and other competing products. At this price, the total addressable market in Mumbai is 1.75 million (m) times $100, which is over $175m. Estimating the all-India market at five times that of Mumbai puts the addressable India market at $1 billion in 2008. With rising income levels, the market will grow at 8-10% each year.

The start-up's initial plan targets 5% of the addressable market in Mumbai, and 1% in rest of the country, for a total of $17m in 4 years.

In web and mobile-based commerce space, the initial effort is to capture a large subscriber base. This is usually at the cost of revenue by offering a low price or free service. Such companies will require much longer to become cash flow positive.

If you don't have sufficient experience with this kind of analysis, get someone to help you. The numbers are unlikely to be accurate at this stage. Still, your back-of-the-envelope calculation can be very revealing. It may prompt you to re-assess your plan, and either discard the idea or refine it. Such re-working is not unusual. Driven by circumstances, even big companies periodically change course. Most start-ups end up building a product that is quite different from the original concept.

During this exercise, you should also estimate funds required for the first year. Decide whether you have access to that much money, or a plan to get it. In the section on success factor 3, we will look at different funding options.

## Success Factor 2: Founders

Founders are the key elements of a start-up. David Pakman, Partner in Venrock Ventures, says in his blog "The quality of the team is more highly correlated to success than any other factor." A smart group of entrepreneurs with a moderately good idea can build a successful company. An average team will probably fail even with the best of ideas. Execution throws up many unexpected challenges along the way, but a strong team can navigate the company through the fiercest of storms.

In the movie industry analogy, many average scripts become big hits in the hands of a capable director and producer. We see fewer instances of an average director churning out a very successful movie from a good script.

A movie's initial publicity is based on its lead actors and director. Similarly, the founders are the face of a start-up company. Employees join and investors put their money, based on the reputation and charisma of the entrepreneurial team.

### Not Lone Ranger; Not Too Many Cooks

Creating a successful company requires expertise in technology, domain, sales and operations. No one person can handle this alone, and a team is highly recommended.

The origin of a start-up is often with one person who tinkers around with an idea, and begins working on a prototype. As the concept takes shape, s/he talks to other colleagues who get equally excited, and agree to join the endeavour. A single entrepreneur has to be exceptionally talented and self-motivated to make

it alone. There are honourable exceptions—Larry Ellison is credited at building Oracle largely on his own.

Risks are high if the founding team does not have both technical and sales skills. It is difficult for an entrepreneur with only sales or domain expertise to personally supervise a technical team. Engineers like to work with someone from whom they can learn, and whose capabilities they respect. Outsourcing development to a services vendor is not advisable either because product business is all about the IP.

Most Indian start-ups have technical founders lacking in business capabilities. One technologist whom I know had to close his start-up after one year. He ascribes this to the challenge of doing both—managing product development and trying to sell. Asked whether he will try again in future, he responds, "I am itching to become an entrepreneur again, but next time I will make sure that I have a committed partner who is sales/marketing oriented."

Start-ups find it hard to attract experienced talent, and external funding takes time. Founders share equity and risk, and are prepared to work without pay for some time. Hence, having multiple founders creates a runway for the company in which expenses are low and founders do most of the work—from engineering to sales.

Too many 'cooks' as a cheap way to build the company won't work either! Start-ups face many highs and lows. The early years involve long hours, tight funding and frustrations from lack of progress. The founders must sustain a healthy working relationship, which is harder if there are more of them. One start-up had 8 founders who went to college together and were great friends. Three of them ran the company while the other five invested part of their salary in early years. As the company went through various challenges, the interests of the executive team and investors began to diverge. The differences of opinion severely impacted operations and the company eventually shut down.

This rule is not infallible either. Infosys began in 1981 with 7 founders, and went on to become India's most respected services company.

The best combination is a team of two or three founders. It can provide the right mix of capabilities, without making the team unwieldy. One person should be inward focused (technology, operations, people), while the other becomes the external face (sales, marketing, clients). Co-founders must have good maturity, excellent rapport and chemistry. The best teams are those with somewhat disparate personalities, but a shared commitment to excellence, hard work, integrity and a common underlying value system.

## Setting the Right Expectations in the Founding Team

Founders should be prepared for the long haul. Entrepreneurs typically won't be paying themselves much salary (if any) for an extended time. Everyone should be clear about how long they can sustain themselves without compensation. The motivation must come from within. Your self-belief must be strong enough to sustain you through difficult times.

There should be clarity about work division, time commitments, compensation and equity. Once the terms are agreed, they should not be revisited except by mutual consent. Everyone must focus on growing the company.

It helps if there is a clear leader amongst the founders. That person becomes the primary representative for the company (CEO) and arbiter amongst the founders. Ideally, the CEO should have strong credibility, highest level of integrity, excellent communication skills, strong domain or technical expertise, and previous experience in managing a business or having profit & loss (P&L) responsibility.

Founders should have the intellectual capacity and emotional maturity to be part of the core management team for years. Some members of the initial team may not have the right experience or ability. It's important to distinguish between founders and founding employees, and set the correct expectations at the start.

In one case, the company was started by an experienced technologist. He had two team members who were given significant equity, despite their lack of experience. It did not work out. As he explains, "Initially, I felt I was lucky that I managed to convince two key resources who had worked with me earlier. They were technically outstanding, but lacked market vision. This meant I had to spend more time on the product than I had anticipated. Even though they were given a good stake, they did not have the emotional and financial strength to work without salary beyond a few months."

It is important to discuss roles, risks and rewards openly with employees joining in the early months. Let them know whether they will have equity at any time. Explain why they may eventually report to managers as the company grows. Founding employees must be appreciated and consulted whenever possible, and provided opportunities for growth according to their capabilities. They can get something extra when employee stock options or bonus plans are instituted.

Immediate family members and close friends will play a key role. In Silicon Valley, USA, which is the crucible of technology companies, it is 'cool' to be an entrepreneur or work in a start-up. The Indian middle class is not there yet, but is more amenable to consider it as an option. Share your vision and plans with parents and friends. It is important to ensure their understanding and support—you will need it.

Finally, an entrepreneur must aim and work hard for success but be prepared for failure. If your start-up does not make it, you should have the resilience to return to a regular career, remain optimistic, and perhaps try again in future.

## My Experience with Founder Teams

In my first venture, Frontier Software India, I had teamed up with two US based partners, Narendra Popat and Anil Singhal. Their company, later renamed as

Netscout Systems, is today the world's leading network management vendor, listed on NASDAQ and with $300 million in revenue. Besides being the raison-d'être of starting Frontier India, Netscout always provided enough business for a team of 8-10 engineers until Frontier's acquisition by VERITAS Software in 1999. I always stayed at their house while visiting US, and Narendra introduced me to several prospective customers. Neither of them ever interfered in the India business, and gave me a free hand to run the company. Today, though we are no longer business associates, they are amongst my closest friends.

Frontier India's core team consisted of V. Sairam and Madhu Popat. Sairam was a founding engineer, joining us in 1989 for Indian projects. He had limited work experience and relatively weak communication skills. However, from the day he was interviewed, it became clear that he was an extremely innovative engineer with brilliant coding skills and speed. Over the years, he improved his written skills until his documentation ranked with the best. He inspired the team and worked 12+ hours daily including weekends. Whenever there was a crisis, he would step up, and soon became responsible for most projects at Frontier Software. He is now a very senior technology architect at EMC, USA. His professional growth is one success story that I really admire.

Madhu Popat, initially on the Board of Directors, joined full-time in 1994 to handle operations. Madhubhai, as we call him, had significant industry experience in US and India. He was a very positive and result-oriented person, with a good knack of hiring relatively junior but sincere and committed staff. He had complete responsibility in the areas of facilities, administration and finance. I have always viewed these support teams as being core to a growing services organization. He set exacting standards for his team and vendors, but was equally supportive and scrupulously fair with them.

The second start-up that I joined in 2003 had two ex-VERITAS colleagues, Madhukar Bhatia and Hemant Joshi. In-Reality Software provided outsourced product development services and grew rapidly to 12 clients and 140 engineers in just fourteen months. Hemant and Madhukar had been the two best managers at VERITAS, combining technical expertise and emotional maturity with the ability to inspire and lead teams. We share an excellent rapport, with a common value system, and a strong belief that the best companies are those that build partnerships with clients, employees and vendors. We have been together for 11+ years – beginning with VERITAS in 1999, In-Reality (2003-04), Symphony Services (following In-Reality's acquisition, until 2007), and presently at nFactorial Software.

I count myself as being very lucky in getting such remarkable co-founders. This good fortune has extended to the next level of managers as well. With our combined efforts, it became possible to build several successful software companies.

## Common Questions about Founders

*Is there a right age to become an entrepreneur?* Any age is a good age. The founders of Microsoft, Google, Facebook started their companies when they were very young. Steve Jobs, who founded Apple at an early age, continues to show amazing entrepreneurial capabilities in his second stint at Apple which began in his 50s. Young professionals in their twenties have amazing energy, and understand the pulse of today's generation. They can conceive products that others with set thinking cannot. The young have no fear of failure. In the thirties, one has a good blend of work experience, drive, network of contacts and knowledge of the business. Those in the forties and fifties have significant experience, business connections, understanding of the market, and financial security to risk a start-up. A younger entrepreneur may be more hands-on and seek mentors to provide a guiding hand and connections. Someone older might operate more like a Chief Mentor and get a young, smart team to execute.

*Is it necessary for an entrepreneur to have some experience? Is it better to get this at a small company or a big one?* The right experience in technologies and domain related to your idea can be a significant advantage. Learning happens in any sized company. By working in an early stage company, you will have lived the pressures and dynamics of building a product ground-up. You understand the importance of being flexible and adapting the product based on early user inputs and competition. At a larger company, you will have experienced a mature organization structure, with different teams focused on specific objectives (engineering, support, sales, marketing and operations). You understand the importance of collaboration, brand building and continuous product innovation to stay ahead of the competition.

*Should the founders develop a product related to their previous job?* You must be very clear about the terms of the Non-Disclosure Agreement (NDA) signed with your previous employers. Any work, including, but not limited to research, algorithms and source code, that you did for your employers, belongs to them. Even information such as client and employee lists, salaries, contracts, is considered highly confidential. When you exit the company, do not take away anything related to work, whether in printed or electronic form. If you are a relatively senior person in the company, and start a new endeavour in the same space, your previous employer may keep a close watch. This is especially true if your company becomes their competitor. It is best to pick an area that leverages your technical expertise, but is in a different space from your previous company. Maintain a document that is a dated record of how you conceived and built the product. This will enable you to file for patents or contest any legal challenge. NDAs generally restrict any solicitation of employees for at least one year. If several founders worked in the same company, ensure that you did proper succession planning and your exits were non-disruptive. It is best to maintain good relationships with your previous employer. They are part of your professional network, and they could come handy in the future.

*Does it help if the founders have worked together for some time?* This can be a significant asset. You will have experienced pressure situations together, and learnt to understand each other's approach and thinking. There is mutual trust and no ego issues. It is good if the founders have relatively complimentary skills and temperaments, but with shared vision and ideals.

*Is it okay to include family members amongst the founders or the key team?* It depends on whether you want to build a professional organization or a family run business. If the former, any relation or friend should be included purely on merit, meeting the same criteria that you would have from any other founder or hire. Involving a close family member or friend has its merits and pitfalls. A significant advantage is that you know the person, perhaps share a close bond, and have mutual confidence. However, family members and close friends often have in-built expectations from each other. These may be in conflict with decisions that need to be taken for the benefit of the organization. At times, other employees may perceive, rightly or wrongly, that family members were granted extra privileges or favours. While many successful companies have been founded by related individuals, there are equally spectacular examples of feuds in family owned companies.

*Should the founders and initial team work from a founder's home?* Working from home is fine in the initial days while the prototype is being built. It helps if part of the home can be set up as a small office. However, it is best to shift to an office once there are more than 3-4 people. Working in a start-up means long hours and stress, and separating home from office is important. Home should be a place where you can unwind and leave the cares of work behind.

## Success Factor 3: Seed Money

There is less risk involved in bootstrapping a services company. You first sell and then begin work. The team is hired or assigned only after a client signs up. Payments are received on monthly basis or against regular milestones. Income and expenses are tightly coupled. Profits drive more spending on sales, and new orders result in additional hiring. If projects get cancelled, cash reserves can sustain the company for a while, after which headcount can be reduced.

For example, my first company (Frontier Software) was founded with the specific goal of executing projects for a US company, Netscout Systems (with whom we shared two founders). After hiring few engineers, and once the project was stable, we had the money to look for more work. At a second start-up, In-Reality Software, it took six months to sign the first client. Besides the founders, no investment was made in people or infrastructure. Once the first client signed up, In-Reality hired thirty engineers in four months.

In contrast, product companies require significant up-front investment. The time lag between building the product and generating sales can vary from a few

months to more than one year. Depending on the money available, you can adopt a fast-track and aggressive strategy to build and sell the product, or take a measured approach. In the latter, founders work on product development while raising money through other activities.

Most product entrepreneurs dream of emulating successful Silicon Valley start-ups. They all seem to have followed the same script—bright entrepreneurs with a great idea, angel money and initial clients, loads of money with two to three rounds of VC funding, and eventual acquisition at high valuations. Of course, this is a small fraction of Silicon Valley start-ups, and we don't hear much about the many failures. Still, this is a model that works.

In India, there are very few such mega-success stories. Angel and VC money is hard to get at the very beginning. Limited cash lengthens time to market and increases risk of better products emerging. Currently, start-ups appear to have no option but to take the long road. Ignore the hyped stories about how Silicon Valley companies raise funding based just on their idea. Make a plan that assumes no institutional investment for the first one or two years. As Indians, with our modest lifestyles, we know how the make the most of adversity. You must figure out a way to overcome this initial struggle.

## Founders as Investors (Time and Money)

Investors want to make sure that founders have taken personal risk. This can be done indirectly by working without salary for an extended time (sweat equity). If you don't take a risk yourself, then why should anyone else?

Most entrepreneurs start with their own savings. Founders work from home and use personal PCs. To keep development costs down, most start-ups adopt open source technologies. To compete against this threat, Microsoft now offers the BizSpark program under which qualified companies get unlimited licenses for OS and tools at no cost for three years. If the team is relatively hands-on, the initial prototype can be developed with minimal funds.

For example, Komli is a company founded in November 2006. Its product, called 'PubMatic', spun-off later as a separate company, enables the online publishers to maximize ad revenue, by choosing the best ad network, optimal ad format and placement. Apart from the CEO and another founder, Mukul Kumar and Anand Das are the two founding engineers. Both had worked together for several years at VERITAS Software previously.

Mukul recalls: "Anand and I worked from my home. We had no initial infrastructure expense, except for two laptops and an internet connection. We churned out 77,000 lines of code in 3 months. When the product was almost ready for release, we discovered during testing that the software did not scale and ran too slowly. Though we had used a development language that was considered best of class, it had performance issues. Going into over-drive, and by inventing a new algorithm, we finally had the software running to specifications."

PubMatic was released at the San Francisco TechCrunch in September 2007 and was rated as one of the top forty products at the show. It now serves nearly 5000 publishers. The product's uniqueness and early sales traction led to VC funding in December 2007.

## Private Angel Money

The most common source of private angel money is from people close to the founders. Is it a good idea to take money from friends and family? Your request may put them in a spot – they cannot easily turn it down and yet may not be in a position to help. Explain that the investment carries significant risk, and that you fully understand if they cannot help you at that stage. If they invest, speak to them about how you will do your best but any failure should not compromise the personal relationship.

You can turn to high net worth individuals for angel money. It is easier to approach them if you know them personally or through someone. Such investors typically go by trust and personal judgement. This is different from professional angels, who follow a decision-making process akin to VCs. We cover professional angel and VC investments in the next chapter.

Especially with non-professional angels, both sides should make themselves aware of how valuations work for software ideas. We have seen entrepreneurs trading significant equity for small sums. In one case, the founder had given 60% of shareholding to an investor who put in Rs. 20 lacs, and this proportion continued even after the founder had put in years of effort at a low salary.

Angel investment must be recorded as premium paid for issued shares, thereby creating a baseline valuation for the company. Fair partnership terms will provide for increasing equity to founders in lieu of reduced salary for a specific period. So an angel's originally 40-60% equity can decline to 15-30% after 1-2 years of sweat equity on the part of the working partner. This is in the interest of everyone since future institutional investors will hesitate to fund a company where the executive founders have less than 60% equity.

Incubators are emerging in several cities and at educational institutes, which provide free facilities and mentoring for a stake in the company. A few of them also provide seed money, and all of them have connections with investors who periodically review the portfolio companies.

## Building the Product Part-time

Initially, founders may continue with their day job, and work on the product after hours and on weekends. If some founders work while others quit their jobs, then the working partners can contribute part of their salary towards company expenses.

There are examples of Indians with US jobs, whose relatively higher salaries fund a reasonable sized Indian team. The US-based founders focus on product requirements, architecture and funding, while the India-based founder or technical head drives the development. At Frontier Software, some of our start-up clients funded their products in this manner. The founders of Sokrati (a search engine optimization company with a 'pay for performance' business model) and Aflatune (providing seamless premium content across multiple devices) have adopted this approach.

Many product start-ups attempt to generate funds by providing services, consulting or training as their side business. In theory, the profits will fund the product team. The intention is to exit services once product revenue ramps up. However, it rarely works. As the saying goes, *"If you chase two rabbits, both will escape."*

If you have no other choice, then divide the business cleanly. Founders must split responsibilities, and some of them must be committed full-time to the product. Those involved in doing both product work and other roles, must exercise strict discipline to allocate enough hours and resources towards the development.

A better situation is where you build the product indirectly as a paid project for a customer. This can happen if a prospective customer likes your idea and has a pressing need that is not being met by existing products. The client gets a made-to-order application done at discounted cost. You get to validate the concept, refine features based on actual user inputs, make some money, and gain the first customer. You must ensure that IP and source code rights are retained by your company. Get proper legal advice on the agreement terms, since vague IP clauses can jeopardise your company's future.

Sometimes, the reverse may happen, and you may realize an opportunity for a product while doing a client project. You can negotiate to retain the IP and provide a discount. In the case of Kale Consultants, they paid the customer to take back the IP, which later led to their successful airline product.

## Some Aspects of Company Formation

### Partnership, LLP or Private Limited Company

If you are not confident of your product idea, and want to start small, you can first set up a proprietorship (if you are alone) or partnership (multiple founders). You can convert to a private limited company later. Since April 2009, a third alternative of Limited Liability Partnership (LLP) has become available. The accompanying table summarizes the differences.

**Company options: Partnership, LLP and Private Limited**

| | Proprietorship/ Partnership | LLP | Private Limited Company |
|---|---|---|---|
| **Formation** | Easy – 10 days | 3-4 weeks | 3-4 weeks |
| **Minimum share capital** | Nil | Nominal—can be very low | Rs. 1 lac |
| **Initial expenses** | Rs. 5,000 | Rs. 15,000 | Rs. 25,000 |
| **Minimum members** | 1 (proprietorship) or 2 (partnership) | 2 partners + 2 designates | 2 members + 2 Directors |
| **Personal liability of promoters** | Unlimited | Limited | Limited |
| **Separation of ownership and management** | No | No | Yes |
| **Separation of entity and legal entity** | No | Yes | Yes |
| **Winding up** | Easy | Moderately easy | Complex |
| **Conversion possibility** | To LLP or Pvt. Ltd. | None | To LLP |
| **Requirement for Board meetings and AGM** | None | Yes | Yes |
| **Audit procedures** | Few | Some | Lot |
| **Loan to/from partners** | Yes | Yes | No |
| **Tax on profits distributed** | None | | 17% |

Large clients and investors will do business only with private limited companies, and hence it is the preferred long term entity. Until an LLP is allowed to convert to private limited, it should not be considered as an option.

If you plan to start as a partnership and then convert to a private limited, get the proposed company name and internet domain registered anyway. It does not cost much, and you get to retain the same identity even when the structure changes later.

## The Name Matters

Choosing the company name is an important step since it will represent the organization through its life. It is a highly personal choice, but some guidelines may be useful.

Names can represent the broad domain (Business Objects, SalesForce), stand for a quality (Persistent, Cognizant, VERITAS), evoke the product's functionality (Facebook, Twitter, Netscape), relate to a colour, fruit, flower or some noun (Apple, Mimosa, California, Indigo), correspond to a place or landmark (Cisco from San Francisco, EXIT 41), sound techie (Microsoft, Infosys, Tektronix), be derived from initials (HP, IBM, BMC), seem funky or local (Yahoo, Baazee), or

be a variant of the normal spelling (Google—named after Googol meaning a $10^{100}$ which fitted well with their plan to build a very large-scale search engine).

In consumer service space, the portal name and organization's identity are often the same. Examples are SalesForce.com and eBay.com. If the portal came later (like with Carwale.com), or the company has multiple portals, then the organization name is different. Info Edge, for example, owns several successful portals—naukri.com for recruitment, jeevansathi.com for matrimonial, and 99acres.com for real estate.

In the second start-up that I was in, a lot of thought went into deciding on In-Reality Software as the name. The founders wanted something simple, easy to recall, representing the business, yet unusual. The domain had to be available. 'In Reality' reflected the company's emphasis on transparency and openness—being real with clients, employees and vendors. The business model was about providing a 'virtual subsidiary'—that acted as an Indian extension of the client's global product team. The name hinted that we made their 'In'dian subsidiary 'real'.

Here are three tips for your corporate identity:

(a) The name should not be tied too closely to your original idea, since the end product may end up being quite different.

(b) Keep the name crisp (1-3 short words, combined to fit in 10 characters or less) with easy recall value.

(c) Ensure that you can claim the internet domain identity.

The name availability can be verified on the Ministry of Company Affairs (MCA) website. Domain names are harder. Most names based on concatenation of one and two words are taken. The domain may be available if the name is combined with a word separator like '-', or a suffix of 'soft' (for software) or 'tech' (for technologies). Don't use an extension of a domain that belongs to a well known organization even if available (like google-tech.com). Try to reserve all relevant extensions including '.in' (for India), '.com' (for companies), and '.org' (for organization).

## Who Owns How Much

When teaming up, founders have to resolve the equity ratio in the company. If founders are equally capable and expected to make similar contributions, the shareholding should be equal. If someone brings in significantly more experience, and is acknowledged as the key driver behind the business, that person could get proportionately more equity.

Equity is an important way to attract senior talent into early stage companies. Those hired at VP, Director, or CxO level, can get shares as part of the compensation. Their equity can vest over a 1-3 year timeframe subject to continuing employment. Existing shareholding will get diluted proportionately whenever you issue new equity.

Start-ups cannot afford to pay high salaries to employees. An Employee Stock Option Plan (ESOP) can motivate and encourage people to join or stay. ESOP is not yet a common practice in India, especially in smaller companies.

Arvin Babu is a successful Bay area serial entrepreneur and now the India representative for a VC (Greylock Partners). Comparing local entrepreneurs with those in US, Arvin comments that, "A big issue with the Indian start-up ecosystem is the reluctance of founders to share ownership with employees. There is a rigid hierarchy and people are boastful of their individual achievements instead of showing pride in collective results. There is limited camaraderie between owners and employees. The reason cited for not sharing equity is that employees don't value options, and high attrition negates its importance. Repeated magnanimity on the part of entrepreneurs is required to break this vicious cycle."

There are virtually no success stories of Indian product start-ups creating value for employees through stock options. This will change in future, and will lead to employees recognizing the value of options. A good time to roll out ESOP is in the first round of VC funding, during which the entire equity structure gets restructured. VCs usually insist on ESOP being 10-15% of the post-funding equity.

## Case Studies

### (Start-ups—Low and pre-revenue companies)

We look at three start-ups, whose founders have diverse backgrounds ranging from Technology to Finance to Business. The first, (ProFound Technologies) is building a website information explorer product using open source technologies, the second, (VSoft Technologies and Solutions) has a consumer product for personal money management, while the third, (Career Vidya Labs) offers a career platform for MBA students.

None of the three have significant revenue, though VSoft is ahead in terms of a ready product, active sales effort and early revenues. We describe why and how they decided to become entrepreneurs, their highs, and the kind of challenges that they are facing.

### ProFound Technologies: Information Explorer Suite

After working at VERITAS Software (later Symantec) for nearly ten years, they took the hard decision of leaving comfortable jobs for the rough and tumble of start-ups.

Sandeep Chawda is an IITian from Delhi and has worked for a number of companies. His longest stint has been with VERITAS (now Symantec). While

Sandeep managed development of high availability products, his team received extensive inputs on usability from his colleague there—Shashank Deshpande. Shashank is a Mechanical Engineer, with a degree from National Institute of Design, Ahmedabad.

## Running with the Hares and Hunting with the Hounds

In mid 2008, after independently trying to work with other partners, they joined hands to start Clarice Technologies. Clarice is a software services company, specializing in end-to-end Usability and User Interface (UI) Engineering. Simultaneously, they began exploring the positioning and technology options for their product idea in 'findability' space. A separate organization would be set up for this purpose.

Talking about this decision, Sandeep explains, "Having built multiple products at Symantec, we know that it takes lot of time, effort and resources. Angel funding is hard to come by. Despite being aware that managing even one start-up is difficult, we had no option but to take up the daunting task of managing two ventures. Clarice profits would provide the fuel to drive our product start-up, ProFound Technologies."

At ProFound, the third founder, Subhojit Roy, another colleague from Symantec, joined them. Subhojit has a Computer Science background with over 15 years of experience in India and US at companies such as HCL-HP, Brocade, and VERITAS (later acquired by Symantec). Subhojit too had always dreamt of becoming an entrepreneur, prompting him to leave his Symantec job.

The three have distinct personalities. Sandeep is systematic and organized, and has managed large product teams especially for user facing apps. Shashank is highly creative and one of India's most experienced Usability experts. Subhojit is intense, passionate about technology, and eager to get involved with complex problems.

Having been together since 1999, the three of them have an excellent comfort level as working partners. They know each other's strengths and weaknesses, and as a team, they ensure that all bases are covered. Sandeep and Shashank are operationally focused on Clarice, and drive the sales and marketing for both companies. At ProFound, Subhojit completely manages the technical development. Sandeep helps with technical issues and Shashank is designing a functionally vibrant and visually appealing user interface.

## The Problem of Finding Knowledge

ProFound is positioned in the space of information search solutions, but with a major twist. The internet has both volume and rich diversity of information in terms of content, location, structure and format. ProFound's twist is in leveraging specific aspects of data and its usage, to make information more 'findable' for

a specific user community. The company name reflects their vision of 'insightful finding'.

Driven by information overload, there has recently been a paradigm shift in the way people look for solutions on the web. They do not want to search, but want to find. It is becoming critical for websites to understand the true intent of the user, and then present exactly what they want to see, in the most appropriate format. Corporate networks (internal and external) are moving from being information stores to knowledge repositories. Search must transition from giving all available information, to understanding user intent and giving exactly what they want.

The issues faced are highly contextual, and specific tools are required to get what one wants. A generic search engine (Google-like equivalent) is no longer sufficient. The context could be a web portal or an application. The ProFound product will ensure its retrieval and presentation in the correct context, thereby supplying the user with information and not mere data.

Building a findability solution is complex. Even though there are software tools available as free download, it is difficult to put them together to build one's solution. An analogy can be drawn between past maturity of programming technologies and that of search tools today. Previously, classical languages like Fortran required expertise in syntax as well as application of business logic to solve a problem. Today's languages have greatly simplified the syntax issue. Similarly, search today is still in rudimentary stage. There are many nitty-gritty issues and tunable parameters for it to work precisely as required in the customer's environment.

Companies needing specific solutions are forced to hire knowledgeable professionals to get what they want. ProFound's goal is to simplify this customization and deployment process with their product.

## ProFoundly Impacting 'Findability'

Shashank points out "There are three things that any start-up must consider. One is the market and problem to be addressed, the second is the technology to be used, and third, is how to position and price the product to make money. This planning is an evolving process. There are no easy answers and one has to work these things out through diligent effort."

Geographically, they are focused on India. They believe that Indian companies are yet to understand the importance of information search. Industries such as media, education and services (like mobile providers, banks, web based consumer service companies selling cars or insurance etc.), have only crossed the first hump of digitizing their information and putting it up on the web. However, merely having a website (either interactive or static) is not enough. By providing end users the tools to access and use that information effectively, they can ensure faster sales conversion or reduced support costs.

The ProFound solution goes beyond conventional search to provide precise 'findability' and multi-faceted 'knowledge' about products or services being sold. Its technology is a convergence between intelligent search (combining search on databases, unstructured content and CMS'es), integrated ontology engine, visual search navigator, and other value-added features (content analytics, auto complete, etc).

With ProFound, B2B or B2C websites will be able to serve customers better by enabling them to quickly get exactly what they are looking for, along with a wealth of related information that helps them decide. It benefits ProFound's clients because it helps users to decide faster, and they get a level of service, which is not available with the competitors.

Instead of re-inventing the wheel, the trio decided to combine open source search technologies with proprietary IP, and integrate them into the most optimal solution. An intuitive and powerful UI makes for a complete customized package.

## The Challenge of Focus

Sandeep and Subhojit, who take care of the technology part, have developed the first version of ProFound. They are eager to deploy this at customer sites. But they also want to get it right. The product is undergoing scalability testing to work with large volumes of data and concurrent access by hundreds of thousands of users.

ProFound recognizes the importance that sales will play in the success of the company. Therefore, all three founders are reaching out to their network and actively pursuing the leads they are getting.

Shashank feels "The biggest challenges faced by any entrepreneurial venture are focus and funding." They hope to achieve both through their model. Though not recommended by purists, ProFound is supported by revenue from the services company, Clarice. Since the survival of one is dependent on the other, they have learnt to strike a balance in their responsibilities. Success may take long to come, and hence they have crafted this strategy to eliminate the most common cause of failure for start-ups (lack of funds).

They are confident of their direction. Their 'runway' is in place and they expect to 'take off' successfully.

## Not Comfort, but Quiet Satisfaction

The imposing Symantec building, where the three of them worked earlier, is visible from the window of their new office. Here, the UPS sometimes fails, and the recent summer was sweltering without air-conditioning. Yet, none of them regret leaving their high profile and secure jobs. In fact, they have a sense of

accomplishment at the end of each day that is much greater than before. It drives them to face up to the challenges that keep coming their way.

## VSoft Technologies and Solutions: Record and Track Your Finances

Vijay Athavale is the quintessential Chartered and Cost Accountant. He looks scholarly with glasses, answers questions precisely, and is very methodical. He became an entrepreneur immediately after graduation by initiating his CA practice.

Even as he prepared balance sheet and profit-loss statements manually for clients in the 80s, Vijay realized the impact computers would have on conventional financial practices. In 1990, he started learning software programming alongside his CA practice. Very soon, he began taking up software projects in finance space.

Lack of a formal IT background was a significant handicap. It was difficult to manage software development or decide on the right hardware configuration. He could not help when his team was stuck with complex technical issues while developing or testing the software. As a small company catering to local clients, hiring a technically competent team was a challenge. Gradually, he built a small but reasonably experienced team by recruiting software graduates from smaller cities.

His earliest defining moment came with a Finance Account Management project for Gujarat Narmada Fertilizer Company (GNFC). Despite lack of a track record in software development, Vijay got the deal on the basis of his strong domain knowledge. The project was successful and continued to be used for over 10 years. GNFC gave Vijay the confidence that he can be successful in software if he leveraged his financial background.

By 2005, Vijay decided to concentrate on IT services. He set up a new company called VSoft Solutions and Consultancy Private Limited, along with two investors. They got projects to develop custom software apps in financial accounting, asset management and related areas.

### Indian Families Need Vault

Explaining his motivation to build a product, Vijay describes two incidents that occurred in late 2006. "One of my reasonably wealthy clients died in an accident. As is often the case in India, the wife had no information about his bank accounts, lockers and outstanding loans. Soon after, yet another client expired without a clear will, leading to a feud between his children."

Vijay conceptualized a money and wealth management product for individuals, called Vault. His vision is to make Vault into the personal finance tracker

of choice in India. It was developed and launched in late 2008. Vault requires no installation on the PC or laptop, and the application and data is hosted on a USB pen disk drive.

Vijay explains why he chose the pen disk. "Many people advised me to create the product as a web application. However, I knew from my client base, that this won't work. Most Indian salaried individuals don't have a laptop, but have access to separate PCs at work and home. Customers can attach the pen drive, containing Vault to any PC or laptop to enter relevant data. Security is high since data is encrypted, and the pen drive can be removed and kept in a secure place. Most Indians are also quite resistant to keeping financial data online. Finally, reliable broadband access from home and office is also relatively limited."

## The Challenge of Scaling

Vijay has many ideas for the product. Vault is being enhanced with a more scalable architecture to support multiple deployment options (pen drive, PC, web, mobile). Several new features are being introduced. The original engineering team was quite junior, and the next release is being outsourced. VSoft needs to hire a strong technical leader to take charge of future development strategy and execution.

The concept is excellent and addresses a significant market opportunity. And till date, there are no local competitors for Vault. However, there are many players in related areas. This space will become very competitive soon. Reaching millions of consumers requires deep pockets for building a brand and establishing market leadership.

Since the unit price is relatively low, sales volume has to be large just to cover ongoing development and support costs. VSoft needs to sell at least 200 copies monthly to cover expenses, and 500 to accelerate development and sales. Several thousand copies per month will enable a more aggressive marketing campaign. Market leadership is possible only after VSoft is shipping tens of thousands of copies monthly.

In early 2009, VSoft received angel funding from a group of India and US based investors called India Innovation Investors (I3). This money will fund a year's effort in developing the next two versions and expanding the sales network.

VC funding is critical to VSoft's future. To qualify, the VSoft management team has to be strengthened with strong technical and sales leadership. The business plan must define the strategy for brand-building and staying ahead of competition that is likely to emerge in this lucrative space.

## Vaulting Ambition

Though the first product is ready and sales are picking up, the big challenges are still ahead. Vijay is putting in his best efforts and is trying a number of

innovative approaches to achieve his company's vision. Dealers are being signed in Western India, the LIC agent network is being explored, negotiations with large financial institutions are being initiated, and the required marketing collateral is being created. Vijay's accounting brain is constantly at work, doing the math for investment required and expected versus actual returns.

Unlike the dark 'vault'ing ambition of Shakespeare's Macbeth saga, Vijay's objective is pure and ambitious—build India's most successful personal money tracking solution.

## Career Vidya Labs: From Wall Street to Career Guidance

Manohar Kamath became an entrepreneur in his college days in late 1980s. His first startup was in what is now called 'Event Management'. He organized rock concerts, fashion shows, music competitions and similar events. After graduation, he went to the US for an MBA and later joined a top Wall Street company, Lehman Brothers, as an investment banker. After two years, he moved to EnergyWorks, a Washington DC based company doing green power projects. Manohar recruited and set up global teams for projects in Latin America and Asia.

### Swades—Contributing to India through Education

Returning to India in late 90s, Manohar took several months off to travel all over India. He observes, "I saw the country through a brand new perspective, and understood how resilient our people are. I was really happy to be back, and wanted to make a difference. I decided to contribute in the field of education, and with my MBA background, began teaching in business schools."

With his rich and diverse work experience, many students began approaching him for career advice. He also started consulting with companies who recruited from business schools.

The other founder, Aditya Athalye, joined Ideas to Venture (I2V) immediately after completing his MBA. I2V was a small venture consulting firm based out of Pune. Aditya had consciously avoided being part of the campus placement process since he wanted to work in a small firm, and with good people (who have now become close friends).

Manohar was a partner at I2V and both got along excellently. Soon, they left I2V and founded Career Vidya Labs with the initial objective of providing management consulting to business schools and companies. By early 2008, they came up with the concept of an online platform, which provided 'Research and Tools to match Talent and Opportunity'. They re-defined their vision for the company as becoming the 'Career Partner' for Indian graduates.

What led to this idea? Aditya being a recent engineering and MBA graduate had personally experienced the career confusion amongst his peer students. He

talks about how, "my friends selected jobs based on myths, hearsay, or parental/peer pressure and very rarely on sound research and mutual fit." Manohar, with his stint on Wall Street and business in USA, had a large number of students approaching him for career guidance. He too sensed a huge gap between perceptions and the realities of the job market, especially amongst students coming from second tier cities. The problem is very pronounced in India for two reasons. One is the complete lack of career counseling in schools and colleges, unlike in Western countries. Secondly, there has been a huge shift in the Indian economy recently, and parents too are unaware of the rapidly changing job profiles and opportunities.

## From Vision to Hard Reality

The company vision is very broad. As they got down to brass tacks, time and money constraints forced them to narrow their focus to business schools. MBA students are confused about which major to take, what kind of job to opt for and how one's capabilities match up to the various opportunities. Through their experiential insight, the two decided on a platform and tools to close the gap between corporate expectations and education being provided.

How does Career Vidya stack up on the success factors? The idea is compelling and their domain expertise is strong. Education is a relatively hot sector with many players in adjacent space. They need to ramp up and capture significant market share quickly.

Both founders have domain expertise. Manohar is more of an evangelist. Aditya is hands-on and translates Manohar's vision into actionable product requirements. Their recent partner, Dantus Joseph, brings technical depth. He manages the software development, which has been outsourced.

Manohar describes the excitement of signing his first customer, "We always thought that the Career Vidya portal will be of most value to aspiring MBA schools (outside of the top 20). We were pleasantly surprised at getting an early opportunity to present to one of the top 5 MBA schools, and really excited when they signed on as the first client just on the basis of our product concept."

By mid 2009, Career Vidya had signed several other business schools. They have also been fortunate to receive angel funding through a band of Pune based IIT Bombay angels, who call themselves as Pune Innovation Investors ($PI^2$).

Corporates are also a potential source of revenue. The Career Vidya portal lets corporates access a large MBA student pool spread across the country. They can conduct online tests, and short list students based on various criteria (colleges, grades, test scores, location preference, previous experience etc.).

## Crunch Time

Major challenges loom. With a number of product ideas yet to be implemented, it is necessary to ramp up the development team and have a full-time technical lead. Though they hired two MBA students to drive sales, they can only open up new leads. The actual sales pitch and deal closure requires Manohar's personal involvement.

Funding is a major concern. $PI^2$ funding has been exhausted, and revenue does not meet the monthly burn rate of Rs. 2 lacs per month, which needs to increase further to accelerate engineering and sales effort.

The good news is that, as they sign up more MBA schools, the sales cycle time is reducing. In the current economic climate, companies are hiring fewer MBAs. They want new channels to hire the numbers they need, at least cost. The Career Vidya portal provides them with an efficient option.

A big setback has been Aditya's decision to take on more of an advisory role, because of the financial crunch and some personal pressures.

In short, these are interesting times for Manohar and Career Vidya.

# 4

# The First Mile: Forming the Team and Signing Up Clients

## (Early stage companies and upstarts— Rs. 2–20 crores revenue)

*"The vision must be followed by the venture. It is not enough to stare up the steps— we must step up the stairs."*

*— Vance Havner*

### Struggling Start-ups to Potential Upstarts

The starting gun is fired. Those who have decided to join the marathon are off and running. The body and mind is fresh, and the spirit is exhilarated at having started. The initial pace is slow, but marathoners are slowly getting used to the conditions and other competitors. As the race progresses, those who joined without much training, soon realize that this is very different from a brisk walk in the park. Others are laid low by problems like body cramps. These runners begin to fall behind and eventually drop off. The stronger competitors get into the 'zone', where their legs keep moving in a steady trot, and the mind is unaffected by the physical labour.

Start-ups are no different. Entrepreneurs begin with great enthusiasm and energy. Services companies have relatively more control over how they pace themselves in the first mile. They can adopt a 'spend as you grow' approach. For example, I have written about how my first company, Frontier Software, began operations with a signed project from day one. With assured funds, we hired engineers and rented a small office. Payment was monthly, and it was based on

number of people providing services. Initial investment was low, and monthly client payments were sufficient to cover expenses and generate some profit. With some sales effort, we acquired more customers and expanded the team. A virtuous circle of profits and sales led to steady growth. The company was profitable and cash flow positive from the beginning. Being new to business, and averse to borrowing funds, growth was limited by whatever we could afford. It took Frontier Software ten years (1989–99) to ramp to 100 engineers.

In the second innings at In-Reality Software, we scaled to 140 engineers in just fourteen months after signing the first client in May 2003. In-Reality was in outsourced product development (OPD) services space. Like Frontier, the company was always profitable. However, exponential growth created heavy demand for capital. We had to quickly scale facilities, IT infrastructure and people to meet project needs. Forsaking the option of slowing growth, we arranged for loans and eventually merged with Symphony Services Inc. to maintain the momentum.

Life for product entrepreneurs is usually more difficult. They face a steep incline, right at the start. Significant upfront investment is required before any revenue can be expected. They must build infrastructure, hire engineers and other staff, and build the right product. Even after that is done, nobody wants to be the first to buy a new and an untested product. Initial deployments may have to be free or at a discounted price. If the product has quality issues or does not meet the needs of clients, it may require significant re-engineering. It is therefore not surprising that approximately three out of every four technology companies fail in this initial phase.

The first mile can be said to have been reached when there is a released product, few crores in revenue, and reasonable clients list. Only a few start-ups get there quickly. This usually happens if they are led by competent founders and have a strong team. Their product must also provide innovative solutions in the target market. The established competitors, meanwhile, take notice as they begin to lose some deals to them. We can call such high-growth ventures that are beginning to challenge the established order, as 'upstarts'. In the US, it may take five or ten times more revenue than just Rs. 20 crores ($4 million) for a company to be considered as a challenger. But India has a much smaller market, and such companies will stand out.

## The Only Constant is Change

TIME magazine recently profiled a Chinese entrepreneur, Jack Ma, in their 2009 global list of influential business people. Jack is the founder and CEO of China's largest B2B online marketplace (Alibaba.com) and biggest consumer auction website (Taobao.com). Explaining his success, Jack says that he handled initial difficulties by being flexible. He adds that "There were three reasons why we survived. We had no money, no technology and no plan."

We should take this with a pinch of salt. After becoming successful, founders may find their starting vision and financial status as so insignificant that it is as good as being non-existent. This happens because most companies end up being very different from what was first envisaged.

Jack's comment about flexibility is spot on. Founders must adapt a product roadmap and sales strategies quickly in response to the feedback from their early clients. They should not hesitate to take sharp turns or morph into a completely different company, driven either by opportunity or just to survive.

For example, at my first start-up, Frontier Software, we transitioned through three different business models before settling into our long term growth path.

### Settling on Frontier Software's Services Model

In 1988, we began operations as a subsidiary engineering team of Frontier US (which later became Netscout Systems). To fund product development, Netscout signed consulting assignments with US companies. Frontier hired the required engineers in India and sent them to client site. The onsite team peaked at 12 engineers in 1992. However, we soon discontinued onsite work. The 'body-shopping' business was not appealing because it created no lasting value.

In 1990, we signed projects with Indian companies such as L&T and Godrej. The initial work was a combination of hardware and software development. It was soon clear that the infrastructure available in India for hardware R&D was poor. Importing fabricated boards and components was expensive and difficult, and it required tons of customs paperwork. We soon switched to a pure software projects.

The year 1992 was a breakthrough one as we signed our first US client (excluding Netscout). Outsourcing product development to India was rare. The opportunity came through a management consultant, Dr. Prakash Hebalkar, who was the ex-president of Tata Unisys. He introduced us to a small US start-up called VERITAS Software. We signed a deal to port their Volume Manager and File system products to the just released Solaris operating system. The VERITAS breakthrough, and subsequent successful relationship, gave us high credibility. Other US clients followed, mostly from Boston (where Netscout was located and which acted as our US base) and Bay area (US technology hub).

The Indian projects were technically challenging and provided a wonderful platform to train newly hired engineers, who could later transition to US projects. However, they were not very profitable. By 1995, with US business picking up momentum and to avail of 100% tax exemption for exports, we discontinued working with the local companies.

It had taken us seven years to stabilize on our mission of building products for global companies. Frontier Software was amongst the earliest players in what is now termed as 'outsourced product development' (OPD).

We were lucky in having revenue growth and positive cash flow, even though we kept switching from one business model to another. This is possible in services, but not for a product business.

### Product Companies must Manage Change Better

Product ventures have more at stake in managing change effectively since their revenue comes much after the initial investment. In early days, entrepreneurs are simultaneously building their product, learning about the market, getting to know who their competitors are, and receiving all kinds of conflicting feedback from prospects and investors.

In my previous services companies, I remember getting frustrated by frequent changes in product specifications, especially when working with US start-ups. Clients too would sometimes get upset with deliverables from India teams, which met documented requirements, but not the many implied but un-stated ones. At nFactorial Software, in mentoring Indian product companies, we are on the other side of the fence. At these companies, we too are forced to make frequent changes to the requirements in response to market inputs.

Start-ups must have a plan and execute to the best of their capabilities. Equally, they should seek feedback and use their judgment to make the right adjustments. John Lennon once said that, 'Life is what happens to you while you're busy making plans'. Similarly, a product is what gets built while its requirements are getting frozen.

Companies in their early stages must get the following in order:

- Building the product right
- Early sales
- Funding

## Success Factor 1: Building the Product Right

### The First Release

The foundation of a product company is in its IP. An idea is only as good as its implementation.

Start-ups face twin pressures of building the right product and doing it in time. The broad contours of the product may be quite clear, but specific features change shape regularly. Things happen simultaneously. While the product is being built, it's being pitched to prospects, advisors and investors. Based on this learning, entrepreneurs keep tweaking or adding features. There is urgency to build an early prototype for demo purposes. At the same time, everyone's end objective is a high quality product that is released quickly to generate revenue.

With time-to-market and funding issues, start-ups often take short cuts. Repeated changes in functionality are disruptive. This leads to a defective implementation, requiring substantial revisions or a complete change. Such modifications can ultimately prove too expensive.

There is no easy prescription to manage this problem, and we will limit ourselves to a few basic suggestions.

Set up a product management team, consisting of the founders and key architects. The team must spend sufficient time upfront to define key requirements, high level product features and design. A common problem is the tendency to over-design a product. Engineers fall into the trap of 'feature creep' in which they attempt to include too much functionality because it is technically exciting. Meetings with prospects and experts lead to demands for new features, and changes to existing ones. Set up a process to register and approve all change requests only through formal review meetings. Limit the scope of the initial release to those features that are critical to sales.

Start-ups should adopt the agile development model, consisting of a series of intermediate releases spaced by a few weeks. Each must have incrementally more features that are fully functional. This enables testing of completed features, in parallel with ongoing development of new ones. Being able to play with intermediate versions brings about confidence that the final release will be on time and to the desired quality.

Other than for embedded products, the user interface (UI) is a critical element of the product. It is also the most neglected. Defining and implementing the UI upfront is the best way for everyone to understand exactly what the product can do and how it will look. A good UI speaks louder than the most detailed requirements document.

Your initial selling will rely on screen mock-ups. This can be followed by UI-only demo version, which is invaluable in showcasing the solution to prospective clients and to the investors. User feedback helps refine the product, while it is being developed. This will help it meet the user expectations.

Relying so much on UI means that it should have the highest priority. Engineering teams are not good at UI, but still end up doing it themselves. At most, they get visual designers who help with screen layout and style-sheets. However, what you really need is a Usability expert as consultant. His job is to understand how customers will interact with the product, and conceptualize screens and navigation, to ensure it's user-friendly.

## Future Releases

Early releases will be used for demos and limited sales. Your first clients will probably demand more features and customizations. Customers, who are convinced by the overall vision of the new product, will be willing to start with a release that has key functionality. They will wait for less critical features, if you

promise them in a reasonable time. Therefore, the next few releases would be a follow-up for initial clients.

As more customers sign up, the situation starts getting more complicated. Enterprise products often need client specific customization. Even web and consumer products are not immune, as early market feedback will drive new features. Different versions of the code base will exist. When a client has a problem, its reproduction and resolution may require a copy of the source base used for that specific release. At the same time, engineering will be working on a new release with a fresh source code tree. The same engineers may switch between latest release and fixing customer problems, leading to delays and quality issues.

Future product roadmap can also get pulled in different directions. There are chances that new and sometimes conflicting inputs on product enhancements, could emerge from customers, sales, advisors and potential investors.

For SaaS products, the scenario for successive releases is radically different[8]. Since the product does not ship to customers, but is hosted by the vendor, installing and managing upgrades is not at all complex. Users too have expectations of continuous improvements and new features. Subscription or ad-based free models mean that your customers have less incentive to stick with you, and can easily migrate to another vendor who could be offering more advanced features. In social apps, people have migrated from Friendster to MySpace to Facebook in a space of few years.

One advantage with SaaS is that you have continuous access to all the customers. In addition to their specific improvement requests, you can profile application usage and identify areas that are more in demand or where performance is a bottleneck. This becomes a ready input for your product roadmap.

An agile programming model that allows rapid incremental improvements, bug fixes, and new features, is usually the norm for SaaS products. With continuous upgrade of services, the concept of versions or point releases vanishes. While enhancements in the services will be welcomed, you have to guard against disruptive changes that can upset users. Facebook has on occasion, faced flak from users when it changed the UI or policies, and had to either back-track or issue a clarification to ride out the storm.

For content portals, the emphasis is on garnering maximum number of visitors. The portal should have features, which entices users to return, and must keep evolving. Besides viral marketing, such apps can get visibility by plugging into social networks like Facebook, MySpace, LinkedIn, Orkut, and personalized home pages such as iGoogle. Google has developed a common OpenSocial platform with standard APIs to enable uniform connectivity into these sites.

## Structured Engineering Approach

Engineering soon gets overloaded by the twin demands—release deadlines and timely defect fixing for the existing customers. Important housekeeping tasks

such as maintaining various release trees and branches, taking and verifying source code backups (on premise and at an external location), get short shrift, only to cause grief when something goes wrong.

Client escalations, if not formalized, can swamp engineering. In small companies, since one of the founders will have been involved in most sales, clients will directly call the senior person and want their problems to be addressed immediately.

Engineering must become more structured, as the company scales. Development tools for proper source code control, defect tracking and customer support must be deployed, and their proper usage should be mandated and tracked. Specialized teams should be formed for key activities. A core product team can work on the next release, while a technical support group can be established to handle defects and escalations from customers. A solutions team can provide support to sales for configuration and customization at new client site. Finally, a documentation cell for preparing user manual, installation guide, online help, and sales and marketing collateral, is also required.

## High Quality Engineering Team

*"Do you want a collection of brilliant minds or a brilliant collection of minds?"*
*— R. Meredith Belbin*

Good ideas become great products with the right engineering team. It starts with the technical leadership. Initially, this might have one or more founders. A larger company may have a Director or VP of Engineering responsible for product development activities.

Smart engineers being what they are, they only look up to someone who is like a 'God' for them. This means the engineering head has to be knowledgeable about the product and technologies, a highly capable software architect, innovative, adept at resolving low level technical problems and good at motivating people. In a bigger company, the person will be less hands-on and more experienced at managing people (engineers, clients, company management) and logistics of product development.

Like an orchestra that requires a mix of instruments, the team should have the right combination of engineers. In the beginning, the ideal combination is a product architect and designer and a team of mid-level and junior engineers with required skills, high aptitude and right attitude.

The composition will change as the company evolves. Start-ups first need innovative, experienced and independent developers. Then, one adds people who are good at getting detailed work done with some supervision. Later, junior developers and those with different skills such as testers and support engineers are required.

Teams need a few smart 'techies' who are great at conceptualizing new ideas, implementing them the first time, and resolving complex problems that may

come up. But you should not have too many of them as they get bored easily. The rest should have solid temperaments, and be good at systematically executing assigned tasks to high quality. The high performers of both kinds, innovative or solid, have to be nurtured. This should not be at the expense of others, since ultimately it is teams that win games.

The test of a great team is a sense of common purpose combined with healthy respect for diversity, and the ultimate reward is a winning product.

### Growing the Engineering Team at VERITAS India

I faced the challenge of building a strong engineering organization after the acquisition of my first company (Frontier Software). In February 1999, I became responsible for VERITAS Software's India subsidiary. VERITAS in US had grown rapidly to $200 million, 2000 employees and many products. However, the India team consisted of 40 engineers in 2-3 teams, which was relatively insignificant in overall numbers. I was assigned the task of transforming the Pune subsidiary into an integral part of the global organization within three years.

VERITAS was in the technically challenging niche space of storage software. The India subsidiary had been looking for senior engineers with domain expertise in storage and strong technical skills in Unix systems. These skills were hard to find, and hence the team had grown slowly. The task was relatively easier for other products such as data protection, which needed expertise in Windows and Unix middleware, UI development, Java and C++. All teams wanted test/QA and automation engineers. Finally, experienced engineering managers were critical for the new product teams.

In India, it was very difficult to find experienced engineers with a product background and who were still technically strong. The Indian software services industry was growing at phenomenal rate, and computer science graduates with experience were in short supply. Companies encouraged technical people to become project managers after 3-5 years of experience. This in turn led to a belief that the career growth required transitioning from technology to management. This was fine for services, but exactly the opposite of what product companies needed.

In this scenario, we adopted a pyramid-style staffing approach. To create the foundation, we went to the IITs, IISc, BITS Pilani and top 5 engineering colleges in Pune. We pulled out all stops to ensure that we were among the first 3 companies to be invited for campus interviews, so that we could hire the best graduates. VERITAS was not well known in India, so we made presentations highlighting the remarkable growth and technical achievements of the company. Each campus was visited by ex-students and few senior managers. We offered attractive salaries and stock options. At the IITs we focused on M-Tech (Computer Science) students. They were temperamentally more mature, some had previous work experience and, unlike the B-Techs, did not aspire to go abroad.

Our tests were difficult and interviews were rigorous. This created a 'techie' image for the company, and the best candidates wanted to get in. We recruited over 75 engineers each year, for 3 years in a row (2000-02).

The middle layer, which required senior engineers, took the longest time. Initially, it was filled with lateral promotions from existing teams, and selective outside recruitment. VERITAS' growing reputation as the fastest growing global technology enterprise, and our relatively high compensation, helped us cherry-pick some good talent from all over India. Over time, many of the outstanding M-Tech campus hires grew into the senior and lead engineer roles.

The top of the pyramid required engineering managers. The criteria were 12+ years of experience at product companies, strong technical skills, high emotional maturity, and good people management capabilities. We did not insist on storage or systems expertise.

This strategy of relying heavily on campus hires had significant risks, and was questioned by many. To make it work, we promoted the concept of 'each one, mentor one'. Experienced engineers guided one or two freshers besides managing their own work. It demanded extra effort from the seniors, but they delivered. By late 2001, most of the campus recruits had become star contributors, delivering value far in excess of what we had anticipated.

Many had also raised their eyebrows, when we decided to hire managers with no storage or systems background. But, they too were excelling in managing delivery, communication with US, and maintaining high performance and motivation within their teams.

In four years, the India subsidiary had become strategic to the company, with nearly 500 employees in 16 product teams, representing 22% of worldwide engineering. At a company meeting, the CEO commented on VERITAS Pune as an outstanding engineering location, which created a competitive advantage for the company. On campuses and in the Pune IT community, we were widely considered to be the preferred employer.

### Smart Strategies at Small Companies

You don't have to be a well-known or a high paying company, to get the best talent. The pyramid approach is also valid for small product companies. You need great product architects and people managers at the top, few competent technical leads in the middle, and a talented pool of engineer with 0-3 years of experience. The ratio between levels should be around 1: 6.

Bulk of the hiring in India is still for services companies. But the product culture is beginning to seep into the psyche of software professionals. The most coveted jobs are at subsidiaries of global product organizations. The younger generation is also willing to join small Indian product ventures because they know that the work there is often more exciting than at large services firms.

A career food chain exists, with engineers preferring well-known companies. A product venture will find it easy to hire engineers from those lower in the food

chain—smaller companies (product or services). Hiring from large services firms is also feasible with more and more professionals aspiring to do something more creative than an endless series of IT projects.

Indian product companies can also bring in capable senior talent from global product subsidiaries, where they often face a glass ceiling effect. At captives, as 100% subsidiaries are called, most high level product roadmap and architecture decisions are taken at headquarters. The teams in India are responsible for implementation. This gap is partly because India teams lack access to, and the knowledge of, customer requirements. Hence the top talent there is itching for greater empowerment and opportunity to shape a complete product. Salaries at multinational subsidiaries are quite high. But some seniors may be willing to take pay cuts and join for a reasonable combination of salary and equity.

Like with customers, you must market your company to prospective hires. Komli has done a good job at this. The founders themselves are very accomplished, with degrees from Harvard University and IIT. Later they were joined by the former CFO of eBay India. As part of the hiring effort and branding, Komli organized an Algorithm writing contest ('AlgoGod'). This created good publicity, especially in the IITs, from where they hired eight engineers in their first year (2007). Their employee policies are generous, including unlimited vacation (they trust their employees to know when they need a break), health coverage, and stock options.

## Platforms and Verticals—What to Build on and for Whom

An important decision is about development and deployment platforms. If your product is targeted for a specific operating system, the choice is obvious. When the solution has to be platform-neutral, or if the deployment will be controlled by you (SaaS model), then the common options are Open Source (Linux) and Java or Microsoft Windows. Always keep in mind the Total Cost of Ownership (TCO) for the customer.

Open source in theory benefits from the availability of a huge number of re-usable components and tools contributed by an army of individual programmers. While open source is technically free, limited support and inter-operability between different open source products may lead to higher cost of development and support.

Microsoft now offers free development tools to start-ups for 3 years under their BizSpark program, but licensing cost of servers and other software for product deployment, may be high.

Other issues may impact platform choice. An implementation which is tightly integrated with specific platform features and interfaces will limit your ability to go cross-platform. Conversely, leveraging the tight integration and inter-operability of various servers on a specific OS can substantially increase the product's value and ease of use.

Web 2.0 ventures and CIOs have new options to develop applications with minimal investment. Salesforce.com is promoting the platform-as-a-service (PaaS) concept, which it says represents the start of Web 3.0. Called Force.com, it enables companies to build and deploy enterprise applications on-demand without having their own infrastructure. Core business applications, such as enterprise resource planning (ERP), human resource management (HRM) and supply chain management (SCM), can be developed in just 5-10% of the time that is normally required for custom development, and deployed almost instantly.

Your OS decision should be driven by business potential. If a specific platform dominates or is acceptable to a majority of your potential buyers, then opt for it. Spend your engineering bandwidth on providing maximum compatibility and inter-operability with other applications on this OS, to improve total value to clients.

## IP Protection and Legal Documents

It is vital for a product company to protect its IP. Access to a legal consultant is required, who understands IP issues and can draft inter-company agreements. All employees, contractors and consultants must sign an Employee Confidentiality and Non-Disclosure Agreement. Proper infrastructure and guidelines should be put in place to avoid leakage of confidential information outside the company, accidentally or deliberately, on paper or electronically. Employees should be briefed on IP issues and precautions to be followed, especially with regard to any material being taken in and out of the company, as well as sending emails to anyone outside. Source code must have copyright statement in the header and any use of open source or code brought in from any other company should be strictly forbidden. Anti-virus software should be mandatory on all computers. Laptops and home PCs should have additional restrictions. Automated daily and weekly backup, along with on-premise and off-premise secure storage of weekly data, must be provided. Backups should be verified occasionally to ensure that complete restoration and restart of operation is indeed possible in case of any mishap.

Before sharing any design and implementation details with a potential OEM partner, VAR, supplier or client, you must require them to sign an NDA. Any formal agreement must be vetted by the legal consultant especially with regard to IP and liability issues.

A product licensing agreement should be included as a printed document or for online acceptance by the user at registration time. It should define the terms and conditions of usage and exclusion or limitation of company's liability resulting from its use. A refund policy in case user wants to cancel his order should also be defined.

SaaS is different from conventional 'on-premise' software since the customer sees only the service delivered via internet, and do not get the underlying software. SaaS providers charge for their service based on usage. As a vendor, you are responsible for infrastructure provisioning, security, and data storage and back up. You have to be careful to limit your liability related to any loss suffered by clients resulting from any downtime, loss of data or improper service. If your product collects users' personal data, a privacy policy regarding confidentiality of such information and limitation of liability for any non-compliance, has to be specified. Websites that allow users to contribute opinions must have audit and other mechanisms to protect themselves from postings that can be deemed as offensive, or even illegal. When users register for the service, they must acknowledge and sign a licensing agreement that covers these aspects.

## Success Factor 2: Early Sales

### Why will Someone Pay to Buy Your Product?

In this section, we discuss ways and means to reach out to prospective clients, position the product, license and price it. However, the question that founders must ask and answer convincingly to themselves is the one posed above. When doing this, they must think like a buyer and question every assumption about the product's value.

There are actually three parts to the question:

- Who is that 'someone' who may be interested in your product?
- What is in it for them that they will be willing to pay?
- How much will they pay?

Once this is clear at least at a high level, everything else will begin to fall into place. The answers will become more precise as the business grows, and they may also change with competition and shifting circumstances. That is why you must return to this basic query frequently.

### Spider's Web of Contacts

In early stages, founders do all the selling. They must talk to their target customer base early, with initial intent being to validate the product concept. Reach out through your contacts (past employers, family and friends) to those who can provide useful inputs. They in turn can introduce you to others. Set up meetings with thought leaders, but make sure you have a proper meeting agenda.

Attend related conferences and industry meets, which present great opportunities to strike up discussions with people in the same field, ranging from CEOs to sales or technical staff. You get to meet many of them in one go. At these forums, even senior executives have time to talk.

One has to learn how to get introduced to people and make an impact. Anand Deshpande, CEO of Persistent Systems, describes his approach, "Since I travel a lot, I meet many people at airports and on flights. I usually try to initiate some kind of a dialogue, exchange cards and have a short conversation. Airport encounters are not conducive to making fancy power-point presentations, so the positive impression has to be generated through something you said or your personality. The conversation has to be two way, and the person should gain something from you. It could be some information, useful tips, advice or an interesting observation."

Anand also emphasizes the important of generating interest and then building trust. He notes that, "The biggest challenge for an entrepreneur is in getting people to meet you. That can happen through a reference from a mutual contact or your credentials (the academic and software community is closely knit). People are more approachable at events like technical conferences because they see you as a colleague. They are also more receptive if you have a really compelling product or service to offer. People give work only when they trust you and if the timing is right. Once you get clients, you must take care not to let them down. Trust eventually goes beyond individuals and becomes a brand for the service or product."

Take every opportunity to build a 'web of contacts'. The web is woven from the inside out, expanding as you meet more people. Some of them may become future clients, advisors, partners or maybe even investors. Once you have a satisfied customer, get them to recommend at least two other industry contacts.

Since your 'n' contacts can potentially refer you to 'n' more, this web can grow exponentially (square of n) over time if it is managed well.

Some entrepreneurs are very good at networking and take every opportunity to get introduced to people. They follow up on meetings by sending a discussion summary, or just a thank you note. Key contacts get regular emails with significant updates, like a new website, press coverage, or major client win. This communication should not be too frequent to a point where it becomes a nuisance.

Surprisingly, there are many founders who don't keep time commitments, and are poor at responding to e-mails or maintaining contact. Some respond selectively, only to those whom they think will be of value to them.

It is important to be gracious in business. Someone's ability to help is often a matter of timing. It may be weeks, months or even years before something materializes from a discussion that you had. If you are in regular touch, your time will come.

A venture is said to be in stealth mode while the product is being conceptualized or developed. In those early days, you should be careful to avoid divulging information to anyone who can become a potential competitor. If you plan to get into detailed implementation and technical discussions with anyone other than investors and prospects, don't hesitate to ask them to sign a Non-Disclosure Agreement (NDA).

Write down and then practice an 'elevator pitch' about your product and company. 'Elevator pitch' is a US reference to being able to communicate your product concept crisply to a prospect in the same elevator, in the short time between floors. There will be many opportunities, where you will have just those few minutes. So, learn how to distil your product objectives and value in a few sentences.

## Anchor Customers

The first few customers are hard to get. There is a temptation to sign up anyone willing to pay. However, you must take a long term view and instead focus on signing the right clients. Approach users and companies that best represent your target audience—let's refer to them as 'anchor customers'. An ideal anchor is someone whose name will provide confidence to future prospects, and whose acceptance of your product establishes your technology leadership.

Anchors may sign up because they are risk-takers, or they have a pressing business need, which your solution can address. Remember that they are investing in you by taking the risk of signing on for an untested product from an unknown company. They will spend time and resources on deploying your software and surviving the inevitable teething problems.

You can acknowledge their support by being flexible on the pricing. At that point, you probably wouldn't have decided on the price. For instance, offer to waive license fee for the first 6 months. Say that you will quote them the list price that you will charge other customers, and will let the anchor decide their price.

## Anchors as Investors

If you get lucky, the anchor may be convinced that your product can deliver real value, and will support you all the way. They may even pay your full fees, but ask for extensive customization. Some anchors may even want to invest in your company. This can happen with large companies who see the potential for significant financial benefits from your product, either through internal deployment, or because it fits into their strategic roadmap in some way.

Both are good situations to be in, but you must assess the following:

- Weigh the benefit of customization for an early client against the potential delay to the main product.
- Product and source code ownership must be retained unambiguously by your company.
- Any angel investment proposal should be evaluated on its merits. Do not trade equity just because you are getting a major customer. Their investment may limit your market by turning off the anchor's competitors.

## Product Positioning

To position the product, you must first have clarity on the addressable market and its breakdown in terms of different industries or user communities (let's call both of them as 'verticals' for simplicity). Then analyze which of them can benefit the most from your product, where your maximum contacts are, and which has the least competition.

You can accordingly initiate preliminary sales efforts with well-known contacts in verticals that appear to have the best potential. Initial sales in a start-up are opportunistic—you take the business that you get. Yet, over time, you can only gain by firming up your target client base and tailoring your product to them.

Product positioning and sales strategy must be approached the way an army fights a war. It may not be easily apparent which verticals to focus on. In similar situations, armies launch probing attacks to detect weak lines of defence, before deciding on the exact battle plan. Founders can test the market with different customers, who would help them to develop insight into which industries, user communities or geographies have the best potential.

Once weak links are identified, choose initial battles to be on your terms. In the 1971 war, the Indian army avoided enemy troops that were concentrated in cities in East Bengal. They quickly captured the countryside, surrounded the towns, until the enemy surrendered. Similarly, a start-up must spend its limited sales budget to target the right customers.

Positioning and sales are influenced by different factors, some of which are listed below:

- **Target Market**
  - Your product may have the potential to solve similar set of problems for different verticals. However, limited finances will stop you from addressing all of them. Focusing on one or two verticals can result in a more specific solution, thereby increasing total value delivered by the product. This improves the probability of converting opportunities to sales.
  - The best target segments are not necessarily the obvious ones. For example, a vertical may be large but should be ruled out if it has entrenched competitors, less appetite for IT products, remote location etc.
  - Conduct some research by talking to potential clients in various verticals, industry experts and reviewing market surveys.
  - Sometimes, you may simply stumble on the right vertical. Initial clients provide the momentum and knowledge base related to a particular industry segment.

- **Delivery Model**
  - Sales strategy depends on the kind of product: enterprise software for companies, consumer software, web downloads, hosted solution (SaaS) with subscription fee, or an ad-based 'free' web portal.
  - Your product may support more than one delivery model. Thus, vendors may target big companies with full-blown enterprise software, while providing a SaaS version for SMBs. Many companies offer a free downloadable 'lite' version of the product, which can be upgraded to a paid full version. A free website may charge a subscription fee for advanced capabilities or special content.

- **Initial Support**
  - Does your product work out of the box with almost no support? Or does it need some customization and training? Is the product serving an obvious need, or does it require substantial education before a client decides to buy the product? The answers will influence the sales model.

- **Geography**
  - Is your product specific to India or global in scope? Even if global, do you plan to sell in India first? Does your city and region have sufficient opportunities to sell the product?
  - Except with SaaS, targeting and supporting customers outside India can be very expensive. It is best to follow an 'expanding universe' model, where initial focus is in your immediate area, followed by proximate locations, and then a global market.

Product positioning is closely tied to licensing model and pricing. We will consider each one individually.

## Product Licensing

Product licensing and pricing are inter-dependent and driven by three partially conflicting requirements:

(i) Ensuring highest price for maximising revenue
(ii) Enabling high conversion rate of prospects to paying customers (which means low entry level pricing if cost is an issue)
(iii) Getting recurring annual revenue from existing clients

### Permanent License

Software has traditionally been sold like any other product—you make a one-time payment for a permanent license. Technical support and updates (to fix defects and provide additional functionality) are provided at no additional cost

for one year. Thereafter, vendors usually charge an Annual Maintenance Contract (AMC) fee, for ongoing support and continuing updates. The AMC fee is typically 14-21% of the product list price, depending on level of support offered and whether upgrades are included.

Permanent license is common while selling enterprise software, web downloads and consumer products distributed on physical media.

For desktop software, each license is usually restricted to a single-user. After installation, the user must register with the vendor to obtain a 'key'. This key activates the product on the installed computer, and cannot be re-used on any other system.

With client-server software, the permanent license is installed on one server, and available for use by multiple users (clients). The license may limit the maximum number of users.

You can offer the product on free-trial basis for a limited time, after which the user must pay for a permanent license.

You can also bundle functionality in tiered versions: 'Lite', which contains basic functionality at a low price or even free, 'Standard', which is the core product positioned for majority of clients, and 'Premium', which is full-featured.

These options enable you to offer a range of pricing: low entry level pricing with restriction on features or number of users, and higher payments for full-featured product or larger number of users.

### Subscription Licensing

A subscription license is for a fixed time interval and must be renewed periodically (typically each year). SaaS and subscription are often confused with each other. SaaS is a deployment method, while subscription is a pricing model. SaaS products usually charge a subscription fee, but subscription can also be used for enterprise software.

From a customer's perspective, subscription involves less up-front cost but with annual renewal payment. For the vendor, there is less revenue in the first year, but recurring income in subsequent years. The fee should be recovered in advance—quarterly or annually. The user should get an alert, when subscription is about to expire, and product must stop functioning if not renewed in time.

Investors like the recurring revenue that comes from subscription pricing. However, there are some risks. The annual fee is usually 50-70% of the permanent license. There is no AMC revenue of 14-21%. Hence, compared to permanent license, it takes 2 to 2.5 years to make comparable revenue. With a lower fee payable each year, the customer can easily switch to another vendor after one or two years.

Some companies offer both options—you can either pay a one-time license fee or sign up for an annual subscription. For example, one of our portfolio companies, InnovizeTech Software, has a product called 'Sapience', which automatically measures employee productivity and exact efforts of IT-based delivery

teams. Under the subscription model, clients pay an annual fee per user, payable in advance every 6 months. The minimum number of users is 25. Discounts are available for bigger enterprises at slabs of 500, 2000 and 10,000 users. The buyer has an option to switch to a permanent license at any time by paying an incremental charge depending on how long they have been paying the subscription. This structure provides several benefits. The customer's up-front risk is limited to the first 6-month fee, approval process is simpler (since the initial purchase amount is lower), the annual fee can be expensed, and they have an option to switch to a permanent license at any time.

### Innovative Licensing Options

A refined version of subscription is pay-per-use. It involves a one-time payment for each completed transaction. This approach has been used by SaaS portals offering games and online purchases.

A related approach is outcome-based pricing, which eliminates all risk for the buyer. This can work when the result is self-evident in terms of realized value, either as cost saving or increased profit. For example, a job portal can either charge a monthly fee (subscription) or per person hired through the site. Buyers are more comfortable with the second option because they pay for what they get.

Online purchases today are still limited because of absence of a simple, one click payment facility for transactions that cost a few rupees. Credit card payment does not work because the processing fee is higher than the transaction value. A digital equivalent of petty cash will enable impulse buying of small value items. Apple has shown the way with its popular iTunes store where you can buy songs at 99 cents each. Online games, with their repeat business, have payment models that have successfully blurred the distinction between virtual and real money.

Many web companies use a Freemium model, in which the base functionality is free, but users pay for added services, capacity, or convenience. Buyers of premium options pay using some standard licensing (permanent, subscription, pay-per-use). Freemium is more of a marketing approach. It acts as an incentive for people to sign up for the free service, make it a part of their routine, and then consider paying for added services. Typically, 3-5% of users upgrade to the paid service, but the free entry encourages many more users to sign up and indirectly increases the company's valuation.

### Advertising-based Revenue Model

The success of search engines like Google, and social networking sites like Facebook, have made many entrepreneurs dream of similar success. Their business plan is simple: build a unique web portal, make it popular, get lots of visitors, and earn revenue through advertising.

Gartner says that cloud-based advertising revenue comprised 60% ($28 billion) of the total cloud services market ($46.4 billion) in 2008, and predicts

further growth to $33 billion (58%) in 2009. While this may appear to reinforce the ad-based revenue model, the reality is quite different.

Google and other search portals charge for ads on the basis of Cost Per Click (CPC). Displayed ads are contextual to the search and paid for only when if user has clicks on them. Content sites and social networks don't have any similar context to display relevant ads. Therefore, they charge on the basis of page views, referred to as Cost per Thousand Million (CPM). In his popular blog, Don Dodge estimates that it can take 1000 page views to generate the same revenue as one click on a Google ad. This is because a viewed page is no guarantee that the user has actually clicked on the ad and visited the advertised site.

With an average CPM of $0.40, a website will require 2.5 billion page views to generate $1 million through ads. As websites proliferate, CPM rates are declining.

Even Facebook, the poster-child of social networking sites, reportedly had 200 million registered users in April 2009, an estimated $250-300 million in 2008 revenue, but is not yet profitable.

Ad revenue has worked brilliantly for Google. Though not profitable, a few sites like Facebook and Twitter have phenomenal valuations because of number of users. But these are exceptions, and a large number of online sites that staked their business on ad revenue are finding it hard to survive. You should consider it only if you can figure out a way to ensure effective ad conversion, like Google did with its CPC concept.

### Licensing Software

Licensing software keeps track of parameters like those given below, and enables the product based on what the user has paid for:

- Specific desktop or server
- Maximum number of users
- Registered user
- Time (trial version, subscription model)
- Version and model (lite, standard, premium)
- Add-on features

The licensing must support features such as automated key generation, renewal, encryption, and secure online distribution.

## Product Pricing

There is no magic formula for pricing a product. You can make a start by getting answers to these queries:

- Can you estimate the value to customer in terms of increased revenue or cost savings?
- How does your competition price their product?

- Should your product be priced higher/lower based on more/less capabilities?
- What is your total investment and annual expense (development, support, sales and overheads) in building the product? How many copies do you expect to sell in next 2 years?

The biggest mistake companies make is to fix the price based on their costs. The primary reason to be in product space is to generate non-linear revenue based on value being delivered.

### Early Pricing

Based on competitive pricing and your own value proposition, you can have a pricing band as a starting point. The next decision is whether to be a high volume/low price player or a premium provider. You can then set a tentative 'list' price.

Test this pricing with early customers. Be consistent with the quoted list price, but offer variable discounts based on what it takes to win early deals.

When you start selling, you will be eager to win deals, and may compromise heavily on rates. This is natural. Win those early birds with steep discounts, but try and select the right ones first.

Ideal first clients ('anchors') are strategically important for their brand value or volume of business. Signing up a well-known company becomes a great validation of the product. Pricing should not stand in the way of closing such deals.

In some accounts, the person you are dealing with will have a certain spending limit. If possible, structure the offering to be within this limit and avoid another level of approval. Occasionally, the customer will tell you at what price they will buy. Go ahead if it fits into your discount structure.

### Pricing Variables

Payment terms may consist of some advance and rest against deliverables such as installation, customization, deployment and acceptance. Actual payments at each stage can vary from immediate to 45–60 days from date of invoice. Cash flow is an important consideration, so maximize initial payments and minimize invoice to payment time. When finalizing a deal, offer to trade more discount in return for a bigger advance.

If you have a mix of licensing options (permanent, subscription, lite/standard/premium, usage based etc.), it can enable you to offer a broad range of pricing options. This can be useful at times, but can also cause the customer to get more confused. Experiment with two or three choices and assess what is working.

### Stabilizing the Price

Once you have gained some confidence with customers signing up and revenue coming in, then it is time to adopt a more business-like approach.

If you are getting clients easily, without significant discounts, then your product is probably priced too low. Conversely, if most prospects are not signing up, look for root cause. It may not be the cost—the problem may be in the product, how you sell, or which customers you are pitching to.

Test the elasticity of your pricing with higher rates for the next few prospects. Deals may be delayed or lost at higher price, but fewer deals may still bring in greater revenue. For example, at twice the price, you need half the deals to earn same revenue. Higher rates can delay decision making, while low price means you have to be targeting more prospects.

Theoretically, if you plot quarterly revenues against unit price, it should result in a bell curve. Revenues will first rise with incrementally higher revenue per sale, but will peak at a certain price beyond which, it is considered too high by the market. In practice, there are too many variables for such an exercise to be worthwhile.

Instead, experience will tell you what is working. The right selling price is the one, when you are winning most customers with low to moderate discounts, and losing only a few. Hopefully, at this price, you are making a reasonable profit too.

With increasing confidence and maturity, you will learn to be patient when negotiating deals. Do not concede on rates quickly. If your product is good, clients will pay. Learn to walk away from a deal if the price is too low.

As your client base increases, the list price, discounts and payment terms will begin to stabilize. However, business is always in flux. Keep tracking factors that influence rates: competition, more value from new releases, cost increases, profitability, deal loss-rate, new pricing models etc., and always strive to maximize revenue.

## Sales—Founders Leading the Way

Founders must drive initial sales. They should be able to generate at least the first few crores in revenue. Early clients need a lot of persuasion, since the company is not known. Product positioning and differentiation is still being refined. You have to respond quickly to questions from prospects regarding existing features and future roadmap. It may be necessary to take instant decisions on pricing, in order to close deals. If selling is proving to be difficult due to certain aspects of the product, that needs to be addressed quickly.

Founders are in the best position to tackle these issues. For small companies, the credibility of the founding team is their main brand. Therefore, the founders will have to lead the charge.

I had very different experiences, while selling at two previous companies.

### Overcoming Barriers

At Frontier Software, after the first outsourcing deal with VERITAS was signed in 1992, I started making quarterly sales visits to US (and later Europe). Before each trip, I would write e-mails to prospects introduced by friends and existing clients. Once in the US, I would make cold calls to companies, and try talking to the CEO or VP of Engineering. Only one in around twenty e-mails or calls would lead to a meeting. The second week was synchronized with a conference (like the networking event, InterOp), where senior executives of companies were more accessible. By the third week, my calendar would get quite full. Typically, each visit would result in one or two new contracts and an expanded network for future visits.

In the early years, many prospects would be surprised at my sales pitch about outsourcing product development to India. They could not believe that India had good software programmers, engineers who could speak English, and required communications and computing infrastructure. Their doubts were not unfounded. I remember that when we first got the VERITAS product executables and source code on magnetic tape stored in 'tar' format, we only had DOS PCs and had no clue how to get started.

Personally, this was the period when I learnt how to sell. Initially, it was hard to take rejection—prospects not returning phone calls or e-mails, likely contracts getting delayed or falling through, and losing good customers when their funding dried up. Over time, I came to realize that one can only control one's efforts, but not results. As *Bhagwad Gita* recommends, "Do your duty without any expectation of rewards".

It took Frontier Software 10 years (1989–99) to have 100+ employees working for 12 clients. In my second start-up, In-Reality Software, we crossed 140 employees and 12 clients in just 14 months (2003–04). We did not have to make a single trip to the US. Some clients visited us in Pune, while others signed up based only on phone and e-mail communication. We met them in person much later after we began working for them.

This dramatic change happened for two reasons. By 2003, post the dotcom collapse, US product companies were increasingly off-shoring to India to reduce costs. Second, our four year stint at VERITAS Software provided us with instant credibility. VERITAS had become the tenth largest software company by revenue and a Fortune 1000 company, in just ten years. Everyone in the software business knew VERITAS. We had played a key role by first incubating their India subsidiary (1992–1996) at Frontier, and later (1999–2003) ramping it to 16 product teams and 500 employees. With a large number of patents filed by its Indian employees, VERITAS Pune was widely acknowledged in 2003 as one of the most successful global subsidiaries in India.

### Sales Collaterals

Founders already know their product well. A website and sales PowerPoint will suffice as basic selling tools. Both should follow a consistent format—identical logo, colour combinations, themes, and content.

The website should be well-designed, and provide the following at the minimum:

- Company and product overview
- Product details
- Product fact sheet, demo, downloadable version
- White papers, case studies, Frequently Asked Questions (FAQ)
- Customer list (those willing to disclose)
- Client testimonials

For downloads or white papers, invite the user to sign up a form first. This enables you to get contact details for further follow-up.

A typical sales presentation template is shown below.

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**Typical Flow for a Sales Pitch**

- **Executive Summary or Elevator Pitch**
  - Vision
    - Describe your aspiration for the company and product in next 5 years. It should be ambitious without being illogical.
  - Crisp summary of key highlights from the remaining slides. This may include the problem being solved, product highlights, unique selling proposition (USP), licensing options and key clients.

- **Team**
  - Highlights of the founders' background, especially as they relate to leadership in technology, business or sales

- **Product Overview (may require several slides)**
  - Explain what your product does at high level and key problems it solves
  - Typical deployment diagram
  - How does it benefit the client? Specify the scenario before and after the product is deployed. Translate abstract benefits such as workforce optimization, quality improvements, productivity gains into specific dollar/rupee value for extra revenue potential and/or cost savings.
  - Case study overview (one or two). Use tabular format, with 'before' and 'after' scenarios that capture proof of value proposition (Return on Investment—ROI). Provide customer quotes.

- **Product Differentiators or Competitive Analysis**
  - Product uniqueness—features, licensing model, support, pricing
  - If there are well known competitors, then provide a comparison table. It must cover key technical features, positioning, licensing options, pricing, support etc. Pick the comparison points that show your company in the most favorable light (but a few that don't).

- **Partial Client List**
  - Use this title even if you list all your clients!
  - Show logos and not names. Group them by verticals, size or geography.
  - Highlight positive client feedback and any industry awards

- **Business Partners (this slide will be required as the company scales)**
  - Development partners
  - Channel partners, VARs, SIs, OEMs

- **Future Roadmap**
  - Important milestones planned in next 1-3 years of potential relevance to customers (product enhancements, partnerships, geographic expansion etc.)

- **Business Proposal**
  - Specific ideas on how you will work with the prospect
  - Indicative pricing

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There is good material available on the internet regarding making good PowerPoints. But, here are a few tips to avoid common mistakes:

- Do not use long sentences. Just list points which should be self-explanatory.
- Don't read out the points. Expand on them and fill in more details when you talk.
- Limit each slide to maximum 8 bullets.
- Do not have a list longer than 5 points. If you do, break it up into two or more sets of two to five sub-bullets each.
- Use a picture where possible, rather than long text.
- Avoid fancy animation.

## Expanding Your Sales Team

New products take time to have the features that the market wants. Founders and senior staff have to be directly involved to educate the market, learn how

customers will use the offering, identify and resolve services issues, and develop a repeatable sales model.

Closing a deal can be broken down into three steps—initial lead generation (identifying prospects, e-mails or calls, setting up meetings), active sales (presentation, demo, price negotiations), and follow-up to get the Purchase Order (PO). Hiring couple of bright MBAs to take care of pre-sales, logistics for active sales and follow-up can free up significant bandwidth for the seniors doing the selling. This results in more revenue for small increase in cost.

As revenue targets increase, you will run out of bandwidth. It is time to build a direct sales team and set up channel partners. Initial efforts may be ad-hoc as you figure out the right approach. In the next chapter, we describe how sales expansion can work and why it should be done cautiously. If you add too many sales representatives (reps) too quickly, you will burn a hole in your finances but not achieve expected growth. Reps have to be trained and equipped with proper go to market strategy, and initially given modest targets (quotas). Sales collateral has to become richer and more diverse. Team size must expand in lockstep with rising revenues.

## Success Factor 3: Funding

### Bootstrap Mode

A product company can begin earning revenue only after the product is built. Significant upfront investment is required in engineering and sales. As revenue picks up, expenses continue to mount for ongoing development and sales, and for establishing a new support team. It may take years before the company's monthly receipts exceed the outflow. This is known as becoming cash flow positive. Adequate funding is therefore critical for a product company to survive.

As a rough estimate, a product business may have to invest anywhere from Rs. 50 lacs to 2 crores (USD 100K–400K) before they start selling. This is assuming that founders take very little salary. If this money is available somehow, the founders can concentrate on building and selling the product. If not, the company is forced to adopt non-ideal strategies. The previous chapter discussed options such as working on the product part-time, or generating cash by providing training, consulting or services. If founders have to multitask, it delays the product further, creating a higher risk for the viability of the business.

In the bootstrap phase, every rupee counts. Each aspect of the company's operation must be optimally managed. At the same time, you cannot afford to compromise on product quality or delay the time to market. The two previous statements appear to be contradictory, but building a successful business is often about prioritising and choosing correctly between the conflicting demands.

For example, if cash in hand is an issue, PCs can be leased with conversion to ownership after 12–18 months. This is effectively like a loan (the interest is built into the lease cost). Hardware and software licensing cost can be reduced by using a common server and thin client for each engineer. You can have two servers to avoid single point of failure. Only servers need to be upgraded over time.

Making progress with limited funds is a struggle, but somehow enough money has to be made available through personal or angel funds, or some side business. With the right product, and after market validation with good customers and revenue, VC funding may become possible.

Can it be done differently? Let's return to the film industry example from the previous chapter. There are mega-budget movies in which producers spend enormous money on stars, sets, foreign locations and publicity. The film must attract a large audience, and earn hundreds of crores of rupees to become a super-hit. When that happens, the director is in great demand, and lead actors become superstars. If it is a flop, it is the producers who lose the most. At the other extreme, you have niche films that arrive relatively unnoticed or play in festivals. Made from a lean budget, the film may have an interesting script, excellent acting and good direction. The audience may initially be restricted to those who appreciate such movies, but it may grow by word of mouth publicity, making the movie a success.

Similarly, some entrepreneurs have conservative goals. For them, it is a lifestyle choice of being independent and having their own company. You will find many such businesses that are self-funded, largely debt-free, reasonably profitable and generating only modest revenue after several years. They usually provide a mix of services and one or two products. They keep adjusting their offerings over time to adapt to the changing market and available cash.

However, if your goal is to build a really successful company that gets acquired or goes public, then outside investment is almost a prerequisite. It is rare to achieve a revenue ramp that is steep enough to provide adequate cash.

A website offering advice and networking to entrepreneurs, StartupNation (http://www.startupnation.com/small-business-success-calculator) has designed an 'Odds of Success Calculator'. The online tool rates a business based on eight risk factors. Interestingly, none map directly to the product idea. Two each are linked to the management team's experience and market potential. But as many as four relate to finances: invested capital, difficulty in obtaining funds, quality of financial management, and degree of business planning. This indicates the importance of finances to achieve mega success.

There is no right or wrong goal—you just need to be sure about what kind of company you want to build and proceed accordingly. If you are ambitious, and are in fast growth mode with revenue exceeding Rs. 1 crore, then it's time to approach institutional investors.

## Approaching Angel Investors and VCs

It takes substantial time and effort to get angel or VC funding. In the last chapter, we covered angel investors from within one's own network. Here we are referring to professional angels who invest in start-ups. They operate like VCs, trying to look for the best companies to invest in, and doing a lot of due diligence before they decide. Many of them band together like Mumbai Angels or India Angel Network based in New Delhi.

There are a few differences between angels and VCs, as summarized below:

- Angels invest smaller amounts ($25K to $500K); VCs typically invest at least $500K.
- Angels invest relatively early, look for returns over 6–7 years, and hence seek companies that have the potential to provide very high returns (20 times at least).
- VCs, even those in early stage, usually invest only if there is revenue. They have a 3–5 year horizon for an exit, and look for at least 10 times return on investment.
- Angels invest not just for money, but also for professional satisfaction. They usually act as mentor/coach to management. Therefore, they will favour companies where they can actively help, and with whose founders they develop a good rapport.
- For VCs, investment is pure business. Unlike angels, they are not investing their own money. They are managing a fund sourced from a number of limited partners. Their job is to maximize returns to these investors over a 5 year period.
- Angels will typically jump in and help if a portfolio company is facing a problem. VCs, on the other hand, are quite capable of firing the CEO if they think that would help.

Start approaching investors once the prototype is ready, and you have a well thought out business plan. It helps if you have a few early, even if non-paying, customers. These are called beta clients, who are willing to test an early release. They provide feedback but will buy only if they like the product.

Investors often have a preference for certain business segments, and won't invest in two companies in the same space. You can review investor websites and their portfolio. Some VCs have an online business plan submission process. You can also contact them through e-mails, meet them at seminars and entrepreneur forums, and get introduced through a mutual contact. If you have advisors with good connections, their introduction will serve as an excellent reference.

Most investors won't answer your e-mails. This can be for different reasons. They are usually swamped with business plans and will respond only if yours fits their investment profile. Your idea may be competing with a venture they have already funded. It could even be that the VC's existing fund is nearly exhausted.

There can be other funding opportunities. A large client or OEM partner may be willing to make a strategic investment. A leading Indian newspaper chain offers free advertisements for some equity—something that consumer products can benefit from.

The VC culture originated in Silicon Valley in US, and it continues to be the home of most venture activity. Many VCs have an India presence, and most entrepreneurs think of them, when they attempt to raise cash. However, seed money is also available from purely India based funds, and their selection criteria may be more amenable to your business.

### Luck by Chance

In 1992, my US partner, Narendra Popat was on a flight from Bangalore to Mumbai. He started talking to the gentleman in the adjacent seat, who turned out to be Pramod Shedde, head of TDICI, an investment arm of ICICI. Pramod informed him about a special fund set up in partnership with USAID, to aid products being developed jointly by a US and an Indian company.

This chance meeting led to a presentation on Netscout's network management product. Later, VERITAS also applied to TDICI. Both received around $1 million each in funding. Instead of equity, the money was a grant to be repaid as percentage of sales, for a maximum of 2.5 times the original investment. There was no fixed time limit, and if the product failed, then TDICI would lose money. Netscout and VERITAS were able to bring their products to market faster, and became amongst the top three successful TDICI investments. It taught me the leverage that funding can provide for rapid growth. Though the money went to the US companies, it resulted in larger teams and hence greater revenue for Frontier Software.

## Meeting Investors

If the investor likes your idea and team, they will call you for a meeting. This is your best chance to make an impression, so be fully prepared. They may have a recommended format for the presentation, so make sure you ask them in advance. Your full team should be present. Limit your presentation to 45 minutes, excluding discussion time. Your must grab their attention in the first 10 minutes, so your introduction should be compelling. When giving your individual backgrounds, highlight the points that are unique. Mention previous technology or domain expertise, which relates to the new product, and any business and profit and loss (P&L) related responsibilities that you may have had.

Investors are usually successful entrepreneurs themselves, and have short attention spans. They can be quite brusque. Some of them may be very negative about everything you say. This may be just to observe how you perform under pressure. Do not get disheartened. Listen closely to their questions and respond to the point. If you don't know something, say so, and promise to get back with the information.

Often, an investor will not decide anything immediately but keep you engaged. They may ask for more information about market opportunity, product differentiators, competitive analysis, sales strategy, financial projections etc. This can mean that they are somewhat interested, and want to watch your progress.

You will learn much through dialog with investors. They are well aware of the market and what different companies (both visible ones and start-ups) are doing. These meetings act as free brainstorming sessions, where you get insight into how experts view your product's value, potential market, positioning and competitors. Their probing questions, and references to competitors that you had not heard of, will make you think harder about your strategy. VCs can be quite helpful. They may introduce you to potential customers or industry veterans, to see how well your product resonates with people they know.

One note of caution is that, in the many meetings with mentors, investors, prospective clients and well-meaning contacts, you will be deluged with opinions and ideas. These will often be contradictory. Remember that everyone has their bias and pre-conceived opinions. Besides, experts are not infallible. Even at renowned VCs, only a third of their portfolio ventures become successful. Do not change tracks just because somebody famous pronounced an opinion on what is right for you. A good approach is to maintain a list of suggested changes, and review them at internal meetings. This ensures an informed and deliberate approach for accepting, rejecting or deferring suggestions.

## Investor Pitch

A template for investor presentation is provided below. The high-level product slides are same as in the sales presentation discussed earlier. However, the overall focus is more on business than technology. Limit the PowerPoint to 10-12 slides. If you cannot relay your product's value briefly, then you will find it difficult to persuade either an investor or a customer.

VCs see hundreds of plans and can see through inflated numbers immediately. Avoid denting your credibility and put forward a realistic, even conservative, business plan. Be prepared to justify all business projections and numbers provided. As an entrepreneur, you will instinctively pick data that reinforces your self-belief in the product. Moderate this by reducing market size and revenue projections by 30–50%, and increasing time to market and costs by a similar percentage.

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**Typical Flow for a First-cut VC Presentation**

### 1. Executive Summary or Elevator Pitch

- Vision
  - Describe your aspiration for the company and product in next 5 years. It should be ambitious without being illogical.

  - VCs like to see the grand vision—articulate your dream assuming funding is not a constraint. If it is very broad, identify a medium term (2-4 year) mission for the company.
- Crisp summary of key highlights from the remaining slides. This may include market space, problem being solved, product highlights, unique selling proposition (USP), current revenue and key clients.

**2. Team**

- Same as the sales pitch

**3. Product Overview (may require several slides)**

- Same as the sales pitch

**4. Product Differentiators or Competitive Analysis**

- Same as the sales pitch

**5. Defensibility**

- Entry barrier against future competition—what will make it be hard for other companies to quickly emulate your product.

**6. Target Market**

- Market segments
- Sizing the market—key segments, total volume and revenue opportunity per segment, growth rates
- Key market trends and challenges/issues the market is facing
- The potential from the total market, for products like yours

**7. Business Model and Sales/Marketing Strategy**

- Business model and pricing
- Overall product/brand positioning
- Sales strategy
- Business alliances and partnerships
- Channel partners, VARs, SIs, OEMs

**8. Partial Client List**

- Same as the sales pitch

**9. Future Roadmap**

- High level major milestones planned in next 2–3 years (spaced by 6 months or so)
- List major product enhancements, sales/marketing initiatives, geographic expansion, key hires

### 10. Financials

- Table showing revenue, headcount (engineering and sales), profitability, number of clients
- Provide data for past 2 years, current year, estimates for next 3 years (assuming funding)

### 11. Funding Requirements

- Funds required and proposed utilization

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In the next chapter, we will look at how VC funding works, including company valuation, due diligence process, equity dilution and typical investment terms.

## Case Studies

### (Early stage companies and upstarts—Rs. 2–20 crores revenue)

Our three case studies of early stage companies have highly capable founders. ProductDossier has a team with rich domain and technology expertise. Ixsight entrepreneurs brought in relevant industry experience and sales capabilities from previous jobs. Carwale.com founders combine business and technology expertise.

All three have built initial credibility with a strong product, marquee clients and good revenue growth. Their common challenge today, is of scaling the technology platform and sales engine to deliver them to the next level, of Rs. 100 crores revenue and beyond.

After a long struggle balancing product development and services, ProductDossier emerged with the pioneering concept of 3PLM (Project, Process and Product Lifecycle Management). Their product delivers a common platform to automate workflow and processes across product and services industries. It has been listed as the only Asian company in the world's top 50 PLM companies.

The Ixsight founders first realized the potential for a Data Quality Management product, when they were engaged in providing related services in an earlier company. Ixsight was founded at an opportune time, exactly when the economic boom has triggered massive explosion of online data at banks, insurance companies, and retail organizations. In just two years, the company has picked up tremendous momentum. In November 2009, Mumbai-based Seed Ventures decided to invest in Ixsight.

CarWale.com is a software-enabled Web 2.0 company formed in 2005. It acts as a bridge between buyers and car manufacturers, dealers, finance and insurance companies. CarWale has received seed and Series A round of VC funding already. It is currently the market leader in an attractive high volume segment.

## ProductDossier: A 3PLM Company

After an MS from the prestigious Indian Institute of Science, Bangalore, Sandeep Kumar spent several years at Geometric Software where he played an active role in engineering and business development. In May 2000, he founded ProductDossier. Narayan Murthy, the founder of Infosys, was his inspiration to start the company.

Sandeep's vision is to build a product company, which is amongst the top 3 global leaders in its chosen domain.

### Early Travails

While at Geometric, Sandeep proposed his idea for a homegrown solution in Product Lifecycle Management (PLM) space. Since Geometric was not interested, he set out to do it on his own. ProductDossier began with a US consulting assignment, whose profits funded a small product team. By March 2001, they had the prototype ready, and couple of VCs seemed interested.

But everything turned turtle with the 2001 dotcom bust. Sandeep describes the situation, "The VCs vanished and money was insufficient to support my development team. We switched to plan B and started looking for consulting assignments. With our strong expertise in CAD/CAM and PLM, we signed a few good deals. It was tempting to try and continue in services like everyone else was doing. But I really wanted to create a world-class product. Once the team reached a count of 20 billable engineers, we stopped further sales effort. The consulting profits were pumped into product development."

### Turning the Corner

TouchBase, as the product is called, launched in late 2005, and was quickly snapped up by a few customers. Its USP was the ability to configure and to map existing client workflow, and be operational in 6-8 weeks. The scalable architecture let clients automate one or two internal processes first, and do the rest on the same base platform. Clients derived multiple benefits from this: initial risk was low, spending could be phased, and deployment was possible function or department-wise, without disrupting the entire organization.

In comparison, their competition had complex products, with many features, not all of which were required. Their software took months to deploy and forced customers to make changes in their working methods.

ProductDossier claimed ROI within six months, which was soon validated at initial installations. This earned them good credibility. In early 2007, growing product revenues and healthy sales pipeline gave them the confidence to ramp down their consulting business. By 2008, ProductDossier had a good client base and annual growth rate of 100%.

## 3PLM Upstart

The PLM market is dominated by large global IT companies such as Siemens, Oracle, Dassault Systems, PTC and SAP. There is no pure-play Indian product company in this space.

TouchBase is a powerful alternative to traditional PLM providers. Its elegant design and thoughtful features make it a ready to use multi-purpose tool across a variety of industries, including Engineering, Procurement and Construction (EPC), manufacturing, engineering and research services, energy and power, defense etc.

The client-server architecture provides a robust, scalable and secure application. Rollout at client site was possible in weeks instead of the months that competitors' products require. This is because of the design in which, the product needs to be configured (by changing built-in settings), rather than being customized (requires additional coding), for a specific customer.

In today's tight economic conditions, clients are looking beyond brand names and deciding on vendors, who have a quality product at the right price. ProductDossier's solution is best of class and costs 50% that of global competitors. Clients find them to be more responsive and capable of offering faster, local support.

Beyond these advantages in PLM space, Sandeep realized that the TouchBase architecture adapts itself to automation of any process or project. Services organizations would not consider Sandeep's company because of the 'product' slant in PLM. In January 2009, he re-positioned ProductDossier as a pioneer in 3PLM (Process, Project and Product Lifecycle Management) solutions. Their reach now extends beyond product companies to just about any organization.

The 3PLM positioning is working extremely well. Sandeep describes a recent sales win, "One reputed global company with a Bangalore office, signed up our product after a sales pitch on phone. Though my implementation team went there later, I have never met the client face to face." Quoting another example, "A government lab wanted to automate their project engineering process. We were called in late into the evaluation process. They could not believe the features that we claimed, and asked us to demonstrate them by building a prototype at their site. We did that in three days, and the order was ours!"

Of course, selling in India is never easy. A few deals have thrown up unexpected complications. In one government contract, payment will happen six months after delivery of hardware and software. On top of this, ProductDossier has to provide bank guarantee of 10% of contract value for one year. Another large private company tried to force a completely one-sided contract. For example, they asked for millions of dollars in liability in case of software malfunction, price freeze for five years, and handing over of source code on the flimsiest of grounds. But Sandeep knew the value he was providing, and managed to negotiate a reasonable deal for both sides.

The 3PLM upstart already has over 35 clients, including names like Onida, Videocon, TACO Faurecia, L&T, Piaggio, Eicher, Bilcare, Tata Technologies, DRDL, BARC, HPP Energy, and Bateman to name a few. The goal is to double the list in the next 15 months.

### Managing the Future

Sandeep comes across as a trustworthy and intelligent technology person, with absolute clarity about what his product is capable of. Over the years, he has picked up excellent sales capability, and has nearly 100% success ratio with prospects once he gets in front of them. Ask him anything about the product, from features to pricing to maintenance terms, and he is right on top of it.

He is backed up by a strong team. The technology side has two IITians, O Chandrashekhar (Director—Product Development), and Akash Agarwal (Director—Support and Implementation). R&D is handled by Sachin Salve (BE from Pune University). His wife, Shivani, is an MBA, and handles marketing and operations.

You will notice that there is nobody heading sales. Sandeep helps close most deals. He has managed high growth in past two years, but knows that he alone cannot sustain this.

ProductDossier has a good problem to solve—they have a strong pipeline of prospects but need people to pursue these leads. They have not yet tapped the potential for organic revenue growth with existing clients, though that entails the lowest cost of sales. Clearly, it's time to build a direct sales team and appoint re-sellers. Hiring and training new reps take time and money, and has to be done without losing momentum. Though the company is profitable, cash flow remains tight.

Sandeep is addressing these issues. In January 2009, the company received angel funding from I3 (India Innovation Investors), which is a group of successful software entrepreneurs based in US and India. A 5-person sales team, including a manager, is being hired. Re-sellers have been appointed in three regions and more will be added.

ProductDossier has most things sorted out—technology, product, team, track record and funding. It has the promise to become a leading player in 3PLM space. Fulfilling that requires execution excellence in an area that ProductDossier (like most Indian enterprise software businesses) don't have much experience with. That area is sales.

## Ixsight Technologies: Transforming Fuzzy Data to Reliable Information

Founded in late 2006, Ixsight Technologies provides technology solutions for end-to-end data quality optimization. In today's world, information is power.

Corporates make key strategic decisions, while relying on the accuracy of information. However, inputs are not always reliable because the underlying data is often fuzzy or wrong. Combining products and IP based services, Ixsight converts unstructured client data into one that is Clean, Accurate, Standardized and Consolidated (CASC).

## Early Days—Coming together of Idea and Team

Uma Venkataraman is an Electronics Engineer with an MBA degree. Beginning with a sales role at Hindustan Lever, she moved to Standard Chartered Bank (SCB), and then became VP (Marketing) at ICICI Bank. She has experienced how banks have to handle huge amounts of data, which is often duplicated and inconsistent.

Savita Modak also has an MBA degree. She began doing direct marketing for Diners Club Cards, who were pioneers in this field. She experienced how client data can be used for enhancing customer relationships and creating marketing leads. Later, at Standard Chartered Bank, she headed the marketing services cell, managing a mirror data mart of SCB customers. She was also involved in creating CRM initiatives for the bank.

Uma and Savita first met as colleagues in Standard Chartered, and continued as friends. In 2000, Uma joined Savita's husband's company—Spectrum Business Support. A serial entrepreneur, Devdutta (Sunil) Modak is a Chartered Accountant by profession and an IIM Ahmedabad alumnus.

Spectrum was Sunil's first company which he founded in 1986, where he developed a highly successful product built for the legal profession, called Jurix. The company also provided software consulting services. Around 2005, Uma and Savita started working on projects related to data management. Always looking to add long term value, they automated certain aspects of data quality management using Microsoft Access based technology. Neither of them had anticipated how useful it would become. However, they soon realized that the product did not have the robustness or scalability to support large data warehouses.

As their data management services grew, both spotted a tremendous opportunity in the market. With increasing IT adoption from 2006 onwards, clients were becoming more discerning about the importance of data quality. Uma and Savita realized the importance of having a separate entity to create focus, invest in technology creation and build a dedicated team with required skill sets. In this decision, they had the strong support and backing of the third co-founder, Sunil.

## Converting Fuzzy Ideas into a Reliable Business

Ixsight Technologies was carved out as a separate company in November 2006. People, clients, technology and IP were transferred, completely cutting the

umblical cord from the parent company (Spectrum). The Spectrum dues were structured as debt, which was paid off in two years.

Uma comments that, "Adversity is a great teacher. We had no access to funds initially, and had debts to be paid. We learnt to be frugal and prioritized expenses. Yet, we did not compromise on investments that were essential to our business, like infrastructure. We are grateful for the personal sacrifices and drive of key people, which went a long way in taking the company to where it is today."

As CEO, Uma has overall responsibility for the company. Besides sales and marketing, she also handles the technical team. Savita is COO, and is involved primarily in operations, people management, and spearheading the sales activity.

Ixsight has a marketing office in Mumbai, where most of their customer base is located. Their engineering, operations and support teams are based in Pune. Uma resides in Mumbai, while Savita is a resident of Pune. Both shuttle between the cities almost on a weekly basis.

Sunil plays the role of chief mentor. His extensive network of contacts comes in handy for introductions to prospective customers, and for strategic alliances. He lends his financial acumen to funding issues, and helps build strong relationships, especially with large clients.

## Anchor Customer

On December 31, 2006, barely a month after forming Ixsight Technologies, Uma got a call from Barclays Bank. They wanted online identity matching for their loan business. The project was in fast-track mode, because the Indian economy was booming and people were on loan taking spree. The product had to be reliable since the bank could not afford to approve loans to potential defaulters. Barclays began evaluating Ixsight against other Indian companies and their existing overseas vendors.

Ixsight was faced with the challenge of providing near real-time data match. A custom application receiving data from multiple sources, good reporting capabilities, and zero downtime, was required. The delivery timeline was very short. Working day and night, the team delivered an application meeting all requirements right on schedule.

Looking back with a sense of satisfaction, Savita says that, "Getting a conservative, stiff upper-lip British Bank as our first customer was a major coup. We really appreciate their management for believing in us. Barclays is very standards based and process oriented. They prefer tried and trusted products. Yet they took the risk of introducing major new operational functionality with a product from a relatively small Indian vendor."

Being an international bank, Barclays gave Ixsight global exposure and a key reference.

## Business Model—Combining IP Led Services and Products

Ixsight improves quality of data through a solutions approach, which combines IP driven services and products. Unlike services companies, Ixsight does not charge clients on Time and Material (T&M) basis. Further, most clients do not buy their product. Instead they ask Ixsight to host and operate the product, either on-premise or at Ixsight site, and pay recurring fees. This business model was first signed with another prestigious client, National Securities Depository Limited (NSDL). It became a success, and Ixsight continues to ensure 24x7 operations for them.

Their fees are based on net value and productivity enhancements delivered to the client. Their solutions enable organizations to make more money. Ixsight products help some customers increase the revenue by selling to more people, and others by optimizing how services are delivered to their users.

So what technology and products do they have, and how does it help their clients make money?

Ixsight has a product suite that services the entire spectrum of data quality management lifecycle.

Scrubbix (Intelligent Data Cleansing) provides data scrubbing for client information. Mostly related to data such as name, address, pin code, phone numbers, cleansing of this database improves selling efficiency.

Deduplix (Unique Identity Resolution) deals with matching and identification of potential people to whom the customers can sell to.

Profilix (Business Identity Support) helps with analytics and identification of the customer's market segments. It deals with humungous amounts of data, which cannot be managed merely on excel sheets.

Geofix (Geographical Client Mapping) gives customers a granular view of their data, showing the geographical spread at a very micro-level. The data is enriched with detailed attributes like gender, nationality, marital status etc.

Finally, Data Quality Audit is intended to assess the quality of existing client data, and the improvements after using tools such as Scrubbix.

Depending on the specific client objectives, Ixsight deploys one or more of their products to effect improvements.

## Customers—Finding Value in Reliable Information

When Ixsight was spun off from Spectrum, most of the clients that were utilizing data management services, moved to the new company. Buoyed by their support, and with Uma and Savita's grounding in sales and marketing, Ixsight has been growing rapidly. Revenue increased by 200% in 2008-09. They are already the only Indian company listed in the Gartner Magic Quadrant survey on data management providers.

Ixsight has reputed names as clients in finance, insurance, telecom, and retail space. They include Barclays Bank, Franklin Templeton Investments, State Bank

of India, NSDL, Standard Chartered, India Bulls, Reliance Communications, Airtel, Bajaj Finance, GE and Idea Cellular.

### Way Forward—Charting Precise Directions

Ixsight is growing at a fast clip. However, they know that the market is huge. Their competitors are large global companies. They have to take some decisive steps to get onto an even faster trajectory.

One challenge is that of reach. Ixsight has to become visible to every potential customer as quickly as possible. They want to improve visibility by participating in conferences and trade shows. Scale will require an exponential expansion in customer base. Sales must transition from being founder driven, to one based on direct sales reps and OEM and channel partnerships.

The second challenge is in technology. Their products must keep pace with latest trends, and they cannot afford to have competitors get an upper hand in this area. They have a great engineering team, but there is continuing requirement for smart people who are not mere coders, but understand the user and business perspectives.

Fast track growth requires heavy investments. This gap was plugged towards the end of 2009, through Rs. 6 crores in funding from Mumbai based VC, Seed Ventures.

However, their biggest dilemma is being able to push value-based pricing. Dealing with Indian customers is tough, since they negotiate endlessly and the sense of urgency is missing. There is insufficient recognition of how IP can accelerate value creation, and think data cleansing can be done through in-house staff. Uma and Savita are confident about their niche and believe in charging for value provided. They have not hesitated to walk away from deals, where the prospects made unjustified demands!

They foresee many structural changes in Ixsight in 2010, including staffing key positions in Engineering and Sales, and further strengthening their Advisory Board.

Dependent on IT solutions for business analysis and strategy formulation, large Indian corporates are now appreciating the value of accurate data. Coupled with lack of local competitors, this has created a big window of opportunity for Ixsight. The exact road forward may be hazy, but Uma, Savita and team have made it their business to convert anything 'fuzzy' into something 'precise'.

## CarWale.com: Driving in Top Gear

CarWale.com is India's leading Automotive Web Portal in terms of content, research and traffic. In January 2009, it had 1.3 million unique visitors and 15 million page views. CarWale claims that in 2008, it has served more than

10 million Indian car consumers and has influenced approximately $3 billion worth of car transactions in India. Their mission is to empower car consumers, who want to buy, maintain and sell cars, and save them time, money and effort.

## Finding the Right Road

Hailing from Bhopal, Mohit Dubey, founder and CEO of CarWale, is an MBA with specialization in Finance from Goa University. With schooling from Sainik School, Rewa, Madhya Pradesh (MP), his deep-rooted small-town values and discipline went a long way in shaping who he is today. In 1996, after completing his MBA, he went to work for a company in Mumbai.

Over the next three years, he shifted gears from a job, to an eCommerce course, and then a US job application. Surprisingly, his first boss was very supportive, paying for his course and providing him accommodation. Even when he accepted the US offer, he was magnanimous enough to let Mohit go, saying "Life is a long journey, and roads cross often. Perhaps we will meet again". Many years later, the same boss became an investor in his company.

Dropping his US plans due to the 2001 dotcom meltdown, Mohit started his first venture in the uncharted territory of tele-medicine. His main aim was to connect district hospitals to rural villages. Mohit put together a team for a custom project for the MP government. Unfortunately, regulatory issues around tele-medicine caused the project to flounder. After 1.5 years as an entrepreneur, having done good work but made little money, Mohit decided to switch gears yet again.

## Getting into the Driver's Seat

In 2005, Mohit returned to Mumbai in search of good work. However, fate had other things in store for him. While negotiating with a leading bank for a software contract, he happened to visit a car dealer. Hearing that Mohit had an IT background, the owner mentioned that he was in the process of placing an order to develop software for his dealership with an IT company for Rs. 15,000. Mohit immediately seized the opportunity and offered to do it for a smaller amount (Rs. 10,000). Spotting the potential of selling to multiple dealerships, Mohit dropped the bank lead. That order would have taken almost a year for delivery and payment, which meant a tight monetary situation for an extended time.

Mohit delivered a solution consisting of a website and basic dealership management software in three weeks to his first client. He then spent the next two months visiting many car dealers and signed 25 contracts in 3 months. Development was handled by his Bhopal team, while Mohit was the lone sales person. Without even a permanent address in Mumbai, it was sheer grit and his wife's support that sustained him emotionally and monetarily.

Mohit also began to observe the behavioral patterns of consumers buying cars. It was apparent that most buyers ended up being unhappy about something or the other i.e., accessories, car loan rates, car selection process, test drives etc. At the same time, the Indian auto industry was witnessing entry of multiple brands and more than 15% growth. Mohit felt that he could fill the gap and improve the overall buying experience for consumers. He went back to Bhopal and told his team to discontinue other projects, and focus only on the car dealership product. His colleagues and well-wishers dissuaded him from taking such a drastic step, but Mohit was confident. This first solution later became a standard offering called 'Trading Cars' from CarWale.com.

Back in Mumbai, he started looking for funding and gave presentations to a number of VCs. One of them asked why he was selling software, when he could instead create the Indian equivalent of the Kelly Blue Book (a standard US used car price guide), which nobody had attempted yet. That triggered a fundamental change in the company's strategy. The software moved to the portal and became free. The company started working on a used-car price guide.

Mohit first attempted making dealers his paid customers, requiring them to open up their inventory to each other. This strategy failed, as dealers did not trust each other. So CarWale began to offer a complete consumer-focused service that included content and tools for exhaustive research, pricing and marketplace information. To provide buyers with wide access and comparison points, CarWale connected them with automotive manufacturers, finance and insurance companies. Consumers can now do all their homework online, and no longer feel shortchanged.

CarWale created India's first used car and new car price guide. Their "Recommend Me A Car" feature is used by more than one thousand new car buyers every day. They instantly quote an on-road price (not just an indicative one) for any of the top metros and 300+ cities. The price takes into account all offers, schemes and discounts. The buyer can place the order at the quoted price. Besides buying and selling, the portal also provides features related to car maintenance.

## Co-travelers

Founded in 2005, the company's name is actually Automotive Exchange Private Limited. However, like with most consumer services companies, it is known by its portal identity—CarWale.

Mohit's partners and co-founders include Arun Sahlam (IIT Madras) and Gaurav Verma, who were his juniors at Sainik Schook in MP. Tufail Khan, his room-mate and MBA colleague in Goa, joined as VP Marketing within one year of starting CarWale. The core team of CarWale consisted of 8 people, and they are still together after so many years. Their enduring partnership has created a strong foundation for the company. Banwari and Rajeev, who built the core 'Trading Cars' product, are now respectively the Assistant VP (Product) and Head of the Technical Group.

This attention to relationships extends beyond the senior management team. In 2006, they had around 11 employees based in Bhopal. Since the center of gravity of the business was now Mumbai, they decided to relocate everyone. Nobody wanted to move since Bhopal was a quiet, idyllic town. They had a nice office there with a volleyball court where everyone played together after work. CarWale went the extra mile for them. They got an office in New Bombay with a volleyball court. They rented flats close to the office to save commute time. The company paid the flat deposits and provided basic furniture. Everyone still misses Bhopal, but nobody regrets it. The company's employee-centric policies have led to a tightly knit and committed team.

During the course of his journey, he managed to raise money from all possible sources; family, friends, angels and VCs. His wife Priya was the first investor, providing the initial capital. His ex-boss, Ravi Kumar, put in Rs. two lacs.

CarWale also received multiple rounds of VC funding. Vineet Buch, the VC who inspired him to make the critical change in basic strategy, introduced him to Seed Ventures, which was not even formally launched then. They funded him in three tranches: first their personal money, since the fund was still being set up, then their first investment where they took 26% equity, and a last round in June 2007.

In October 2008, the company received $7 million in Series A funding. It was led by Sierra Ventures, a Silicon Valley-based venture capital firm. The VCs liked CarWale's business model and market leadership, especially the fact that they had grown quickly and turned profitable on the initial seed investment.

Post-funding, the number of employees has grown to 100+. While engineering remained steady at 12 employees, sales grew to 75 people by early 2009. Even today, 70% of the staff stays close to the office, and many of them still play volleyball on weekends.

## On the Expressway

CarWale.com portal's initial traffic came through search or referrals on Google. When designing the website, the focus has always been ease-of-use, and speed over perfection.

Given their web-based business model, consumer stickiness is important. Marketing and product management teams diligently review customer inputs, competition and internal research to decide new features and improve usability. User feedback on trial runs is used to implement corrections and even whether to incorporate innovations into the final product. For example, they recently introduced a car recommendation engine. Each car model is given a rating, and based on aggregate consumer preference, rankings are provided. Today, 65-70% of users directly come to their portal (rather than via Google) because of their well-established brand.

Here are some interesting statistics for January 2009:

- 1.3 million unique visitors and 15 million page views/month
- 27,000 customers expressed interest to buy car in less than 2 months; 30% of these eventually bought a car
- Influenced nearly 8-10% of India's new car transactions
- 40% of all online used car listings
  - 15,000 listings (compared to 500 in October 2005)
- 240,000 used car value checks every month (2+ million aggregate so far)
- 400,000 pages of car content
- Registered user base of 800,000
- 1400 Used Car dealers as clients, with 1000 active each month

All major car manufacturers including Maruti Suzuki, Tata Motors, Hyundai, Honda, Toyota, GM, Ford, Volkswagen and Skoda, use CarWale platform to reach and influence prospective buyers.

As a Web 2.0 company, CarWale makes money from both enterprises and consumers, as summarized below.

### Enterprise Sales

- Sell Prospective Car buyers' leads to car manufacturers
- Branding for car manufacturers, finance, insurance, and accessory companies etc.
- Advertising and lead based campaigns from non automotive clients
- Offline events to connect with car consumers and stakeholders

### Consumer Sales

- Used car classifieds fee—both dealer and individual listings
- Facilitating car sales—commission from car manufacturers, finance and insurance companies

CarWale has received many prestigious awards and listings, including the Red Herring Asia Top 100 (2007), *BusinessWeek's* Top 25 young entrepreneurs in Asia (for Arun Sahlam in 2007), PCWorld Web Award (June 2008) for best automotive website, and Top 10 Ideas in India by *Business World* magazine (March 2009).

There is significant competition in this space. CarWale's Unique Visitor (UV) count in January 2009 was 1.2 million, three times more than its closest rival, ZigWheels. There are 3–4 older players including IndiaCar.com, AutoIndia.com and 4–5 recent competitors like Gaadi.com and CarDekho.com. CarWale's UV numbers are higher than everyone, but ZigWheels percentage growth is higher.

## Expert Driving on a Rough Patch

Luckily for CarWale, the Series A funding agreement was signed in January 2008, when the economy was going great guns. The valuation must have been

excellent. Though the market had begun slowing in US, the investors had sufficient faith to disburse the amount in October 2008.

The company intends to ensure that the $7 million funding lasts for next three years. The money is being invested in new ideas ranging from creating more auto content, web magazine, online car community, to expanding globally.

The company has revised its business estimates and strategies. The auto industry has been amongst the worst affected by the economic downturn. While 2007–08 had been profitable, 2008–09 was not. This is because CarWale has spent cash in creating a new revenue stream to facilitate car sales for manufacturers. Sales reps have grown from 18 to 75 in just nine months. After a learning period, they are fetching dramatically higher revenue, which will show up in 2009–10 results.

Though car manufacturers have drastically cut their marketing budgets, they want to optimize their spending. They prefer a channel like CarWale since the portal is already the premier source of prospective leads. They are aware of an interesting statistic: 30% of those expressing interest in a car at CarWale, buy it within 60 days. Further, 25% of buyers who did not receive response within 24 hours of an enquiry either changed the dealer or the brand itself. Through its online portal, backed up by in-house car consultants, who reach a prospective car buyer in less than 20 minutes, CarWale is an invaluable partner to manufacturers in these tough times. As a result, two manufacturers have signed long term contracts.

While the company is already working with 1400+ used car dealers, they have recently approached new car dealers to use their site for sales and branding. Increasingly, non-auto clients are also advertising on CarWale since car consumers are a prospective audience for other brands and segments.

## In Top Gear

The Indian car market is expected to grow to $38 billion by 2010, overtaking Germany in car sales, compared to $31 billion today. By 2012, the local market will be bigger than Japan. There are 26 car companies in India already, offering 330 versions. In 2010, 200 new versions will be introduced. This bodes well for CarWale's future.

Powered by the $7 million funding and wise investments in new features and sales, CarWale expects to widen its lead over the competition. Their revenue run-rate has increased significantly despite the economic downturn, and they expect to return to profitability in 2009-10.

The strange thing is that Mohit has never been very passionate about cars, but teaming up with others to build a successful business has been his driving interest. However, Mohit's three year old son is already a car expert, being able to distinguish more than 50 models at this tender age! Just looking at him motivates Mohit to keep growing the company.

# 5

# Finding the Rhythm: Growing the Team and Customers

## (Mid-stage and growth companies— Rs. 20–200 crores revenue)

*"Perseverance is not a long race; it is many short races one after another."*
*— Walter Elliott*

### Crossing the Chasm

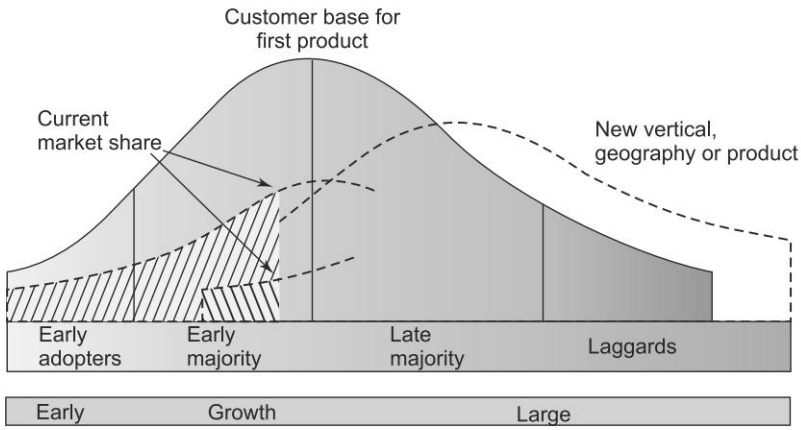
In today's Indian software scenario, a product company with Rs. 20 crores of annual revenue, will be considered to have made good progress. Having covered the first mile successfully, it will begin to aspire and plan for the next 10-fold revenue growth.

Yet, this is the time when many organizations begin to flag. Engineering gets stuck with managing support issues for existing customers. New releases cover only a fraction of the enhancements that product management has requested. Existing competitors start catching up, and start-ups threaten to upstage them with innovative products. Despite increase in sales team, the revenue often stays flat.

In a 1991 book called 'Crossing the Chasm', Geoffrey Moore wrote that many technologies and products get picked up by early adopters. These are users who are enthusiastic about trying new things. However, to become really successful, they must become part of the mainstream and get accepted by the large mass of pragmatic and conservative customers (individuals or companies).

The graph below illustrates how real growth happens, when the product picks up momentum in the majority customer base. Sustaining the growth means replicating this in an increasing circle of verticals, geographies and related products.

**From bit player to mainstream**




Mid-stage companies that are crossing this chasm while maintaining high revenue ramp, can be termed as growth stage companies. What should organizations do become one?

The chasm to Rs. 200 crores and beyond is not crossed in one big leap, but by patiently building a figurative bridge across it. This is achieved through relentless and capable execution of your business plan. The three main enablers are:

- An *Effective Organization,* which serves as the underlying bridge framework
- A powerful *Sales Engine,* that pulls in new customers over the bridge
- Proper *Finance Management,* to ensure the viability of the business

## Success Factor 1: Effective Organization

Engineering and Sales/Marketing are the twin pillars of an effective product business. Support groups (Admin, HR, Facilities, Finance, IT) constitute the foundation. However, ultimately it's people that run organizations and it is their quality that counts.

*"People are definitely a company's greatest asset. It doesn't make any difference whether the product is cars or cosmetics. A company is only as good as the people it keeps."*

*— Mary Kay Ash*

During the early stages of the company (first mile), the product and company are defined by the collective vision of the founders. Clients and partners sign up, because of their efforts and confidence that they are able to inspire. The CEO is usually one of the founders, and over time it is this person's gut instincts and experience that increasingly shapes the business. Wearing multiple hats, the CEO controls engineering roadmap, decides finance allocations and manages sales. Besides other founders, a second line of managers may exist, but they defer to the CEO, and are seen more as executors than leaders in their own right.

This model cannot scale. The individual guitar player has to learn to form and become part of a band. With passage of more time, he must function like the conductor of a symphony, managing a multitude of players and instruments.

## Professional Management

It is not easy for founders and CEO to change their mindset and operating style. They must learn to let go, and groom a strong leadership team across engineering, sales, marketing, and operations. The CEO will continue to drive the company's direction and vision, but the expanded management team is now involved in the decision making process. The senior executives independently plan and execute the agreed strategy.

When strengthening top management, founders must select talented, motivated and capable leaders for various functions. It is preferable to promote from within, but only if you have the right fit. Otherwise, do not hesitate to bring in top talent from outside. External hiring is often required, because lack of funds in early days may have limited your ability to hire the best talent. Those from outside, often bring in fresh perspectives that are important for an evolving company.

Anand Deshpande, CEO of Persistent Systems, warns against adopting a feudalistic attitude. He says, "The problem arises, when you want people to work for you rather than with you. It's a sad fact that people are very hesitant to hire someone more capable than them. Slowly the company's gene pool dilutes, resulting in a less effective organization. The mark of a successful leader lies in his ability to convince smart people to join them, and then ensure that they thrive in the company. This attitude must percolate through the ranks."

A major reason why companies start floundering is the founders' inability to accept their own limitations. The founders must factually assess their own capabilities, and if required, find a replacement for themselves and transition to a different role. This applies to a founder CEO as well. Sometimes investors may force the CEO out, as we read earlier in Mark Leslie's description of the beginnings of VERITAS Software.

Google founders, Larry Page and Sergey Brin, recruited Eric Schmidt as Chairman and CEO in 2001, just three years after founding the company. Eric was an experienced industry veteran and already had a 20-year record of achievement as

an Internet strategist, entrepreneur and developer of great technologies. Today, his well-seasoned perspective perfectly complements Google's young founders.

## Trust but Verify Management Model

CEO and founders, who have grown the company from a start-up, tend to have overwhelming influence in the company. It's hard for leaders to emerge under their shadow. They must make a conscious effort to delegate responsibilities, and let the next level manage them in their own style. At the same time, they need to make sure that things don't go out of control.

In a small company, the CEO and immediate managers are in regular touch, which makes it easy to be in sync about goals and implementation specifics. With more growth, the CEO has less time to attend to every detail. Most successful leaders adopt a 'trust but verify' model. Instead of micro-management, the CEO can have regular one-on-one and team review meetings. These serve as a structured forum to offer advice and stay on top of the situation. Managers who are delivering results, and have earned trust, get to function more independently.

The CEO should also have other information channels on how senior leadership is functioning, but must distinguish between attempts to undercut someone and genuine feedback. Any issues should be discussed directly with the concerned person.

Different managers will have their own style and methods. They must be judged on results and performance, rather than conformance to an existing or preferred style of functioning.

The CEO's immediate reports should be strong leaders and not just managers. A leader differs from a manager in being able to chart an independent direction (aligned to the overall vision), inspiring the team, setting the highest standard of integrity and being optimistic in difficult times. The ability to energize people downstream is important, since it becomes increasingly difficult for founders to reach out to an expanding employee pool.

## Efficient Engineering

Engineering is at the heart of a product business, and its well-being and efficient functioning is critical.

Product Management (PM) is an important function that can lead to significant efficiencies. It keeps engineering focused on features that the market wants, and not ones that are exciting for engineers to build. PM also helps evolve the go-to-market (G2M) strategy. PM therefore has two roles: Inbound (getting market inputs into the company) and Outbound (determine how to take the finished product to market).

Engineering must stop being reactive to customer and field requests, and should adopt a more deliberate approach. Defects and change requests should

be differentiated. Patch releases can be prepared to fix major defects in previous releases. All change requests from different sources should be turned over to PM. They will review, prioritize and schedule them for a subsequent release.

New releases are planned in coordination with PM. Marketing, sales and support teams should be aware of the schedule and highlights, so they can plan their activities. Feature-wise comparisons with competitor products should be available to position the new release in the most favourable light.

On the customer support side, create a standard Service Level Agreement (SLA). The accompanying table indicates a few key terms to be finalized in the Annual Maintenance Contract (AMC). Large and global clients may insist on more responsive support (24x7 phone, faster resolution for critical defects), especially if your software is critical to them. They may insist on committed resolution time for critical defects. You can have a premium support option for selected clients at a higher fee.

Deploy a customer relationship management (CRM) solution, to provide users with phone, e-mail and/or web based access at agreed support level. It should track the support engineers' performance and ensure compliance against SLAs.

**AMC (Annual Maintenance Contract)—key terms**

| AMC Issues | Suggestions |
|---|---|
| AMC without free upgrades | Not recommended since you end up supporting many old versions. Keep at 14% of list price. |
| | |
| AMC with free upgrades | 20-22% of list price. Client may negotiate this to purchase price. |
| | |
| Re-starting discontinued AMC | Pay for previous year(s) to renew. |
| | |
| Services covered | Usage related issues |
| | Defect fixes, point releases |
| | Free point releases |
| | Free major releases (depending on AMC type) |
| | |
| Services not covered | New implementation |
| | New configuration |
| | Cost related to upgrade for new major releases |
| | Data backups |
| | Errors arising from other hardware and software problems |
| | |
| Free support from PO or go-live date | 3-6 months |
| | |

| | |
|---|---|
| AMC availability | Phone support—9 hours @ 6 days |
| | Web support |
| | Email support |
| | |
| Response time (based on defect type) | Critical—within 4 hrs on business day, within 24 hrs otherwise |
| | High—within next business day |
| | Medium—within next 2 business days |
| | Low—within next 5 business days |
| | Enhancement—not supported |

### AMC Defect Categories

| Defect | Definition |
|---|---|
| Critical | • System/Application is down<br>• No work-around is available<br>• Root cause of the incident is the vendor software |
| High | • User not able to use a key function in a regular manner as before<br>• No work-around is available<br>• The root cause of the incident is the vendor software |
| Medium | • Error does not impact user working significantly<br>• The error is related to a secondary function<br>• No work-around is available<br>• The root cause of the incident is the vendor software |
| Low | • No direct impact on user |
| Enhancements | • Enhancement request either in feature or process |

While taking care of near-term objectives, companies must invest in longer term R&D. This team must walk the fine line, between thinking out-of-the-box and being aligned with the company's future roadmap. Most of the work will be related to new features that may show up, two to three releases later. Unexpected markets open up and technological shifts occur every 4-5 years. They must therefore also have some freedom to evolve new solutions that may obsolete an existing product. It is better that this happens from within the company, rather than by an upstart competitor.

## Building a 'Clustered' Organization

In the previous chapter, I described how we quickly managed to get the staff for new product teams at the VERITAS India subsidiary. The next few pages focus on various aspects of managing that growth, including organization structure, support teams and cost management. Though VERITAS India was only a

subsidiary of a US product company, the underlying issues are similar for any fast growing organization.

When Frontier Software (a services organization) merged with VERITAS Pune (subsidiary of a global product company), there were apprehensions about changes that will follow. To dispel their fears, I promised the existing two VERITAS teams continuing independence in their day to day functioning. The technical leadership was capable and they continued to own the product delivery aspects. Since some inter-team coordination issues existed, I only required that they should be brought to my notice for resolution.

Introduced in response to merger considerations, this model evolved into what I term as a 'clustered' organization. Under this architecture, VERITAS Pune was built as a cluster of relatively independent product groups. The vision was common—becoming a high value engineering team for the parent company.

We would initiate a new group by identifying and empowering a capable leader. This person would adopt the company's practices and add his/her own experience to managing the team.

I talked to each manager on a weekly basis to track progress, resolve operational issues, and seek continuing improvements in the group or company's functioning. The larger purpose of the meetings was to coach managers into becoming independent leaders.

Each month, technical leads reporting to the group manager, joined the meeting. This helped me understand and smoothen the underlying team dynamics, and spot potential future leaders.

We ended up with many smart managers at VERITAS Pune. Micromanagement was not necessary and would have been counter-productive. The 'Empower and Mentor' approach was good enough to communicate the preferred practices, and provide guidance wherever required. It let me concentrate on making the India subsidiary into a major player in the global company.

As the company gained maturity, we created a forum where senior staff would meet regularly to discuss specific aspects related to product development practices and company matters. Managers would share their unique experiences and techniques. The forum helped leaders get to know each other, and build trust and friendships.

In 2002, after a series of acquisitions, and with the internet meltdown slowing sales, VERITAS began to focus on tight integration of existing products, to create more value. The idea was to generate more revenue at a lower cost. Pune became the natural location for integration efforts, since every product team had an Indian counterpart. US managers visiting us had already discovered that VERITAS Pune was the best place to meet senior technical experts from various groups. This helped them quickly identify possible integration opportunities.

### Global Product Teams, with Pune Head as Facilitator

Each Pune group manager reported directly to the responsible product VP or Director in the US. We encouraged this model because it created a sense of

ownership in the mind of the US managers. Once they felt that the India team reported to them, they were convinced to treat them equally in terms of work allocation and career growth opportunities. The Pune manager got accepted into the global team, and was consulted directly on product and team related aspects. We actively discouraged any talk of India team versus US team by coaching both sides.

One of my key jobs was ensuring that we hired top talent and created an environment that motivated employees to do their best. I tracked how the Pune groups were performing by regularly consulting India and US product leaders, addressed any Pune issues unobtrusively, and intervened directly only in case of specific escalations.

Another responsibility was promoting VERITAS Pune within the global organization. In 2000, VERITAS began a tradition of an annual 'Cutting Edge' conference in which various VPs spoke about recent achievements and future plans. In the first year, I spoke at length about India as a country, and why it was emerging as a global software hub. Many managers had never visited India and had no idea about the Pune operation. In the second year, we showcased the talent in Pune through video clips of senior managers explaining their contributions. In year three, we demonstrated some product innovations developed entirely by the Pune team.

Many India captive heads often try to grab control, and own delivery responsibilities. This is not practical when sales and market is mostly outside India. It only leads to conflicts and unhealthy competition between India and global managers. The time will come, when complete product delivery can be owned by India based teams. Until then, it is better to act as a catalyst in building strong leaders, creating high performance teams, and expanding the subsidiary.

### Building Trust

I met individual managers each week. A round-table of all group managers was held every 2-3 weeks. I would send a monthly update e-mail to all employees, while an all-hands company meeting took place every 4-6 months.

I had a weekly phone call with the EVP of Engineering, Fred van den Bosch. Calls with US product VPs were on need basis. Most of them visited India couple of times a year. During our conversations, I would brief them on new developments in Pune, review the performance of their team, and plan future steps.

The basic principle behind every communication was to relay all relevant facts openly and honestly. My preference was to avoid hype and promises. Achievements and improvements were shared only after accomplishing them.

Discussions on the problems and challenges were carried out in three steps: first, acknowledge what was wrong or needed to change; second, understand underlying causes; and finally, agree on an action plan for resolving those issues. We exhorted participants to be catalysts for improvement, rather than be part of the problem.

Politics was actively discouraged. Rumours were scotched through immediate and open communication. If there were issues between two individuals or between India and US teams, we would talk separately to both sides, and then get them to arrive at a mutually acceptable solution.

The 'clustered' model proved highly scalable. By 2003, there were 16+ product teams led by managers who had either risen from within the company or hired from outside. Clustering is a good approach when groups do not have to collaborate much. Capable managers thrive in the independence that the model provides, while below average performers can be identified and replaced. In the next chapter, we look at other models suitable for more complex organizations.

### Expanding beyond Product Groups

In addition to product groups, centres of excellence in unique areas such as Performance Engineering, Usability Design and Technical Documentation were established.

The Performance Engineering group had experts with statistics and computer background. They performed load and scalability testing, and suggested improvements to the architecture and implementation of products. The Usability group, contributed to major re-vamps of UI for many VERITAS products. They eventually became an integral part of any new product design team. The Technical Documentation team created online help, and print versions of user and operations manuals.

In 2002, with a global clientele that required 24x7 customer support, the Technical Support division began looking at sites outside the US, and they selected Pune. The initial team consisted of 25 support engineers. After a successful pilot, it eventually became one of the largest groups at VERITAS India.

A recurring complaint from Pune engineering managers was the lack of inputs related to market requirements and user problems. This restricted our ability to come up with market-driven proposals for product enhancements. To address this, we started a small Product Management team in 2003.

### Managing Spending

Heads of 100% Indian subsidiaries (captives) have little incentive to manage costs since they are not a profit centre. There is pressure from local engineers to have facilities and perks that are comparable to those in the global company. Not knowing ground realities, the parent company often accedes to such demands. However, in the long term, it becomes counterproductive, since the cost advantage begins to diminish. The captives also distort the local market and attract employees, who are motivated by money rather than work. These same employees leave when some other high-spending multinational starts a subsidiary.

On joining VERITAS, the objective was high growth in Pune. The cost structure relative to US was so low, that nobody ever questioned the budget. However, coming from a services background, we decided to spend cautiously and create internal accountability for managing expenses.

Rapid growth at VERITAS Pune required ongoing expansion of facilities. We adopted an incremental approach, and added office space only as required. From 2 floors in one building, we soon had multiple floors at 3 different locations over a period of 4 years. Multiple offices ensured that we were not susceptible to any single point of failure. Product groups moving to a new floor were consulted regarding floor layout and decor. This created a sense of ownership and pride in the workplace.

The pre-merger VERITAS office had large workstation areas with high walls. In the new offices, we designed smaller cubes with lower separators and bright interiors. This promoted better teamwork and made the office look less claustrophobic. The managers previously had large offices, with size dependent on seniority. New cabins were of moderate size and same for everyone.

Indian product companies should also aim for comfortable but modest offices. A fancy office can give the wrong impression to investors or potential clients. Conference rooms used for meetings with prospects, clients, investors or employee teams, should be well-equipped. The CEO and VPs can have a utilitarian cabin, but not a glitzy one.

Larry Page, Google founder, has this to say on the subject: "We spent a lot of time getting our offices right. It's important to have a high density of people. We all share offices. We like this set of buildings because it's more like a densely packed university campus than a typical suburban office park."

### Employee Performance Review and Compensation

The culture at VERITAS Pune was always strongly performance based, but after the merger I noticed a slight bias towards employees with strong Unix kernel background. It wasn't intentional, but simply represented the fact that the team required and valued those skills more. Within a few months of the merger, one deserving Java senior engineer was given a double promotion. This sent a strong signal internally that competence would be rewarded without bias.

The Indian IT industry saw significant salary increases between 2000 and 2003, except for a flat year in 2001. Since we were hiring quickly, and wanted the best, our salary budgets were quite generous. To ensure better linkage with performance, salary revisions happened every 6 months for first 2 years. This short cycle kept employees in either 'anticipation' or 'satisfied' mode, instead of looking outside for higher salary. The increase was based on industry surveys, inputs while hiring, campus data and employee feedback.

The salary review process was de-centralised. In staff meetings, we decided on the approximate percentage increase based on performance rankings. Strong performers received substantial hikes, while those with average performance or below received small or no increase. Each group was given a proportionate budget, and individual managers decided increments. A small budget was set aside at my level, for a final normalization process across the company. Senior managers

would be consulted for these corrections. The process worked well and escalations were few.

The combination of cutting edge work, good company environment and compensation, ensured high level of employee satisfaction. At a time, when 15–20% attrition was common, ours was less than 5% overall, and 2% amongst managers and architects.

### Employee Perks

Income-tax regulations have been rationalized in recent years, but back then there were many grey areas in relation to taxability of perks. Companies, not fully aware of long term risks, were adding many supposedly non-taxable salary components in salary break-ups. This may have won the management some brownie points with employees, but put the company at risk. The liability would potentially appear few years later, when Income Tax questioned the perks.

We had pressure to match what other companies were doing. However, we took the stance that our compensation would be competitive, but salary structure will be in full compliance with Income Tax regulations. The benefits package was also standardized across the organization irrespective of seniority.

With VERITAS stock doing extremely well, the Employee Stock Option Plan (ESOP) was a highly prized benefit. Indian employees wanted parity with US employees on the number of options for a given grade. The parent company was not agreeable because the option pool was limited. Instead of an arbitrary ratio, we rationalized it based on relative living standards in US and India. The initial ratio in 1999 was 1:3. Four years later, it was increased to 1:2.5, to match the faster growth of the Indian economy relative to the US.

An unreasonable perk can create distortions. For example, a daily amount of $100 was given to employees travelling abroad for food and other expenses. This was in addition to hotel and car reimbursement. The allowance was high by industry standards, and unfair to the company. We reduced it to $70 in 2001, when the dot-com crash justified the belt-tightening.

### Employee Portal

To improve company-wide communication, we set up a team to develop an internal portal.

It had features such as an employee rolodex (with photo, name, manager, group, emergency contact, blood group etc.), policy documents, latest company news and announcements, training programs, conference room bookings, list of new hires, electronic forms for leaves and address proofs etc. Status of pending applications could be tracked online.

The portal simplified the employee's interface with support teams (admin, HR, Finance, IT) and gave them a feeling of a responsive organization. Support groups benefited because it greatly reduced routine clerical work. In 2003, this

team merged into the global IT Services group tasked with developing similar applications for VERITAS worldwide.

### Innovation and Entrepreneurship

VERITAS Pune had outstanding engineers and technical leaders. They were ambitious, eager to excel and prove themselves within the global organization. Besides contributing to ongoing product releases, they aspired to create value through new ideas. It was important to channel this energy constructively.

Most product teams usually have some idle time between releases. Campus hires would join in large numbers in July, and there was not enough work available for them immediately. We used these gaps to drive innovation in different ways. Established groups would take the new hires and transition some existing work to them. This freed up some bandwidth for experienced engineers to prototype new ideas for the product. Many significant features were developed in this way and incorporated in later releases.

Newly formed groups would be creative in their initial idle time. In one case, a new team began studying the product architecture, which was designed to work across platforms (Windows and different Unix flavours). They realised that the management interface was hard to use, had limited reports and was based on the native platform. The group wrote a platform independent Java based prototype, which supported a distributed management paradigm and sophisticated reporting. They took the usability team's inputs on the UI. The US manager, who had been reluctant to involve the Pune team, was impressed by the demo and initiative shown. He agreed to an eventual replacement of the management UI by the new web based model.

The usability group collaborated with several teams to build prototypes for a revamped UI, some of which led to product changes. A few existing products were ported to new unsupported platforms (typically Linux or Windows), which created new revenue opportunities.

In early 2002, VERITAS initiated a program encouraging employees, to file their ideas and innovations. A patent review committee would take the call on the ideas to be filed for US patent applications. A year later, in a review of the program, it was found that nearly 30% of patents filed came from the Pune team, which comprised around 22% of worldwide engineering. Many of the patents filed were later granted by the US patent office. I won't be surprised if the patent count (both filed and granted) at VERITAS (now Symantec) India is the highest amongst Indian subsidiaries. Such claims are always debatable, but VERITAS Pune at that time probably had the most accomplished software team in India.

An innovation oriented culture quickly creates an appetite for entrepreneurship. We harnessed this energy internally ('intrapreneurship') by enabling capable and talented individuals to lead new teams and groups. In recent years, more than twenty VERITAS Pune senior employees have moved into entrepreneurial

roles at start-ups, Indian or US based, either as founders, CEOs, VP of Engineering, or heads of India subsidiaries.

## Success Factor 2: Sales Engine

*"The purpose of business is to create and keep a customer."*

*— Theodore Leavitt*

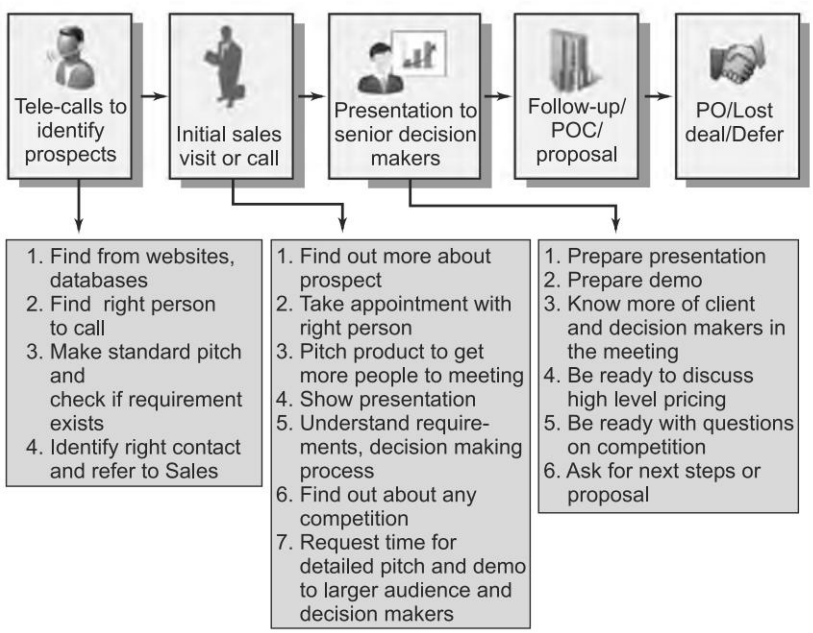
In the previous chapter, we covered issues such as product positioning, licensing, pricing and generating sales based primarily on founders' contacts.

A founder with some administrative assistance generally can achieve at least Rs. 3-4 crores in sales. As the customer and revenue base increases, like the rest of the organization, sales must become less dependent on founders and more institutionalized. There should be a proper sales strategy along with a multi-dimensional sales organization (direct sales team, channel partners, OEMs).

It is best to start with at least two senior sales reps, with 8+ years of experience in selling your kind of products to the industry segments that you target. They can learn about the product quickly from the founders, and begin to leverage their own industry network. Junior reps can be added once sales pick up.

The basic sales cycle is depicted below. It may be more involved in practice, requiring follow-up calls, multiple presentations, a proof-of-concept (POC) demo, and price / contract negotiations.

**Basic Sales cycle**



Sales efficiency can be increased by generating qualified leads for them. A lead generation (leadgen) team can identify opportunities, make tele-calls, and create a list of interested prospects for sales to follow up.

When the sales organization has grown to a reasonable size, it may have to be structured based on vertical or geographic basis to avoid duplication of efforts, and ensure accountability with proper assignment of quotas.

You should differentiate between 'hunters' (those looking for new customers) and 'farmers' (typically called account managers). Account managers (AMs) are generally the primary business contact to large or strategic clients, which are important either due to the volume of business they already provide, or future potential. The AMs job is to ensure client satisfaction and grow revenues within their accounts.

A solutions team may be required for complex products that need POCs to be a part of the sales cycle and for customization and training after purchase.

## Direct Sales—Team Size, Sales Rep Targets

In growing the direct sales team, every organization wants to aim for an optimal size. Marginal revenue per rep (which is the difference between per person sales and cost) should be relatively high, thereby generating profits and creating opportunity for further acceleration.

Most businesses use a capacity planning model to estimate team size. In the example shown in the accompanying table, current revenue of the company is Rs. 1.51 crores. Sales is being driven by one of the founders, supported by 3 junior reps. More reps are required to drive further growth. The required number over next three years is calculated as follows:

- The first step is 3-year sales targets that are based on current trends of revenue and growth, and management's confidence about product and market. By using the current average deal size (Rs. 12 lacs revenue per client), the required number of deals is computed. In subsequent years, the average deal size is shown to have gone up. This is because the company has been discounting to win deals, but is confident of higher pricing because of stronger brand or new features in planned releases.
- The next step is to set a target for each sales rep ('standard quota'). A sales VP will rely on his past experience. Let's assume his thumb rule is Rs. 100 lacs for a competent sales person. Since this is a new team that is ramping up, the average target for the first year has been reduced by 25-30%. With Rs. 72 lacs as per-rep quota, and maintaining the Rs. 12 lacs deal size for year 1, the number of deals per rep becomes 6.
- Dividing required number of deals by deals per person yields the number of direct sales reps required.
- To ensure maximum sales efficiency, sales team must be fed with a continuous stream of qualified leads. Currently, the company closes an

average of 1 deal per 12 qualified leads. The ratio improves to 1 in 10 as the pre-sales team becomes more skilled and the company's branding improves. Applying this ratio to total deals results in required qualified leads.

- The existing pre-sales/leadgen team is generating an average of one qualified lead per week (50 per year). Dividing total qualified leads by leads per person gives total pre-sales/leadgen staffing.
- Management transitions from founder to a Director level person, who can eventually become the VP of Sales.

**Example: Sizing the sales team**

| | Current | Year 1 | Year 2 | Year 3 | Comments |
|---|---|---|---|---|---|
| Direct sales (Rs. lacs) | 147.0 | 300.0 | 500.0 | 800.0 | |
| AMC & services | 4.0 | 7.0 | 15.0 | 28.0 | |
| **Total Sales** | **151.0** | **307.0** | **515.0** | **828.0** | |
| | | | | | |
| Average deal size | 12 | 12 | 15 | 17 | Improves with more features, less discount, better brand |
| No of deals | 12 | 25 | 33 | 47 | |
| Deals per rep per year | | 6 | 6 | 7 | Increases with more experience, and senior reps |
| Headcount—Direct sales reps | 1 | 4 | 6 | 7 | Current: founder drives sales |
| | | | | | |
| Leads to deal close ratio | 12 | 12 | 10 | 10 | Improves with experience |
| No of qualified leads | 147 | 300 | 333 | 471 | |
| Leads per person per year | 50 | 55 | 60 | 60 | |
| Headcount—Pre-sales/ Leadgen | 3 | 5 | 6 | 8 | |
| | | | | | |
| Sales (Director -> VP) | | 1 | 1 | 1 | |
| | | | | | |
| Total headcount—Sales | 4 | 11 | 12 | 16 | |

Though the math appears reasonable, the reality may not match projections because of some flawed assumptions. The company is transitioning from sales driven by the founder, to a new sales team. It will take time for them, especially with so many hired in one go, to ramp up and start contributing. The founder

carries more credibility with customers, and has enough product knowledge to convince prospects. He has the authority to negotiate and close deals. A sales team will perform well only with time and provided the product is mature, go-to-market strategy (G2M) is well-defined, and is armed with good sales collateral.

In the first year, new sales reps may not perform to expectations. It is quite likely that adding a new sales rep actually reduces net profit. In computing the total loaded cost of a senior sales rep, let's assume that average pay and commission is Rs. 10 lacs per year. Add travel expense of 2 lacs, and operations and admin overhead of 2 lacs. This comes to 14 lacs per year of direct cost. The rep is supported by leadgen and management personnel, which adds (say) 50% more, leading to a total annual expense of approximately Rs. 21 lacs per rep. This is the minimum revenue that each rep must bring in from day one, just to break even on his cost. If you expand sales team too rapidly, and they take time to bring in more than 21 lacs each, that amounts to extra drain on the company's funds.

Mark Leslie and Charles A. Holloway, in their Harvard Business Review article[9], caution that sales force size and capabilities must match where you are on the 'Sales Learning Curve'. They see this curve unfolding in three distinct stages (which map directly to the company's lifecycle as discussed in this book):

1. **Initiation (early stage)**
   - The product has just been launched. Initial sales require competent people, who understand the product well, can tolerate ambiguity, and communicate well with internal engineering and external customers. They should be adept at developing required sales material on their own. In an early stage company with limited funds, this usually means that one or more of the founders are directly involved.

2. **Transition (growth stage)**
   - The business has several customers and sales pipeline is growing. The G2M strategy is reasonably clear. A few leadgen and sales reps capable of executing on the sales plan can be added. They need not be as effective communicators and planners as your earlier A-team. The A-team gets involved with strategic prospects and continues to refine the sales model.

3. **Execution (large company)**
   - The product is selling well and sales team infrastructure and support is in place. A conventional sales organization can now be set up—complete with sales plan, territory allocation, price book, and sales collaterals.

Bottom line: Start with low assumptions of expected revenue per rep. Instead of hiring many reps, track actual progress in sales, quarter by quarter. Expand team only when revenues start climbing. If productivity stays low, assess what is going wrong. Every situation is different—it may be that the product does not have the required features, or you are not focusing on the right market, or the profile of sales reps does not match what is required considering your company's position on the sales learning curve.

What rule of thumb for sales quota can you apply in India? Indicative numbers vary between Rs. 50 lacs and 2 crores for mid-stage companies. Achievement will be on the lower side, if any of the following is the case: product is new, brand recognition is low, selling price is high, product is complex and has a long selling cycle, product needs extensive customization thereby increasing time to revenue realization, there are well entrenched competitors, a large percentage of the sales team is new, or market conditions are adverse.

## Don't Forget Existing Clients

Writing in SandHill.com[10], David Taber of Taber Consulting observes that "Research across B2B and B2C industries show that the most profitable business comes from up-sells, cross-sells, and expansions from existing customers. Repeat business costs between 1/3 and 1/10th of what new business costs."

Many companies ignore the revenue potential from existing customers, who have already invested in their product. Satisfied customers can be persuaded more easily to buy new features, products or services. You need not offer discounts to get them on board. Farming, as it is called, is the most efficient sales strategy because of shorter sales cycle, higher closure rates and full pricing.

Organizations must have a deliberate strategy for revenue from existing customers. This can be applied for annual support and maintenance, additional licenses, upgrade to new versions and buying allied products. Existing clients should be able to upgrade easily without having to re-enter data or follow complicated steps.

Another technique is to supply new data, analytics or advisories related to the application. For example, a financial application can charge extra for subscription to latest stock prices, forex data and other notifications.

Failure to generate more revenue from existing clients may signal serious dissatisfaction about product quality or utility.

## Sales Rep Compensation

More than any other department, the compensation structure for sales reps should be aggressively linked to achievement. At least 40% of salary should be linked to their quota. Junior and mid-level sales personnel will have individual quotas. For seniors (sales managers, AMs etc.) the variable component can be tied partly to individual targets, and rest for division or company sales.

Quotas must be set aggressively, but fairly to provide the right motivation. This accounts for the variable pay table below, in which the rep gets 100% of the variable salary component even if 80% of the stretch target is achieved. However, if the target is exceeded, there is a significant upside.

**Target-based Variable Pay for Sales Reps**

| Sales Target Achieved | % of Variable Component Paid |
|---|---|
| 70% | 50% |
| 80% | 100% |
| 90% | 110% |
| 100% | 120% |
| 110% and up | Bonus and recognition as appropriate |

## Start with Limited Verticals and Geographies

Avoid being all things to all people. A study of successful companies shows that they first became leaders in one market segment. By targeting few verticals, you can understand the clients' needs better. It lets you create a specific solution, which provides maximum value to buyers. Selling is easier since the cost-benefit is more apparent. With more customers, your company's brand in that space becomes stronger. Marketing can be more efficient and cost less by addressing only the target users. Thus, vertical focus and good execution, leads to a virtuous circle between product value and higher sales.

In the initial days, it is hard to decide which verticals to support. Until you decide where your product has maximum revenue potential, you can adopt a sales-only vertical positioning. The assumption here is that your solution has an underlying generic platform, overlaid by a layer that can make it serve different verticals. The layer, or 'skin', may consist of using appropriate nomenclature, adding or disabling of specific functionality, providing certain kind of reports, or customizing look and feel. In the sales-only approach, you have a business pitch for each vertical. But when it comes to actual implementation, you have to do some custom work for early clients.

With more clients in a particular vertical, less and less customization needs to happen. Eventually you have a solution that is truly vertical-ready.

The same benefits of focus apply to geographies. Small Indian companies often describe how they intend to sell their product globally where customers can afford to pay more, without realizing the effort and cost involved. It is better to become a king in your own jungle first. Sell initially in the closest addressable geography, and build from there. Once you have a strong customer base in India, it will be easier to sell outside India. I-flex case study, included in the next chapter, will reveal how they first established themselves in under-served markets of Africa and Middle East, before venturing into US and Europe.

SAP, founded in 1972 in Germany and with over $15 billion in revenue in FY2008, is another example of dominating on home territory first. Even 36 years later, SAP earned nearly $3 billion in its home country which is 20% of the revenue from a market that is perhaps 50–80 times smaller than USA. Even more pertinently, sales in its extended home region, EMEA (Europe, Middle East, Africa), was 54% of the total compared to 33% in the Americas (USA, Canada, Central and South America).

## Sales Projections

Being able to accurately predict revenue is important for planned growth. The word revenue and sales are sometimes loosely used for different purposes in the same company, as for example:

- Booked sales revenue (signed purchase orders)
- Invoiced revenue (this is the true sales related revenue from an accounting perspective)
- Total revenue (resulting from invoicing and other sources such as bank interest)

Invoiced revenue differs from booked revenue because of payments terms in purchase orders. Clients may pay in stages—advance and future payments for invoices raised after specific deliverables are completed. From an accounting perspective, revenue can be recognized only when you raise an invoice.

Sales rep targets usually refer to booked revenue, though commissions may be paid against invoiced revenue.

Another difference usually is that revenue targets set for sales are higher than estimates given the board of directors. While pushing sales to achieve high targets, the management team wants to be conservative in front of the board.

For making sales projections, start with a spreadsheet that has booked revenue numbers for past four (or more) quarters and targets for next four quarters. Future numbers are arrived at, through some back and forth between targets handed down by top management and bottoms-up confirmation from sales. The underlying inputs can be:

- Number of sales reps—current and planned, average sales per rep
- Recent trends in quarterly percentage increase (or decrease) in sales
- Pipeline of current prospects, average time to close deals
- Opportunities likely to result from new partnerships, strategic deals etc.

## Sales Funnel

Once the sales target is set, you need to break down the numbers by product, region and type. The sample table below illustrates this for a company with one product and multiple regions. Then, a sales funnel showing the required

progress from leads to signed customers is shown for one region (NCR). The example is an idealistic view, and real progress will rarely match the predictable pattern shown. However, it sizes the effort at a high level, after which it can be refined, based on the real ground situation.

In the table, of the target of Rs. 500 lacs, 87% (435 lacs) is expected to come from new clients. With an average deal size of Rs. 15 lacs, this translates to 29 signed customers during the year. The NCR (National Capital Region—in and around New Delhi) quota is 40% (12-13 clients).

The NCR table shows how they are acquired, by generating sufficient number of qualified leads (prospects) each month, which are whittled down to converted customers. Each highlighted row indicates new prospects introduced into the funnel that month, which gradually taper off over a 4 month period. It is assumed that only one client is converted for every eight prospects. The 8:1 leads to client ratio, and the 4 month delay, are assumed to the organization's current trends. The last two rows show clients signed and revenue earned in that month.

The NCR target—a bit higher than set by corporate—is then assigned to individual sales representatives by the Regional Manager.

**Example: Building a sales funnel**

Assumptions

| | | | | |
|---|---|---|---|---|
| **Total revenue target** | | | 500 lacs | |
| **Ave. revenue per new deal** | | | 15 lacs | |
| **Ave. revenue per repeat sale** | | | 4 lacs | |
| | | | | |
| | | **% of target** | **Amount (lacs)** | **# of deals** |
| **Farming** | | 10.0% | 50 | 13 |
| **Recurring** | | 0.0% | 0 | |
| **Support + AMC** | | 3.0% | 15 | |
| **New clients** | | 87.0% | 435 | 29 |
| | | | | |
| **New client breakup** | **West** | 50.0% | 217.5 | 15 |
| | **NCR** | 40.0% | 174.0 | 12 |
| | **Other** | 10.0% | 43.5 | 3 |
| | | | | |
| **Ratio of prospects to clients** | | 8:1 | | |
| **Average time to close deal** | | 4 months | | |

### Funnel for NCR (National Capital Region)

| | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | FY 09-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 4 | 2 | 1 | | | | | | | | | | | |
| | | 9 | 4 | 2 | 1 | | | | | | | | | | |
| | | | 10 | 5 | 2 | 1 | | | | | | | | | |
| | | | | 11 | 5 | 2 | 1 | | | | | | | | |
| | | | | | 11 | 5 | 2 | 1 | | | | | | | |
| | | | | | | 12 | 6 | 3 | 1 | | | | | | |
| | | | | | | | 13 | 6 | 3 | 1 | | | | | |
| | | | | | | | | 14 | 7 | 3 | 1 | | | | |
| | | | | | | | | | 15 | 7 | 3 | 1 | | | |
| | | | | | | | | | | 16 | 8 | 4 | 2 | | |
| | | | | | | | | | | | 17 | 8 | 4 | 2 | |
| | | | | | | | | | | | | 17 | 8 | 4 | |
| | | | | | | | | | | | | | 17 | 8 | |
| | | | | | | | | | | | | | | 17 | |
| | | | | | | | | | | | | | | | |
| # in pipeline | 8 | 13 | 16 | 19 | 19 | 20 | 22 | 24 | 26 | 27 | 29 | 30 | 31 | 31 | |
| New prospects | 8 | 9 | 10 | 11 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 17 | 17 | 17 | **187** |
| New clients | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | **13** |
| Revenue | | | | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 30 | 30 | **195** |

## Sales Pipeline

Once you have a plan, it has to be tracked closely. Planned versus actual achievements are tracked from individual rep level, to region, and ultimately in aggregate for the company. Senior management can review how the sales funnel actually compares against the plan, in terms of prospects in pipeline, new prospects introduced that month, and actual converted clients with deal size.

For tracking weekly sales progress at a more detailed level, another commonly used document is the sales pipeline. The example shown lists deals in progress and some related analysis. Depending on the status of client discussions, fixed probabilities are assigned. Deals that have just entered the pipeline (10% probability) are tracked separately.

Total value of deals, excluding the ones at 10%, is computed. More relevant is the pipeline value. It is smaller than total value because in this calculation, each deal size is weighted by its probability (30%, 60%, 90%). The column on estimated deal closure date, allows a rough quarter-wise pipeline calculation.

The sales pipeline can provide deeper insight into the efficiency of your sales process as we shall see in the next section.

## Example: Pipeline calculation

### Legend

| | |
|---|---|
| Awaiting PO | 90% |
| Negotiations | 60% |
| Demo/POC | 30% |
| Pitch and +ve | 10% |

| Company | Est. % | Deal Size (lacs) | Weighted Deal Size (lacs) | Region | Last Contact | Next Steps | Est. Closing | Owner |
|---|---|---|---|---|---|---|---|---|
| SINF | 90% | 20 | 18.0 | NCR | 1-Jun | PO call | Q2 | Sunil |
| Ralios Engineering | 60% | 35 | 21.0 | Mumbai | 27-May | Call | Q2 | Sunil |
| RESD | 60% | 25 | 15.0 | Blore | 28-May | Call | Q3 | Ravi |
| Acme Electronics | 60% | 20 | 12.0 | NCR | 10-May | Call | Q2 | Sunil |
| Aurine Auto | 60% | 20 | 12.0 | NCR | 26-Apr | Call | Q3 | Smita |
| Nemus Works | 30% | 15 | 4.5 | NCR | 30-May | new POC | Q4 | Ravi |
| Vonre Industries | 30% | 10 | 3.0 | NCR | 25-Apr | Quote | Q3 | Smita |
| Marathon Tech | 30% | 10 | 3.0 | NCR | 28-Apr | Quote | Q3 | Sandeep |
| Weldon Inc. | 30% | 10 | 3.0 | Pune | 15-Apr | new POC | Q4 | Smita |
| LESAR | 30% | 7 | 2.1 | Pune | 28-May | new POC | Q4 | Ravi |
| Quad Engineering | 30% | 7 | 2.1 | Mumbai | 25-Apr | POC call | Q4 | Sandeep |
| SRI Industries | 30% | 6 | 1.8 | Pune | 10-Apr | POC call | Q4 | Sandeep |
| ArvinTech | 30% | 5 | 1.5 | Chennai | 1-May | POC call | Q4 | Ravi |
| UniPlastics | 30% | 5 | 1.5 | Mumbai | 18-Mar | New POC | Q4 | Sunil |
| RE Modular | 30% | 5 | 1.5 | Mumbai | 20-Feb | Reminder | drop? | Sunil |
| KSE | 10% | 40 | | NCR | 19-May | Demo | | Ravi |
| Tribune Systems | 10% | 20 | | NCR | 14-May | Demo | | Ravi |
| GMT Steel | 10% | 15 | | Mumbai | 4-Jun | Demo | | Smita |
| Trinity Tech | 10% | 10 | | NCR | 2-Jun | Demo | | Sunil |
| FISL | 10% | 10 | | Mumbai | 30-May | call | | Sandeep |

| **Main pipeline (excludes 10% ones)** | | **Early pipeline (10% deals)** | |
|---|---|---|---|
| # of leads | **15** | # of leads | **5** |
| Total (lacs) | **200** | Total (lacs) | **95** |
| **Pipeline (lacs)*** | **102** | | |
| Q2 total (lacs) | **39** | | |
| Q3 total (lacs) | **33** | | |
| Q4 total (lacs) | **17** | | |

* -> (weighted deal size for 30%, 60% and 90% deals)

## Optimizing Sales

Number of sales reps, revenue and cost per rep, are the standard measures used to estimate total sales and its cost. However, two other parameters are vital indicators of sales efficiency and also your product's value proposition.

One is deal win percentage (or client to prospect ratio). Second is average time for deal closure. Doubling of either parameter will help achieve either the same revenue with half the number of reps, or twice the revenue with existing personnel.

A low deal win percentage may indicate lacunae in sales' ability to convey the product's value proposition. It is assumed here that since the prospect is talking to you, there is a perceived need for the product.

Deal closure time depends on how critical your solution is to the client's business. Is it like an antibiotic that cures an existing illness in the business, or a vitamin that is useful but not essential? Deal size is also important—high cost is a deterrent and requires longer decision cycles. You can mitigate this with flexible packaging and pricing.

Monitoring sales pipeline trends can yield valuable data on bottlenecks in the selling cycle, as shown in the table below.

**Pipeline performance analysis**

| Symptom | Likely Causes |
|---|---|
| Decreasing early pipeline (10%) | • Lead-gen understaffed or without proper pitch<br>• Not contacting right set of prospects |
| High prospect dropouts after sales pitch | • Product value proposition not convincing<br>• Sales rep inexperienced, not trained |
| High dropouts after Demo/POC | • Product not up to expectations<br>• POC not adapted correctly to client requirements |
| High dropouts after quote | • Price too high and client not convinced of ROI<br>• Competitor quoted less |

Analyzing lost deals, time to closure and sales pipeline should be an important part of business review meetings. It can significantly impact sales and marketing strategy.

## Sales Partners

Having your own sales team ensures that you 'own' your customers. Typically, companies with high priced products, tend to rely on direct sales. However, that may turn out to be too expensive or not feasible for consumer and online offerings.

It also pays to reach out to the market through different channels. A multidimensional sales approach consists of alliances with:

- Channel Partners, which consist of
  - Agents who typically sell directly
  - Distributors who stock and sell to next level distributors (national, regional etc.) and eventually to the retailers
  - Retailers (or dealers), who sell to end customers
- Value-Added Resellers (VAR), System Integrators (SI) and Solutions Providers
  - These are organizations with technical capabilities to provide a complete IT solution for their customers. This can comprise of one or more products that are customized and integrated, and new software that is developed if required. Their offerings include integration, consulting, training and implementation. They provide a single point interface to customers so they don't need to deal with multiple vendors.
- OEM
  - An Original Equipment Manufacturer (OEM) will bundle your offering as a component within its own product and/or sell your product under its brand.

Sales Managers interface with these partners. At companies with direct sales and partners, they will have mixed quotas, and will work with both end users and partners. Some sales reps are dedicated to help resellers and OEMs. Their compensation is made channel-neutral, which means they are fully compensated for sales achieved through partners.

Channel partners can be appointed based on geography or vertical, and on exclusive or non-exclusive basis.

Business arrangements with partners are usually on commission basis, depending on the percentage of sales. Some partners may want a monthly retainer fee. Numbers depend on the nature of the product and market. Reseller, VAR/SI commissions can range from 5-50%, based on their contribution to closing the deal. If a reseller only introduces a prospect, and you do all the selling, the commission is low (5-10%).

As a specific example, one large enterprise vendor has the following commission structure for sales partners:

- Margin (discount offered to partner on product list price): 20%
- Commission
  - 16% for successful sale to a new client
  - 10% for additional licenses sold to existing client
  - A sales partner has the flexibility to pass on some or all of the margin, and also the commission to a client
  - If the partner introduces a new opportunity but loses the deal to competition, 5% Software Value Incentive (SVI) is still paid (subject to qualifying conditions)

- Vendor does not have direct sales reps, and passes on leads to its partners
- Vendor's sales reps assist partners to close deals worth more than $50K

As the distribution chain lengthens, the product company may have to offer steep discounts. For example, Indian mobile application companies selling through Value Added Sellers (VAS) typically get only 10-15% of revenue derived from the end-user (operator retains 60-70% and VAS another 20-30%). For low-cost consumer products, when the distribution network consists of national, regional, state, district level distributors and finally the end point dealers and sub-dealers, the company may need to give away 50% or more in commission.

An OEM or VAR who integrates your product with others, and sells solutions through their own sales network, will expect a very high discount. This is because OEM relationships can open doors that are not possible with direct sales. In Chapter 2, Mark Leslie has described how OEM agreements with AT&T, Sun and HP became the engine for VERITAS' initial growth.

Microsoft, Red Hat, SuSE etc. offer various partnerships to vendors developing software on their OS. Benefits include discounted licensing, OEM certifications, online listings, co-promotions and introductions to their reseller community.

Partnerships with large OEMs can progress to win-win relationships. Either by accident or as strategy, your company may end up offering products that interface or co-exist with those from OEMs. You can then attach the OEM product with yours as an integrated solution, in return for a deep reseller discount from the OEM. Generating good sales, and becoming part of their road shows and customer meets, is a good way to strengthen the partnership. The i-flex case study covered in the next chapter, shows how a similar OEM relationship led to its acquisition by Oracle.

Channel partners have to be equipped to sell, and are required to deliver. Organize training sessions and have your staff accompany them in initial sales. They must have access to sales collateral (discussed in the next section). The commission structure should be tied to quotas, with bonus payments for meeting or exceeding them. Repeated inability to meet targets should result in cancellation of the agreement. It is more efficient to have a few high performance dealers than many under-performing ones.

Unfortunately, the reseller network in India is not very sophisticated yet. They prefer to deal in hardware or branded software (from Microsoft, Oracle etc.), where no real selling is required. Software sales being more complicated, requires trained manpower, which they are reluctant to invest in.

This poses a huge challenge to most Indian product companies, who must rely on direct sales. SaaS and web downloadable products may not require conventional sales channels, depending more on viral sales growth promoted by good marketing.

## Marketing to Create the 'Pull'

Sometimes people tend to confuse between marketing and sales. Marketing creates the 'pull' for business. It refers to the promotion of the company, especially through advertising and branding, which increases awareness of its offerings. Sales team provides 'push', reaching out actively to prospects and selling the product and services.

SaaS ventures rely almost exclusively on marketing to create 'pull' since there is no explicit distribution network ('push') that is required.

Brand is the succinct message that defines your value proposition. Brand creation requires repetition, consistency, and fulfilment. While marketing can ensure the first two, fulfilment requires product and support to deliver on the promise.

Marketing results in enquiries for the product. Successful follow-up of these leads by sales, results in purchase. Marketing effectiveness can be judged by the percentage of sales resulting from inbound enquiries compared to outbound efforts. Inbound leads have faster and higher rate of closure, since they originated from the buyers' knowledge and their interest in the company. They reduce cost of sales and are an indicator of strong branding.

For a small company, its reputation with existing clients is the seed for brand creation. Since the company is new, the prospective clients may wish to talk to references before buying the product. If they are not happy, no amount of marketing will help.

### Sales Collateral

Marketing assists sales in creating collateral that enables effective selling. This can include:

- Website
- Online flash product demo, with voice-over narration
- Standard demo versions of the product
- Training sessions and refresher courses
- Video showing sales pitch and selling tips
- Power-point sales presentations
- Online FAQs (Frequently Asked Questions) organized by topics, searchable, and editable by sales team
- Product brochure
- Comparisons with competition
- Return on Investment (RoI) analysis
- Case studies, white papers
- Client references
- Trial downloads
- Referral bonus schemes

### Defining Product Value Proposition

An integral part of sales collateral is defining the product value proposition. Too many companies highlight how the product is engineered (powerful and scalable framework, client-server architecture), or use standard buzzwords (innovative, world-class, robust design, 360° visibility), rather than how it can benefit the buyer in monetary or tangible terms. The other details can be in the fine print.

Your positioning must address the basic question—why should someone buy the product? In her Sandhill blog[11], Jill Konrath suggests an emphasis on tangible results like increased revenues, faster time to market, decreased costs, and improved market share and customer retention. Other relevant points are an increase in convenience or saving of time.

You should be as specific as possible—thus, 15-20% typical improvement in revenue, cut time to market by a third, etc. Your credibility is improved if you can quote specific instances—for example, saved Rs. 25 lacs in 6 months for auto parts manufacturer, increased work output by 10% in legal KPO firm, boosted traffic to website by 100% in three months, and so on. You can only get these numbers from existing customer feedback.

We have seen multiple advantages of staying in regular touch with your customer base. Just to re-cap, they include:

- More sales (new features or products, AMC)
- Networking, references
- Quotes to put on sales collateral
- Case studies, white papers, ROI data

### Sample Value Proposition Analysis

One of our portfolio companies, Zensoft Services, has developed a software tool called Qualitia that transforms how test automation can be performed at software product and services companies.

While software applications are being developed, test engineers write test cases to verify the functionality and to identify defects. This testing is done manually for initial releases. Once the application is relatively stable, it becomes time consuming and expensive to run all the test cases, for even small changes to the application. Therefore, these test cases are automated by using test scripting languages or test automation tools. This requires significant technical expertise, and hence test automation is usually done by experienced test developers. Switching from manual testers to test automation engineers is expensive and not very efficient, since the automation work is only for a limited duration.

Zensoft developed Qualitia to address these issues. Qualitia eliminates the need of complex programming and script based test automation. Deployed as licensed software, Qualitia sits on top of any of the market leading test automation tools.

Using Qualitia's 4th generation language, existing manual testers can now develop near real-life test automation in minutes! Qualitia also ensures optimal

utilization of test automation tool licenses, and increases resource availability across all projects.

In one early deal, a large software services provider had a requirement to automate 10,000 test cases. They had already estimated the number of automation engineers required to complete the one year project. They liked the Qualitia concept and invited Zensoft for a two week Proof of Concept (PoC) phase, during which Zensoft was able to demonstrate an improvement in productivity (average time to automate a test case) from 4.1 to 2.8 hours.

Based on the PoC, Zensoft submitted an ROI (Return on Investment) calculation as shown in the table below. The Qualitia value proposition was in three key areas:

- Productivity improvement of 24%
- Ability to automate test cases with existing manual test engineers, rather than more expensive, and harder to find, test developers
- Reduction in number of licenses of the underlying test automation tool (since Qualitia required fewer concurrent licenses, even with the same number of testers)

**Example: Proof of value proposition**

| Automation Parameters | Current | Qualitia |
|---|---|---|
| Test cases to be automated | 10000 | 10000 |
| Average test automation time per test case in hours | 4.1 | 2.8 |
| **Manpower Cost** | | |
| Average engineer cost—Manual (per month) | $0 | $600 |
| Average engineer cost—Automation (per month) | $1,000 | $1,000 |
| Manual test engineer count | 0 | 15 |
| Automation test engineer count | 20 | 5 |
| Engineering cost per month | $20,000 | $14,000 |
| Average cost per engineer per month | $1,000 | $700 |
| Effort in person-month | 232.9 | 159.1 |
| Total engineering cost for project—(A) | $232,955 | $111,364 |
| **Time to complete project** | | |
| Time to complete project (assumes team of 20 in both cases) | 11.6 | 8.0 |
| **Test automation tools—license cost** | | |
| Number of licenses | 20 | 8 |
| Cost per license | $18,000 | $18,000 |
| Total license cost—(B) | $360,000 | $144,000 |
| **Total Costs** | | |
| **Total Cost (A+B)** | **$592,955** | **$255,364** |
| | Total savings | $337,591 |
| | % Savings | 57% |

Zensoft projected a savings of more than 50% on the previously estimated $592K cost. Against this, the Qualitia license cost $100,000. Thus, the company was able to recover the Qualitia cost within 4 months, and save another $237K (40%) thereafter on the very first project.

The real value proposition was even higher if one considered the following:

- The project would be completed in just 8 months instead of 12, leading to tremendous end customer satisfaction. Alternatively, if time was not very critical, the client could reduce headcount, and utilize some of the engineers elsewhere.
- The company already had several manual test engineers assigned to the project. With Qualitia, it became possible to let them continue on the test automation work. This eliminated the learning curve on project issues that the new automation engineers would have had.
- While Zensoft demonstrated a 24% reduction in time taken to automate a test case after a two week PoC, it was expected that the productivity gain would keep increasing as the client's engineers became familiar with Qualitia.
- The Qualitia licenses would remain with the client, and future projects could derive even greater ROI.

### Brand Creation

There are many options for early brand creation. You must select those, which yield maximum leads and sales conversions. Use promotion channels that reach out to your immediate base of prospects (verticals, industries and decision makers). A strong brand is first built within a small circle that expands, as your business grows.

You can request senior contacts at existing satisfied clients, for introductions to a few prospects. Send e-mail to your database of names with a quarterly update on feature upgrades, product releases and customer wins. It can prod them into buying more from you. Track resignations of your known contacts, since that person may be willing to recommend your product at the new company.

Standard marketing channels include ads in different media, partner or industry promotional events, user and dealer meets, brochures, catalogues, online presence (website, blogs, podcasts), sponsored seminars (training), thought leadership through speaking slots and paper presentations etc.

Potential buyers increasingly search the internet for required products. Your website should be of high quality and provide enough information about what you sell. The home page must have a summary and links to the following:

- Target verticals and problem being addressed
- Product overview (use images where possible to represent functionality)
- List of clients
- Customer speak (relevant testimonials from client)

- News and events
- Downloadable demo or trial version of product
- Case studies, ROI worksheet, white papers
- Login for clients and partners
- Links to company background, sales offices, ordering online

When a user tries to download a demo, trial product, case studies, or white papers, prompt him/her for contact details. Some companies have started initiating an online chat with the visitor.

There are Search Engine Optimization or Marketing (SEO/SEM) firms, who help direct more traffic to your website, through techniques based on keyword optimization and focused online ads. Many of them work on pay-for-performance basis, which means that you pay only when conversion happens (user registers, expresses interest or buys the product).

A larger company can get professional marketing help. A company with Rs. 6 crores in revenue, spending just 1% on marketing, has a monthly budget of Rs. 50,000. This is a reasonable amount to pay as retainer to PR/marketing firms to fund specific campaigns.

## Success Factor 3: Finance Management

A business exists to supply products or services, but it survives on finance. Money is the oxygen without which, no organization can survive. Finance management is about raising required capital and using it efficiently to further the interests of the company.

In smaller organizations, founders are mostly worried about cash flow. They may track some financial data like booked revenue, invoices, payroll, spending on facilities, capital expenditure, and cash in hand. Profit & Loss statements are used mostly for tax purposes rather than as a measure of senior management performance. Founders may even use profits for personal gain.

This mindset has to change with growth. Mid-stage companies must optimize the regular income-expense cycle and perhaps seek investment to facilitate rapid growth. The next two sections look at these aspects.

### Managing Money

When the company is small, founders are generally aware and directly control the spending and the revenue. Cash flow is tight, so the management team has to ensure that bills are raised on time, outstanding payments are followed up, and expenses are tightly monitored.

Scale makes it harder to keep track of revenue and spending, and formalized tracking becomes mandatory.

On revenue side, ensure that invoices are sent on time and late payments are proactively followed up. Track delivery schedules, so that timely action can be taken in case there is a delay in invoicing. If there is dispute on product issues or contract terms, arrive at an amicable resolution. If any receivable is likely to become bad debt, work out a plan to salvage what you can and stop unnecessary work on that account. Management must review sales projections and pipeline closely, since they have maximum implications on the immediate future.

On expense side, get a break-down by categories. Ask for a list of large payments that are due (deposits, equipment, subscription or license renewals, travel etc.). Assess which expenses are critical to your business, and which can potentially be reduced or eliminated. Compare total and percentage breakdown of expense categories across successive quarters and year to year, to spot expenses that are increasing disproportionately. Identify and trim non-productive expenditure. Spending on items directly related to revenue, such as sales and engineering, should typically be more than 70% of total expenses.

Gross profit (revenue less direct expenses) and net profit (after deducting non-direct expenses, depreciation, taxes etc.) should be trended. Current bank balance and required cash flow for next month and quarter has to be tracked closely. Cash flow is approximately computed as follows: (a) current bank balance, plus (b) receivables (invoiced and expected), reduced by (c) payments pending and due, (d) expenses scheduled, and (e) anticipated investments (deposits and capital expenses).

### Budgeting

In small ventures, spending tends to be driven by founders' intuitive judgements. In bigger firms, spending patterns begin to emerge. As part of overall financial planning, each department (facilities, IT, admin, HR, training, marketing, pre-sales, sales) must have its own budget. This can be broken into headcount, capital investment and expenses.

An annual budgetary cycle can be instituted. It combines revenue estimation with funds allocation. Budgeting tends to be an iterative process. Past trends (last two to four quarters) gives a fair idea, which is fine-tuned according to the current priorities, to generate next year's budget.

The biggest expense is in sales and engineering. Based on your specific situation, you may decide to invest or cutback in either area. The variable that has the most impact is headcount. Associated change in cost (and incremental revenue, in case of sales) can be calculated. Staffing and cost in other functions should be maintained at a suitable percentage of the total, and adjusted for optimal efficiency (ensuring required contributions with minimal overhead).

Each department must identify numerical performance and expense yardsticks, which serve as guidelines to frame budgets and set internal improvement goals. For example:

- Ratio of engineers to technical leads and managers
- Ratio of lead-gen and pre-sales to total sales reps
- Each recruiter to hire 'x' people
- HR to provide 'y' days of training per employee
- Cost of facilities per 100 employees
- IT infrastructure and cost per 100 employees (PCs, servers, lab space, software licenses, network bandwidth, EPABX, UPS etc.)

The company's financial health can be affected significantly by unexpected product release delays, competition, or external economic situation. Since payroll is a major expense overhead, link it to performance. A certain percentage of salary should be used as a variable component, which is paid depending on individual, department and company performance. Variable pay terms can depend on responsibilities and seniority, as for instance:

- Up to senior engineers: 10% variable, tied to individual performance
- Team leads and managers: 15-30%, based on individual and team/ department performance
- Business heads and executive management: 40%, tied to division and company revenue and profitability

Actual payments should be strongly performance oriented. If less than 50% of the goals are met, variable pay should be nil. If someone exceeds target, there should be an upside.

### Quarterly Business Review

A quarterly business review (QBR) should be standard practice for any organization. It can cover engineering review, sales updates, marketing plans and overall business strategy. Plans and reviews must be supported by financial numbers.

The accounts head should provide a detailed analysis of financial status and trends (current quarter compared to last few, current and previous years). A sample template is shown below (columns for Q3, Q4 can be added).

**Template for simple financial review**

| | 2007–08 | 2008–09 | Current (2009–10) | Q1 | QoQ Growth in % | YoY Growth in % | - |
|---|---|---|---|---|---|---|---|
| Revenue | | | | | | | |
| Target | | | | | | | |
| Direct exp | | | | | | | |
| Profitability % | | | | | | | |

| Employees | March 2008 | March 2009 | Current (2009–10) | Q1 | % of Total Cost | Q2 | % of Total Cost |
|---|---|---|---|---|---|---|---|
| Engineering | | | | | | | |
| Sales | | | | | | | |
| Support | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Direct cost / emp | | | | | | | |
| Indirect cost / emp | | | | | | | |
| Rev per sales rep | | | | | | | |

| Other Inputs | 2007–08 | 2008–09 | Current (2009–10) | Q1 | Q2 | Q3 | Q4 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| Other income | | | | | | | |
| Taxes | | | | | | | |
| Incentives | | | | | | | |
| Liability (Loans) | | | | | | | |
| Expenses | | | | | | | |
| Direct exp | | | | | | | |
| Indirect exp | | | | | | | |

| | 2007–08 | 2008–09 | Current (2009–10) | Q1 | Q2 | Q3 | Q4 |
|---|---|---|---|---|---|---|---|
| Debtors | | | | | | | |
| Creditors | | | | | | | |
| Receivables | | | | | | | |

Topics like these can be discussed in the QBR:

- Is revenue growth on track, how can it increase?
- Sales pipeline analysis
- Important clients and delivery status
- Is spending optimal (what does the company spend on, is it getting the best returns on investments made in specific areas such as different sales channels, marketing approaches and different product categories)?
- Is it time to invest more in specific areas?
- Will cash flow be an issue? If yes, what are the options available to mitigate the risk?
- Alliances and partners

Each QBR must end with specific action items, with follow-up ownership assigned to senior managers. Progress should be tracked at intervening weekly or monthly meetings.

It is useful to have rules of thumb for macro business parameters, and compare them against industry benchmarks. A sample list is provided below. The next chapter features real-world data from an annual report (i-flex) and comparative numbers at different stages of growth lifecycle (Subex).

**High-level corporate metrics**

| | Early Stage | With Growth |
|---|---|---|
| **Expense split** | | |
| % spend on engineering | 70% | 30% |
| % spend on sales and marketing (S&M) | 8-15% | 12-26%[12] |
| % spend on marketing | Low | 35-60% of S&M (35% for higher priced products sold mostly through Direct Sales) |
| % spend on support and solutions | | |
| Eng as % of total headcount | | |
| Sales as % total headcount | | |
| **Per employee metrics** | | |
| Revenue per India employee | Rs. 10 lacs | Rs. 20 lacs |
| Revenue per US employee | $250K | $500K |
| Sales per India rep | Rs. 1 crore | Rs. 2 crores |
| Sales per US rep | US $ 0.5M | US$ 1.5M |
| **Revenue breakdown** | | |
| % distribution by product, services, others | | Aim for good balance |
| % distribution by geography | | 1–2 primary, 1–2 high growth, 1–2 investing |
| % distribution by vertical | | 1–2 primary, 1–2 high growth, 1–2 investing |
| % distribution by direct and channel sales | | Aim for good balance |
| % from acquisitions (past 2 years) | | Increasing with size |

Divisions and major departments should have similar QBRs and monthly reviews. Encourage each VP to have high-level target metrics. For example, Fred van den Bosch, Senior VP of Engineering at VERITAS, had set $1M in revenue per engineer as his benchmark. He would use this to make a first-cut estimation of engineering headcount, when deciding on future investments in new or existing products.

Involve your next level of leadership in business planning. This will develop a sense of ownership and participation. You will also gain from their unique

experience and ideas. Hold a quarterly employee meeting to share recent achievements and future plans. This forges a company-wide sense of common purpose.

## External Investment

Product companies find it hard to grow quickly based on internal accruals alone. Even if they are profitable on paper, cash flow is usually tight. Customers don't pay on time and there are usually some disputed receivables. Investments are required to expand sales, add product features, improve infrastructure, and grow solutions and support teams. Without adequate capital, only immediate expenses are met. Strategic investments may get short shrift, thereby hurting the company's long term prospects.

One way to bridge the gap is through bank credit and private loans. This works for short term needs, but the interest burden in India can become a major drain. For a mid-stage company aspiring for strong growth, institutional funding is a better option. Investment can come from a well-funded strategic partner. However, most software product companies have looked to raising VC money. This section focuses on venture funding.

Other than really cool ideas, even early stage VCs do not invest at pre-revenue stage. They start getting interested at around $1-2M of revenue, by which time they have some confidence that the product has merit and your company has passed the infant mortality phase.

VCs invest only if your business is capable of achieving at least $30 million in revenue within 4-5 years. In the first round, VCs typically put in between $1-4 million. They want to own at least 25% equity post-funding. This lets them exercise a fair degree of control and ensures reasonable shareholding even after future financing rounds. First round VC equity rarely exceeds 40-50% because they want founders to have enough equity to stay motivated.

Let's consider some numbers to illustrate how VCs expect to make money. Assume that a company with $1M revenue gets a 2.5x multiple for a pre-money valuation of $2.5M. An investment of $1-1.5M results in 28-38% equity for the VC and a post-money valuation of $3.5-4M for the company. The VC targets a return of 10 times the investment in 4-5 years. Suppose the company scales from $1M to $30M and gets acquired for (say) $100M. Though the VC originally held about 30% of the company for $1M funding, the shareholding may have diluted with 1-2 more funding rounds. Assuming the equity is down to 10% after 5 years, he gets $10M, which is a 10x return on the original $1M investment.

### Financial Plan

An extract from a sample high-level financial plan is shown below. The company is projecting revenue growth from the current Rs. 2.2 crores ($0.5M) in the current year to Rs. 241 crores ($49M) in 5 years. The company is profitable on

paper. However, cash flow is tight, since revenue realization takes 90-120 days, and investment is necessary for future growth. The company is seeking Rs. 12.5 crores ($2.5M) in two tranches ($1M at the start and rest at the end of year 2).

Sales is broken down by geography (India and international) and category (direct, resellers, AMC, recurring). Headcount and expenses across various heads are indicated.

**Sample Financial Plan**

| Executive Summary | | | | | | |
|---|---|---|---|---|---|---|
| | Current | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Revenues | 220.5 | 825.5 | 2327.3 | 5326.0 | 11523.5 | 24178.5 |
| Expenses | 200.0 | 820.4 | 1776.6 | 3391.6 | 6714.2 | 12068.9 |
| Profitability—EBITA | 20.5 | 5.0 | 550.7 | 1934.4 | 4809.3 | 12109.6 |
| Profitability—EBITA % | 9.3% | 0.6% | 23.7% | 36.3% | 41.7% | 50.1% |
| Net Profit | 12.3 | 3.0 | 330.4 | 1160.7 | 2885.6 | 7265.8 |
| Net Profit % | 5.6% | 0.4% | 14.2% | 21.8% | 25.0% | 30.1% |
| **Funding Requirement** | | **–186.7** | **–480.4** | **–887.3** | **–1242.9** | |

| Details | | | | | | |
|---|---|---|---|---|---|---|
| **Customers** | | | | | | |
| Domestic—Direct | 12 | 36 | 74 | 147 | 260 | 530 |
| Domestic—Partners | 3 | 18 | 36 | 68 | 142 | 224 |
| International—Partners | | 1 | 4 | 8 | 20 | 40 |
| **Total Customers** | **15** | **55** | **114** | **223** | **422** | **794** |

| **Sales** | | | | | | |
|---|---|---|---|---|---|---|
| National—Direct Sales | 148.0 | 432.0 | 976.8 | 2134.4 | 4152.7 | 9311.7 |
| National—SI/VAR | 37.5 | 216.0 | 475.2 | 987.4 | 2268.0 | 3935.5 |
| International—SI/VAR | 0.0 | 35.0 | 140.0 | 280.0 | 700.0 | 1400.0 |
| Professional Services | 7.0 | 102.5 | 238.8 | 510.3 | 1068.1 | 2197.1 |
| Recurring Revenue | 0.0 | 0.0 | 204.9 | 682.5 | 1703.0 | 3839.3 |
| AMC | 12.0 | 15.0 | 86.7 | 253.9 | 611.1 | 1358.7 |
| Sales—Existing Clients | 16.0 | 25.0 | 204.9 | 477.6 | 1020.5 | 2136.2 |
| **Total Sales** | **220.5** | **825.5** | **2327.3** | **5326.0** | **11523.5** | **24178.5** |

| **Headcount** | | | | | | |
|---|---|---|---|---|---|---|
| Management | 2 | 3 | 3 | 3 | 3 | 3 |
| Sales | 1 | 10 | 19 | 32 | 51 | 102 |
| Marketing | 0 | 1 | 3 | 5 | 8 | 11 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Product Management | 0 | 3 | 7 | 9 | 12 | 16 |
| Professional Services | 3 | 7 | 16 | 28 | 55 | 72 |
| Support | 2 | 5 | 13 | 26 | 52 | 65 |
| Development | 9 | 19 | 29 | 40 | 60 | 76 |
| Finance, HR & Admin | 3 | 7 | 12 | 23 | 33 | 47 |
| **Total Headcount** | **20** | **55** | **102** | **166** | **274** | **392** |
| **Expenses—Salaries** | | | | | | |
| Management | | 42.0 | 46.5 | 51.0 | 66.9 | 71.2 |
| Sales | | 121.6 | 248.2 | 464.0 | 864.3 | 1865.3 |
| Marketing | | 7.2 | 30.4 | 53.0 | 96.1 | 147.2 |
| Product Management | | 14.4 | 46.9 | 65.5 | 92.6 | 143.4 |
| Professional Services | | 61.4 | 120.0 | 210.2 | 436.3 | 627.6 |
| Support | | 28.2 | 76.6 | 173.1 | 380.8 | 523.6 |
| Development | | 122.0 | 210.4 | 321.7 | 522.0 | 707.8 |
| Finance & Admin | | 25.2 | 41.4 | 101.4 | 157.8 | 226.4 |
| **Total Salary Expenses** | **115.0** | **422.0** | **820.3** | **1439.8** | **2616.8** | **4312.5** |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Other Expenses** | | | | | | |
| Sales Commission | 7.5 | 57.2 | 151.0 | 309.5 | 733.6 | 1347.1 |
| Marketing | 3.0 | 34.2 | 111.2 | 284.0 | 704.0 | 1609.0 |
| Domestic Travel | 7.0 | 41.4 | 90.0 | 187.2 | 360.9 | 690.5 |
| Total IT Infrastructure | 25.0 | 62.4 | 115.2 | 193.2 | 345.8 | 605.4 |
| Facilities and operations | 12.0 | 33.4 | 128.7 | 205.0 | 263.0 | 366.0 |
| International Sales | 0.0 | 40.0 | 100.0 | 300.0 | 800.0 | 1600.0 |
| Training Expenses | 0.5 | 11.5 | 21.0 | 43.0 | 86.0 | 126.0 |
| Misc & Contingency | 30.0 | 26.0 | 56.0 | 120.0 | 240.0 | 420.0 |
| Depreciation | | 92.3 | 183.1 | 310.0 | 564.0 | 992.4 |
| Total Other Expenses | 115.0 | 398.4 | 956.3 | 1951.8 | 4097.3 | 7756.3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Statistics** | | | | | | |
| Sales Commission as % of Revenue | | 6.9% | 6.5% | 5.8% | 6.4% | 5.6% |
| Marketing as % of Revenue | | 4.1% | 4.8% | 5.3% | 6.1% | 6.7% |
| Sales & Marketing as % of Revenue | | 26.7% | 23.2% | 20.8% | 20.8% | 20.5% |
| Variable Expenses as % of Total | | 18.9% | 20.6% | 23.2% | 26.1% | 28.1% |

While a financial plan spreadsheet is obligatory to understand the high-level numbers of revenue and spending, VCs don't want a detailed business plan. They know that business will evolve very differently from original projections, and have more trust in their own judgement about the product idea and founders' capabilities.

### Preparing for VC Due Diligence

VCs assess factors such as these to decide on whether to invest: market potential, quality of the team, uniqueness of the product (differentiation, defensibility, exit opportunities), revenue and growth rates for past 1-3 years, and alignment with their investment objectives (space/industry, funding required). Typically a VC would like to speak to your customers, prospects, past contacts, and will also get independent feedback regarding the product and market.

Once they decide in principle about the investment, they may conduct a due diligence to verify various operational aspects of your business. These are briefly listed below:

- General corporate governance
  - List of shareholders, issuance of shares, share transfers
  - Records regarding list of Directors, minutes of board meetings, RoC (Registrar of Company) filings
  - Formal shareholder approval to raise funds
  - Are existing shareholders prepared for equity dilution, and aware of the rights VCs will demand as preferred shareholders?
  - Do founders and key member of the management team have adequate equity?
  - Is there an ESOP (Employee Stock Option Plan)? The VC will normally insist on one being set up as part of the investment.
- Financials
  - Audited balance sheet and profit-loss statements for current year and past 2 financial years
  - Present cash flow situation, and ability to continue operations for few months until the funding
  - Current or anticipated liabilities (major liabilities can reduce valuation)
  - Are there major collectibles due for more than 90 days? Could they turn into bad debt?
  - Does the company have any outstanding debt? If so, when is it coming due and how much? If it is convertible, what are the terms? Is any of the debt from foreign sources?
- Legal
  - Proper employment and IP protection agreements are in place with employees, consultants, investors, business partners

- Product licensing agreements adequately protect the company
- Any significant issues such as legal disputes, IP issues, etc.
- Use of open or third-party source code or IP

### Choosing the Right VC

Selection of the VC should not be a one-way street. While you may be seeking funds, the VC too is looking for the right companies. They have pressure from their Limited Partners (LPs) who put money in the fund, to invest and generate promised returns. If you have a great product, team, and are doing well, there can be multiple investors wanting to finance you.

Once you sign an initial term sheet with any one VC, a non-compete clause will restrict you from talking to anybody else for a specific period. Until then, talk to all interested VCs. Each experience will make you smarter about negotiating with others, and initial offers will give you an idea of the valuation to expect.

Don't just sign up with any VC. Selecting the investor should require as much thought as when you decided on co-founders or key persons in the management team. Do your own review and ask the following:

- VC website: background of the operating partners, limited partners, portfolio companies, successful and failed investments
- Space they operate in and familiarity with your domain. Do they have strong network with industry experts, potential customers and partners? Can they help hire key employees?
- Ask to speak to 2-3 of their portfolio company CEOs. Check on level of participation and value provided. Do they interfere in day to day operations?
- Talk to the CEO of a failed investment, or a CEO who was removed.
- What is your comfort level with their proposed representative on your Board?

### Equity Dilution with VC Funding

The sample table below indicates shareholding changes because of investment. It assumes that the company had angel investors with 25% of the initial stake. Both founders and angels must dilute to provide for ESOP (typically 10-15%) prior to outside investment.

The VC may incorporate provisions in the investment agreement for more equity if agreed targets are not met. The last column illustrates this. As a counter to such a condition, you can negotiate for an upside if performance exceeds target.

**Equity Dilution after VC Investment**

| | Current | Post ESOP | Post Funding | Target not met |
|---|---|---|---|---|
| Angels | 25.0% | 22.25% | 15.9% | 14.8% |
| Founders / Promoters | 75.0% | 66.75% | 47.7% | 44.5% |
| Employees and advisors | 0% | 11.00% | 7.9% | 7.3% |
| VC | | | 28.6% | 33.3% |
| | **100.0%** | **100.0%** | **100.0%** | **100.0%** |
| | | | | |
| | | | | |
| Pre-money valuation ($ M) | 2.5 | | Actual 1-yr revenue is < 80% of target | 2 |
| Investment amount ($ M) | 1 | | | 1 |
| VC equity | 28.6% | | | 33.3% |

With further rounds of funding, promoters' equity will decline further. The next table shows progressive equity dilution until the Initial Public Offering (IPO).

Notice how promoter 1's shareholding declined from 50% at the start to 14% pre-IPO, but the value of the holdings steadily increased from nothing to $8.5 million. Thus, while the share of the pie kept declining, the pie size increased much faster. This is the key to raising money—take it only if it will enable faster growth than without it. There is no magic formula to determine when and how much funding to take. Ultimately, success or failure is determined purely on whether the company executed on its promise of fast growth.

**Equity Dilution until IPO**

| % holding | Start | Consul-tants | ESOP | Angels | Round A | Round B | Pre-IPO Placement |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| Promoter 1 | 50% | 46% | 39% | 33% | 19% | 15% | 14% |
| Promoter 2 | 50% | 46% | 39% | 33% | 19% | 15% | 14% |
| Consultants | | 8% | 7% | 6% | 3% | 3% | 2% |
| ESOP—1 | | | 15% | 13% | 7% | 6% | 5% |
| Angels | | | | 15% | 9% | 7% | 6% |
| VC Round A | | | | | 30% | 24% | 22% |
| ESOP—round 2 | | | | | 12.5% | 10% | 9% |
| VC Round B | | | | | | 20% | 19% |
| Pre-IPO placement | | | | | | | 7.5% |
| | | | | | | | |

| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
|---|---|---|---|---|---|---|---|
| **Valuation** | | | | | | | |
| | | | | | | | |
| Pre-money | | | | $ 566,667 | $ 5,600,000 | $ 19,200,000 | $ 55,500,000 |
| Capital | | | | $ 100,000 | $ 2,400,000 | $ 4,800,000 | $ 4,500,000 |
| Post-money | | | | $ 666,667 | $ 8,000,000 | $ 24,000,000 | $ 60,000,000 |
| | | | | | | | |
| Value of promoter 1 holding | | | | $ 221,567 | $ 1,528,810 | $ 3,669,144 | $ 8,484,896 |

### Investment Agreement

Once both sides have decided to proceed further, the VC will provide a term sheet. It will specify the investment amount, valuation and high level terms and conditions. Be prepared to negotiate—some clauses may be difficult for you to accept. There will be a few that are non-negotiable for the VC, but hopefully both sides will arrive at mutually acceptable terms.

Here is a list of typical terms:

- **Investment particulars**
  - Amount to be invested, equity % for VC
  - Particulars of how the amount will be distributed. If the amount is split, then define performance targets, and other terms (valuation and equity %) for future installments.
  - Current and new equity structure, including ESOP
  - Penalty clause in case agreed targets are not met—typically more equity given at par to investors
  - Exit for any existing angel investors by utilizing part of the investment

- **Preferred stock**
  - Shares issued to VC are usually preferred stock with more rights than the common stock
  - Annual dividend may be payable on preferred stock

- **Board of Directors (BoD)**
  - Composition of the new board—number of Directors representing founders, VC and others

- **Anti-dilution**
  - In case of future funding, VC has the right to buy more shares at the price set by the new investor to maintain current equity %
  - If the later price is lower than the original VC share price, then upward revision in VC's shareholding based on the new (lower) price

- **Liquidation preference**
  - In case of dissolution, sale or merger of the business, then VC gets first claim to sale amount until he recovers at least 'x' times (typically two times) the amount invested

- **Protective provisions**
  - VC approval is required on certain transactions, such as:
    - Issue of new shares or transfer of shares
    - Pledging or mortgage of shares
    - Debt or loan above a certain limit
    - Purchases above a certain limit
    - Major amendments to business plan, budgets, accounting policies
    - Change of management, appointment or termination of senior personnel
    - Change in compensation and ESOP of senior management
    - Change in BOD
    - Restructuring, M&A, divesting part of the company, establishing subsidiaries
    - Partnerships, joint ventures

- **Employment contracts**
  - New employment contracts for founders and key management team members
  - Requirement to stay with the company for a certain period (4 years is typical), failing which certain % of the equity has to be returned to the company at face value

- **Right of first refusal**
  - To buy new or existing shares to be sold

- **Tag-along rights**
  - In case promoters sell shares, then VC can sell theirs on same terms

- **Indemnification**
  - Investor not responsible and indemnified from all losses and claims against the company by third parties

- **No lock-out**
  - — In case of IPO, the lock-out period shall not apply to the VC

- **Information rights**
  - — VC has access to all financial and operating information of the company

- **Fees and expenses**
  - — Company bears all investment transaction expenses including banker and legal fees

- **Exclusivity**
  - — Once the term sheet is signed, company cannot negotiate in parallel with any other investor for an agreed period

A detailed legal agreement follows the term sheet. That can be very complex, and you need a financial advisor and lawyer as consultants. They should be specialists who are familiar with such investments.

## Case Studies

### (Mid-stage growth companies—Rs. 20–200 crores revenue)

The three case studies selected for this chapter share some striking similarities, and also offer interesting contrasts.

The first (Kale Consultants) is one of India's oldest software product companies. They are survivors, having weathered significant challenges in the past 25 years. After an early IPO, their real success story has been since 2001.

The second company, Compulink, which began by providing services, later transformed themselves into a product business during the 2001 downturn. They have developed India's leading project management software and are publicly listed since 2005. In October 2009, Compulink announced that it will merge with Glodyne Technoserve Limited, a leading Technology Management Services company.

MakeMyTrip.com is one of India's largest consumer service portals, and is typical of the SaaS opportunities that exist in a vast market like India. They are now supplementing online travel services by opening offices across India.

A common feature amongst all three is the extended struggle by founders to set the right direction. For Kale, it came by jettisoning old businesses and focusing on the global airline and transportation sector. Compulink transitioned from services to a product, which they sold off, and finally a solution suite. MakeMyTrip survived several scares in the travel sector to become India's largest travel portal.

The three companies are well funded through IPO or by VCs. Though they have been clubbed together as mid-stage companies, they are at different stages of growth. Kale Consultants and MakeMyTrip.com, with over Rs. 100 crores in revenue, are well positioned to enter the big company league. Compulink has still not quite reached the Rs. 20 crores level, but is making an exit through its announced merger with a much larger company.

## Kale Consultants: Reaching for the Skies

Kale Consultants ranks among the top five global vendors in the Airline, Logistics and Travel (ALT) sector. Founded in 1986, they are one of India's first software product companies.

### Living Up to an Early Promise

So how did they get there? "It was actually very simple. We just hired people smarter than us and then got out of their way!"

"We are very demanding when it comes to innovation. We promise employees that they will learn more at Kale Consultants in the first two years than anywhere else. We deliver on that commitment by giving them key responsibilities right from the start, and mentor them to succeed. Basically, youth does not have the fear of failure", says Narendra Kale, Chairman, Kale Consultants. There were other lessons learned the hard way during the course of building a successful business.

"Maintain laser focus and don't invest in too many product lines. Live within your means. Our policy today is to never have more money than we need," says Narendra from his experience.

Narendra graduated in 1976 as an M.Tech. in Computer Science from the prestigious IIT, Kanpur. This was when most people had not even heard of computers. He was lucky in having as his guide, one of the very best, Dr. V. Rajaraman, who can be called the father of computer science in India. A very kind person by nature, he invited Narendra over for dinner when he graduated. During the conversation, he suddenly asked him what he wanted to do in his life. Narendra mulled over the question and said that he would like to work for a consulting company for about 2–3 years, followed by a stint at an educational institution for another 2–3 years, after which he dreamt of starting a software company of his own. Dr. Rajaraman both blessed, and challenged Narendra to follow his dream.

As we shall see, Narendra delivered on the commitments made to his guru. He began with TCS, who had offered him a job before he had graduated.

After working at TCS for about 3 years, one day he got a message requesting a meeting from Dr. Takawle, who was then Vice-Chancellor of the University of Pune. Dr. Takawle asked for two years of his life. Mentioning that he would

not be able to pay him a great salary, he said that he knew Narendra's bent of mind and wanted him to lead the computerization of the University systems. A previous attempt by the university had been disastrous. Not being able to resist this challenge, Narendra quit his job in Mumbai and moved to Pune. At the University, while successfully automating the various departments (especially the examination related systems), he also got involved in academics. He was enjoying the educational environment and work, and would have continued, had he not mentioned his dream of starting his own company to his wife. To his pleasant surprise, one day, she said that she had been saving his entire salary for the past six months. Rather than indulging in 'what ifs' later on in life, she advised him to follow his dream. His wife's active support encouraged Narendra to resign from the University, and start Kale Consultants as a partnership firm in 1982 with his brother, Sudhir, and wife Nanda. They worked in services field until 1986, when Narendra incorporated Kale Consultants as a private limited company with a firm focus on building products.

## Successful Take-off Followed by Turbulence

While providing services, Narendra had become a consultant to the Indian Banking Association, which gave him a deep understanding of the challenges faced by the banking industry. This knowledge led to the emergence of 'Plutus', India's first retail branch automation software in 1989.

This was just one of many firsts to the credit of Kale Consultants. They built a real-time online transaction processing (OLTP) system for the hotel industry, followed by a hospital management system, and later software for the airline industry. In each case, they ventured where nobody else had before, and became successful.

While building the hotel OLTP product, he met with his future business partner, Vipul Jain, who is currently CEO and MD of the company.

Kale's early success with innovative products led to external investments. They first received Rs. 20 lacs from TDICI (headed then by Kiran Nadkarni) under a scheme for encouraging technology companies, and became the first VC-funded company in India. TDICI funded a second round in 1996-97, for around Rs. 20 crores.

In 1999, Kale Consultants went public on Bombay Stock Exchange. The issue was a huge success and set a record for oversubscription. TDICI mopped up Rs. 350 crores from their equity, which represented a 17.5 multiple in just 2 years! The promoters continue to hold 34% stake to date. Narendra has not sold any of his shares irrespective of the ups and downs of the market. He intends to sell it only for a worthy cause.

The IPO provided an easy access to funds and let employees and shareholders cash out their options. Kale had allocated about 10% of equity to employees in 1990, well before they went public. Narendra also highlights some downsides to

being a public company, "Investors look only at short-term benefits and quarterly reports. There is pressure to show continuing growth and profitability, which may dissuade long term planning. Management at public companies must learn how to meet investor expectations, without compromising on expansion of infrastructure, new product R&D, and welfare of employees."

The years 1999 to 2001 proved turbulent. Kale Consultants had products across multiple sectors - hotels, hospitals, banking and airlines, each quite different from the other. Management bandwidth was getting stretched. There were profitability issues, and customer service was deteriorating. They realized that focus was going to be very important if they wanted to achieve their mission of being in the top three in their chosen field. This was not possible if they spread themselves thin by catering to four or five different sectors.

Narendra constituted a review committee comprising of a renowned Harvard Professor and top managers. After thorough research, they concluded that Kale Consultants should focus on the airlines business, which the committee felt had the maximum potential. Their conclusion was for the company to divest its other businesses, if it wanted leadership in the airlines and travel segment.

This was a painful decision to make, but Narendra and his board decided to bite the bullet. The divesture process was done carefully and took 2–3 years. They sold the banking product to another company. One of their employees set up a separate venture and took over the hospital management product. The hotel product was handed over to their clients (in terms of source code etc.). It was a huge challenge to explain these transitions to employees and clients, and minimize the impact on them.

The committee's recommendation turned out to be sagacious. The Aviation, Logistics and Travel (ALT) market is today the 2nd or 3rd largest industry globally. The IT market in airline industry alone is estimated to be in excess of $10 billion.

## Cruising at High Altitude

Kale Consultants first developed a solution for the airline industry in 1989-90 as a project for Air India. It is strange but true, that Air India cajoled Kale to take up the project. Kale's story is testimony to the fact that once you earn trust and respect from your customers, they will back you to the hilt. Air-India had heard from other clients of Kale's reputation of doing good work, building systems that last, and delivering more than what they promised.

Kale Consultants were hesitant initially because they did not want to let down a client who would be a key win. The project was difficult to implement and would take a long time. The system had to be reliable and resilient, because, once implemented, Air-India would be critically dependent on it. Kale lived up to expectations and delivered the software on schedule and within budget.

Meanwhile, their sales team was exploring the market for similar opportunities with other international airlines. They found that most of the systems were based on legacy platforms, while Kale's solution used current third generation platforms—Open Systems and Oracle. Recognizing the market potential, they paid Air India twice the money to purchase the rights to the source code and IP. After scoping out detailed requirements, they redeveloped the product over next few years to suit the international market.

With a ready product, Kale initiated an extensive sales campaign. Continental Airlines became the first international customer in 1997. It was a leap of faith for them to trust an Indian product company with their mainstream operations. Kale showed them demos, first in India and then to their US management. Continental was very impressed with the team's technical knowledge and subject matter expertise, and especially appreciated the fact that Kale engineers talked to them in their lingo. Over the years, with the Air India experience and having done their homework, Kale had acquired substantial domain knowledge. Kale had also hired people with prior experience in the airlines sector.

Other airlines soon signed up—Qatar Airways and Air Luxor (both 2001), Indian Airlines and Delta Airlines (2005). They currently service 15 of the top 20 airlines, and have over 100 airlines and travel customers across 5 continents.

Today, their target market has expanded to the ALT (Aviation, Logistics, and Travel) sector. For airlines, they offer Revenue Accounting and Proration solutions for stakeholders in Finance, and Deal Management and SPA Management for Commercial. Kale has a solution suite for increasing the efficiency of cargo operations. It covers every aspect of the business, right from allotment management, reservations, space control, operations and tracking to revenue accounting, ground handling and electronic data communication.

For the logistics industry, Kale's products support the entire value chain including, carriers, shippers, airports, freight forwarders and container freight stations. Their Travel solutions include an end-to-end platform for travel operators.

The company's objective is to become the number one total solutions provider. This means providing customers with options. Most products are available through multiple delivery models to best suit client needs: subscribed, hosted and outsourced. In 2001, some airlines asked Kale if they can take over their entire back-office functions. They did not want to be involved in the hardware, software, support and future upgrades. That prompted Kale Consultants to set up a Knowledge Process Outsourcing (KPO) unit. The KPO's software infrastructure is based on their own products. Most of their KPO competitors also use Kale products, which are effectively now a global standard.

Besides organic growth, Kale has also done strategic acquisitions. These include Speedwing's Passenger Revenue Accounting and Cargo Solutions business in 2000, Cognosys in 2003 and recently in 2007, Zero Octa, a UK-based company. Cognosys brought travel expertise and Zero Octa furthered

their reach in KPO operations. Purchases were funded mostly through internal revenues and partly from loans.

When entering into any new space, the company carries out a build versus buy analysis. If an existing product is available, with proven technology, significant customer base, and reasonable price, they go for an acquisition.

Since Kale Consultants delivers mission-critical functionality to ALT sector, it was important to establish global standards and follow well-defined processes. Therefore, they went in for and received ISO 9001 certification (1999) and global ISO 27001 approval (2006).

## Strong Tail Wind

Since the divesture of non-ALT products in 2001, revenue has climbed from $2 million to over $20 million (Rs. 102 crores) in the financial year 2008-09. More than half of this comes through their original products, and rest through acquired companies. Over 70% of the revenue is through international clients.

Kale Consultants are already the world leader in revenue accounting software for Airlines, with nearly 30% of the market share. They are No. 3 globally in the combined revenue accounting, management and cargo solutions segment. Of their 100 clients in 33 countries, the top ten bring in over quarter million dollars each.

Kale Consultants have 1500+ techno-functional consultants distributed across 12 locations, including USA and UK. Their engineering workforce is concentrated in Pune and Mumbai.

## Piloting in Rough Weather

A key challenge in the airline sector is the declining growth due to issues such as security, fuel cost and the 2008-09 economic fluctuations. Facing a credit crunch, customers do not want to spend money upfront and are demanding greater transformational value. They are seeking early returns on their investments. Kale Consultants have aligned themselves with their clientele's pain points.

Their solutions are now available as pay-for-use hosted platforms. This innovative model is beneficial for customers, since it reduces upfront investments. The ROI is immediate, since the business benefit is realized right with the transaction. Kale's audit and revenue recovery services helps airlines recover lost revenue. The recovery adds directly to the airline's profitability and helps customers identify gaps and plug revenue leakages. Thus Kale's solutions reduce capital expenditure and offer flexible pricing models, thereby sharing risks and rewards. These benefits are exactly what airlines need in tough times.

Airline mergers have also influenced Kale. Narendra views them as an opportunity, as well as a risk. For example, Northwest and Delta are both their customers, so their merger was pretty straightforward. When only one party is

a customer, system and process integration can become a significant challenge. Kale Consultants helps their customer through this phase after the merger. Most airlines use their base software, which facilitates the integration.

The company is consciously trying to build annuity revenues and structure multi-year contracts. This gives them long term visibility into revenue. On the cost side, they are being cautious but continue to invest in new development. Capital expenses on infrastructure, hardware servers, and product development, are being met largely through internal accruals.

Kale Consultants' moves are paying off. Revenue for 2008–09 grew 18.6% crossing Rs. 100 crores, while operational profit jumped by 52.6%, in what was a difficult year for the global economy, especially the airline industry.

## Soaring Higher

With over $20M annual revenue and sustained growth in the past several years, Kale Consultants is now targeting $100M in the next 4 years. This is possible only if they accelerate the current growth rate. They will need to consolidate their leadership in airlines segment, and begin dominating in logistics and transport as well.

In the last two years, they have focused on logistics market. In India alone, the demand for technology solutions in logistics industry is an estimated Rs. 1000 crores by 2013.

While maintaining focus in ALT, Kale Consultants will continue to expand their footprint both vertically as well as horizontally. This will happen through organic efforts and acquisitions. They have an opportunity for upward integration and offering high-value solutions to existing clients, based on the business data that they already collect at their installations. Continuing product innovation is critical.

Sales and marketing strategy is undergoing a significant revamp. In 2008, Kale launched a new branding campaign around 'Industry Solutions—Customized Approach' in view of the changed business environment. It emphasizes Kale's total range of solutions and flexibility to the customer. Their competitors operate in niche areas—some offer only product licensing, others only KPO, and so on. Kale is one of the few that offer a comprehensive package to airlines, with the option to choose one or more of their offerings, go for the entire range of solutions, or even switch from one model to another. This provides a significant competitive advantage, when negotiating for new business.

Companies must also have an exit strategy in mind. Kale Consultants is keeping all options open, but continues to believe in its own potential for further growth. Kale Consultants dream has always been to be the global gold standard, and they have achieved it to a significant extent in the Airlines sector. Their sights are now set on the next frontier—spreading their wings and soaring to a higher plane in terms of corporate success.

## Compulink: 'Whizible' Success

'Orchestrating performance' of enterprises through informed decision making, alignment to corporate goals, and execution that meets quality and schedule objectives, is their business. 'Whizible' range of products is their comprehensive solution. Creating original IP, be it in products, services, training or consulting, is the foundation of their business model.

An SEI CMM Level 4 company, Compulink was named as one of '100 Innovators' by NASSCOM in 2007. They have won 'Technical Innovation' and 'Sales & Marketing' awards at the Microsoft Worldwide Partner Conference. Compulink had an IPO on Bombay Stock Exchange in 2005.

These are significant milestones for a company, founded by someone who began his career with no formal background in software.

### Orchestrating a Start-up

Vishwas Mahajan, CEO, MD and Co-Founder of Compulink, is a Chemistry graduate with an MBA from Symbiosis Institute of Business Management, Pune. His first employers were IT companies - PSI Data Systems, Digital Equipment and Key Information Technology. This last company was based out of Dubai, and Vishwas ran it for a while. The pull of his homeland was too strong, and he decided that he wanted to come back and start his own company. Thus began Compulink in 1996, along with his friend and colleague Uday Kothari.

Vishwas was good at marketing and sales, and that is the role that he has been playing since then. Uday, who is the Chairman, CTO and Co-Founder, was a techie and still takes care of all technology aspects. Their partnership has stood the test of time—it was also helped by the fact that they had complimentary skills.

Compulink started out by doing product services outsourcing. Like most self-funded companies in those days, their beginnings were modest. Operating from a garage in Pune, they initially worked with start-up product companies. Following steady growth for few years, there followed the sudden dotcom crash in 2001-02 and they lost many of their customers. Forced into a corner, they introspected and realized that their core strength was in taking up an idea and converting it to a product. Now that their customers had vanished, they decided to build products of their own.

They were honest about their limitations. Domain expertise and exposure to the market was critical for any product, but sitting in Pune they had very little insight about what the global market required. None of them had studied or worked in the US.

However, Compulink also had a few key strengths. Having done a lot of recruitment, they knew that hiring good people was difficult and the process was quite tedious. After some brainstorming, they homed in on their first

product, HirebyNet. Akin to current successful job portals like naukri.com, the application used the internet to reach prospective employees. It did not have an extensive database of candidates (like naukri.com has). Instead, it let people apply and screened them on the basis of skills required.

They now had a product, but did not have the wherewithal to market and sell it aggressively. So, they went to a trade-show in Las Vegas, where they met a company called Interviewnow.com. They too were into recruitment but their system did not support evaluation of candidates. After some discussions, Compulink agreed to sell HirebyNet to them for $100,000. Unfortunately, that company too ran out of funding and could not do much with the product. However, Compulink had realized one important lesson—it is possible to make money by having your own IP.

Vishwas and his team were ready to conceptualize and invest in their next product idea.

## Orchestrating Growth to 100+ Clients

A team of 8 people began to brainstorm on how to enable collaboration between say, a customer in New York, architect team in California, and a team of Indian developers. After the prototype was ready, they decided not to sell the IP like they had done with HireByNet, which everybody said had been sold too cheaply. This time, Compulink decided to license and sell the product themselves.

It was 2001. They named the product as ProjectbyNet, got an advisory board, and signed up three beta customers in Pune (Jopasana, Persistent Systems and Geometric Software). Everything was new to them—product positioning, licensing and pricing. They managed, and several key customers followed, including Mphasis and Accenture.

One of the challenges which small product companies face is escalating engineering costs. Initially, a few customers sign up, despite the company being small, because they get to influence the solution and get a customized version. The fallout is that one ends up with, multiple versions of the product for each of these clients. Often, a small company may have as many versions as customers. This adds significantly to engineering overheads.

Compulink avoided this trap by adopting a framework approach. They had a core R&D team to work on the base product (platform). There was a separate customization and solutions team. Today the core product team strength has grown from eight to around twenty-five. The base platform too has ten times more functionality in 2008 than seven years ago. Compulink has added three more related products.

They established PELCON, a training division for companies buying and using their products. It also offers courses in general project management skills. PELCON is affiliated with Project Management Institute, USA (PMI).

Soon, they began thinking about funding. Vishwas approached a VC that he knew, who advised him to get more customers instead of wasting time chasing investors. It turned out to be the best piece of advice Vishwas could have got. In the next 15-18 months, they built a strong reputation for Compulink, and significantly expanded their client base. In 2003, they again sensed that funding was critical to accelerate growth, and estimated their requirement at about a million dollars. They signed up with Small Industries Bank of India (SIDBI), who had recently received a grant to fund small IT companies. Contrary to general perceptions about government agencies, it took just three months from their first presentation to get their bank account rolling. Their current CFO, Ranjit Thakur, had joined them around this time, and was a great help in the whole process. The funding enabled them to invest in R&D and sales, and by 2005, they had more than 100 customers.

## Orchestrating an International Footprint

Vishwas now began to dream of international expansion. This required infrastructure and offices abroad, which in turn meant more funding. Instead of approaching investors and wasting time in presentations, they decided to go for an IPO. The market was flooded at that time with new public issues. As on March 2005, their revenue was Rs. 12 crores and net profit was nearly 28%. However, in next two quarters, profitability went down significantly. An IPO was a risky gamble, but their public issue was over-subscribed by two times, and they raised Rs. 27 crores in December 2005.

They had no sales team in the initial years, and Vishwas did most of the selling. After the 2003 SIDBI funding, they set up a small direct sales team. Their initial efforts in trying to sell overseas were not successful. Post the IPO, Compulink expanded into new geographies, primarily Asia and the US. They tried Europe but did not get much traction.

A good sales and marketing team continues to be a big challenge. By end 2008, they had a 15 person team. This comprised of one sales person in the US, two in Singapore, five in India, and one sales manager. There are two in pre-sales, while the rest are part of an inside sales (leadgen) team that identifies prospects through phone calls.

They adopted a classical sales model in India, consisting of region or vertical specific sales team. For Asia-Pacific expansion, they took a channel approach. Their channels focus more on referrals, and don't do much direct selling. Another change has been to complement direct sales with inside sales. The bulk of their sales effort is in push mode. Their marketing challenge is to build enough pull, which creates enquiry driven rather than lead driven sales. This requires brand building, aggressive positioning and making the right acquisitions.

By 2009, Compulink had more than 190 clients in 10 countries, with over 100,000 users. In AsiaPac, they have made good headway in Singapore, China,

Vietnam, Malaysia and Philippines. In the US, they work closely with Microsoft on various initiatives. Their Redmond, US, office is also striving to generate services business which can help cushion the uncertainties of product selling. They have a strong presence in India, with marquee clients like ICICI, SBI Life, Barclays, Tata, John Deere and Honeywell to name a few.

## 'Whizible' Product Revamp

Besides international expansion, Compulink also began transforming ProjectbyNet beyond project management functionality over the internet. As part of this change, they coined a new brand name 'Whizible'.

Product name is important. A classic sales paradigm is that you sell benefits, not features. ProjectbyNet's core benefit was visibility into projects. Whizible became a more neutral brand, under which they could create multiple products. For example, the name Whizible Strategy clearly articulates it's USP, whereas it would have been less effective to call it ProjectbyNet—Strategy or some different name altogether.

The Whizible suite today consists of several synergistic products designed to meet the company's mission of 'orchestrating performance'.

Whizible Strategy provides senior management with a platform to define high level corporate strategy and review it through an organization score card. Whizible Initiatives enables the company to create a stage-gate and workflow to execute each initiative. At the lowest level, Whizible Execution is the original ProjectbyNet, which provides complete visibility into project management and execution. The newest product Whizible HC (Human Capital) manages the key resources of a knowledge organization—its people.

## Future Whizibility

Compulink had annual revenue exceeding Rs. 18 crores as per the 2007–08 annual report. Net profitability was around 9%. Revenues increased 19% over the previous year. India's share in sales was 62%, and it also grew much faster (265% over the previous year). With around 200 employees, revenue per employee was Rs. 9 lacs, and revenue per sales rep (team of 15 including leadgen and managers) was in excess of Rs. 1 crore.

With the downturn, revenue declined to Rs. 16 crores and the company made a loss in 2008–09. Vishwas views this as a temporary setback, and maintains that, "In an industry that thrives on scale and labor arbitrage, we are one of the few who have built a successful and public product company. Our employees, clients and shareholders take great pride in this achievement."

The company now targets revenue growth of ten times in the next five years, which translates to 60% CAGR. Compulink's biggest challenge is reducing the sales cycle time by being able to reach out directly to decision-makers at the

client organization. Their expense on sales and marketing is already 40% of revenue compared to 20% in 2003, and may even increase further. Vishwas is hoping that higher marketing spend results in more enquiry driven sales. They will also focus on steadily increasing the per-client revenue beyond the current Rs. 10–12 lacs.

Assuming 25% organic growth, the rest of the growth target can only be achieved with an effective acquisition strategy. The organization mindset will have to change to accept the challenges of inorganic growth. Acquisitions require cash, which could come through Private Equity (PE) funds that typically bankroll acquisitions in the form of debt or other structured vehicles.

After assessing the situation, Compulink instead decided to do the reverse. On October 28, 2009, it announced a merger with Glodyne Technoserve, which is a much larger company offering solutions in Technical Management space. Glodyne had Rs. 501 crores as revenue in 2008-09, and a healthy 15.5% profitability.

The merger enables Whizible to be positioned as a 'Managed Services' offering, which is Glodyne's forte. In this model, Whizible will act as a backbone around which consulting, implementation, program management, hosting and licensing services can be bundled, and charged on an annuity revenue model.

Once the merger is approved by shareholders of both companies and the Mumbai High Court, Compulink will cease to exist as a separate company. Their shareholders will get 1 Glodyne share for every 19 Compulink shares. Since their relative share prices were in a 1:22 ratio on the date of announcement, this appears to represent a modest 15% premium. However, the deal makes it easier for Compulink founders and key employees to sell their Glodyne shares without any negative impact on the price, since their percentage holding will be much smaller.

Other than his own business, Vishwas is passionate about entrepreneurship. He is very active in TiE and NASSCOM and participates in mentorship programs.

## MakeMyTrip.com: Ensuring a Smooth Journey

MakeMyTrip has set a blistering growth rate that is a dream for most companies. From sales of Rs. 200 crores in 2005-06, the company has risen to Rs 1500 crores by 2008-09. These numbers represent the total value of transactions through its online and offline services. In an Outlook Business online article in March 2009, their 2008-09 revenue is projected at Rs. 120 crores, which is 8% of the Rs. 1500 crores in sales. Over 3.5 million people have made travel related bookings on their website.

It is no wonder that the company has received accolades from diverse sources. JuxtConsult ranked them as the number one travel website. ICICI Bank and

CNBC-TV18 nominated them for 'Emerging India Award' for being a medium sized enterprise that has created benchmarks of excellence. Red Herring first named them as one of Asia's hottest technology start-ups, and later adjudged MakeMyTrip among the top 100 companies in Asia.

## Starting on the Trip

Deep Kalra is the founder and CEO. His story begins in 2000 when the dotcom boom was in full swing. He had worked for MNCs like ABN AMRO and GE Capital (where he was VP of Business Development), but always wanted to run his own company. After analyzing the market trends in India, Deep homed in on the travel vertical. This was a service industry with well-automated processes at the supplier end and undergoing significant changes at the consumer level. The business also lent itself seamlessly to the Internet. Being a well-worn traveller himself, this choice was close to Deep's heart. The sector had tremendous potential with a booming 'USA to India' Non-Resident Indian (NRI) travel market. There existed a vast gap between expected and available delivery standards of service for an average consumer. MakeMyTrip was conceptualized to bridge this chasm and provide travellers with greater choice and flexibility.

Working solo initially from April 2000, Deep soon managed to get $2M funding. The initial team of 40 employees mostly consisted of a call centre to sell and service clients. The website development was outsourced, which Deep, looking back, feels was a mistake. As a Business to Consumer (B2C) portal, the founders never had to directly make sales calls. They relied mostly on viral marketing based on word of mouth and e-mail publicity by satisfied customers.

Launched in October, MakeMyTrip.com empowered NRIs with a convenient 24x7 online booking portal and travel consultancy support. It was niche and received a resounding response from overseas Indians, who used it extensively to book the lowest ticket fares to India.

## Hitting Air Pockets

The portal was available for Indian travellers too. However, Deep soon realized that the domestic market was not yet ripe. Indian travellers were more inclined to research online but make the actual buying decision using traditional modes of payment. MakeMyTrip took the difficult call to stop all local marketing. In hindsight this turned out to be a wise decision. MakeMyTrip conserved precious marketing dollars for the NRI market, while their Indian competitors burnt their fingers in a pre-mature online market.

More serious trouble followed. As a direct result of the dotcom meltdown and September 11 attack in 2001, their initial financier eVentures withdrew all their investments in the country, including MakeMyTrip. A combination of personal investment, angel money and cost control helped them survive that period.

The belt tightening was timely for the company, and helped them tide over one of the most difficult periods for the online travel industry. During the years 2001 and 2002, travel and tourism were ravaged by a series of storms—the aftermath of 9/11, the dotcom bust, the attack on Indian Parliament, and the SARS epidemic.

There was a silver lining that underlined the strength of the basic idea and business model. While the demand for discretionary travel and tourism plummeted, the NRI market continued to be highly inelastic and reliable, mainly because the drivers for these trips were quite different. Having empowered NRIs with unmatched convenience of a 24x7 online portal and travel consultancy support, MakeMyTrip managed to survive those difficult years and became a well-known brand among US based NRIs.

## Fuelling Up for a Long Journey

MakeMyTrip have been relatively lucky with funds. Right at the beginning, eVentures funded their concept with $2M. Deep explains that, "It was a case of being at the right place at the right time. I had an idea and the VC was looking for a business in exactly that space."

The money fuelled the portal launch, but the VC soon backed out as explained earlier. Saddled with a young business still in the red, the choice was to either wind down the company and go back to the corporate world or somehow muster further investment behind a potentially viable business. Says Deep, "At this point, I decided to back my instinct and invested all my personal savings in the business. In order to effect a complete management buy-out, I convinced other key members of the management team and some 'angels' (including individuals in eVentures who saw promise in the business) to invest in the company."

They right-sized the business and ran a tight ship for the next 18 months till the company turned the corner and became profitable in 2003. Since then, six years of profitable operations in real time bookings of flights, hotels, holidays and car rentals in the US and India, have followed.

Deep continued to struggle for raising money till 2005. Stung by the dotcom losses, there was virtually no appetite for a B2C internet play, that too in travel. Finally, in May 2005, SB Asia Infrastructure Fund (SAIF) agreed to invest $10M, which was used mainly to roll out their India operations (for the second time) in September 2005. In December 2006, MakeMyTrip secured $13M in its second round of financing from Helion Ventures, Sierra Ventures and existing investor, SAIF Partners. In 2007, in a further acknowledgement of their potential, the company received its third round of $15M from Tiger Fund and its three existing investors—SAIF, Helion and Sierra Partners.

## Capable Flight Crew

Deep was lucky to have good people on board who supported him in his time of need. Sachin Bhatia and Keyur Joshi are Co-Founders of MakeMyTrip. Keyur is the COO, and his extensive relationships and deep knowledge of the aviation sector has helped them secure the best deals in the industry. Sachin Bhatia was till recently the Chief Marketing Officer (CMO) and now works as the Chief Strategy Officer (CSO). His expertise in online marketing helped immensely in the initial stages, when they were newcomers in the space. Today, his strategic inputs guide the company's road map. The top management team also includes Rajesh Magow (Chief Financial Officer), Mohit Gupta (Chief Marketing Officer), Chetan Uberoy (Chief Technical Officer) and Rajnish Kapur (Chief Innovation Officer).

## Flying High

MakeMyTrip's offerings include:

- Air Tickets: Search, compare and book tickets on any airline, low cost carriers and full service
- Hotel Reservations: Real-time booking of over 25,000 domestic and international hotels
- Car/Taxi Bookings for airport transfers and excursions
- Holiday Packages within India or foreign travel
- Road trips: Options for motor trips from all large cities, with interactive maps
- Weekend Breaks: Thousands of options for short stay holidays at all price points
- B2B services to enable local agents access MakeMyTrip products through its extranet, IndiaAhoy.com
- MICE (Meetings, Incentive, Conferences and Exhibitions) team servicing over 200 corporate houses

MakeMyTrip has continued to innovate using latest technology to improve access and introduce unique features to keep ahead of the competition. They launched the first holistic mCommerce platform for Indian travellers. MakeMyTrip-AnyMobile with mChek and MakeMyTrip-on-Airtel Live are powering the country's first comprehensive travel purchase experience on handhelds. It enables travel related transactions on mobile without requiring GPRS subscription.

MakeMyTrip is setting up offices across the country. While hotels and flights are booked online, long-haul holidays are sold offline. This is because, people have a lot of questions which are best answered by a travel consultant at a sales office. It is also empowering travel agents and other intermediaries to access their inventories, and provide access to best-deal solutions for their customers.

In April 2008, the company outsourced its customer support and after-sales for ticketing and hotel portfolio. The agreement included transfer of 225 support

employees to IBM Daksh. It was a bold move and highlighted MakeMyTrip's resolve of being focused on its core business. The company hopes to lower cost and enhance customer experience because of the BPO's scale of operations and expertise in technical support. Happy customers will drive significant revenue increase from the same customer base to MakeMyTrip, resulting in a net win-win for both companies.

In August 2008, they tied up with Apollo DKV Insurance Company, who introduced a unique domestic travel insurance solution. The alliance ensures that travellers get a one-stop solution for travel and related insurance.

To improve client stickiness, MakeMyTrip offers discounts, exclusive deals, and a unique customer rewards program called i-mint. Under this, points are awarded for all transactions supported by the program, ranging from payments for mobile bills, buying groceries and travel booking.

## Flight Data

As of 2009, the company commands 50% market share in domestic online travel market, including a 4% share in the lucrative US based NRI market, which alone is pegged at Rs. 4500 crores ($1 billion). Its closest competitors Yatra and Cleartrip together enjoy a 35% market share, while others including Travelguru make up the rest of the pie.

MakeMyTrip has over 700 employees, including at sales offices in 20+ Indian cities. Depending on their needs, it provides consumers with an optimal mix of internet enabled bookings and personalized service. The revenue is split 80-20 between its online and offline services.

## Planning a Perfect 3-point Landing

MakeMyTrip has turned out to be a trendsetter and pioneer in the online travel industry in India. It is the top seller among online and offline travel companies for all major airlines and hotels in India. Their USPs are an efficient online experience that is superior to a real travel agent by offering the lowest fares for travel, and the best possible 24x7 customer support. With their proprietary software, MakeMyTrip ensures lowest possible fares by tying up real-time with all airline systems.

India is a huge and growing opportunity but internet penetration is still low. Other hurdles include negative perceptions regarding safety of online transactions. The strategy of building a strong offline network through sales offices has helped them overcome these issues.

MakeMyTrip intends to become India's undisputed travel leader in next 1-2 years. Their targets and strategies map onto that goal. For example, they will

tap into the increased spending on holiday travel—domestic and international through special products. Margins on specialized travel products tend to be higher than high volume but competitive areas like airline bookings. They will further invest in the hybrid model, with continuing improvements in online capabilities and growth in offline sales offices to tier II and III cities. This combination is helping them establish their brand across the nation. They are also considering acquisitions of smaller portals or related businesses.

Having clocked a scorching 90% year-on-year growth since the India (re-) launch in 2005, and despite the current economic slowdown, MakeMyTrip wants to ratchet this up further. They are planning an IPO once the public markets improve. Buckle up for a perfect touchdown. Of course, that won't be the end of the journey, but just yet another milestone for India's most successful travel company.

# 6

# In Sprint Mode: Dynamics of a Successful Large Organization

## (Large companies—aspiring to $1 billion revenue)

*"A leader is best when people barely know that he exists. When his work is done, his aim fulfilled, they will all say, 'We did it ourselves.'"*

*— Lao-tzu, Chinese philosopher, 6th century BC*

### Safe Piloting

You may consider this Lao-tzu's quote about invisible leadership, to be a curious way to begin a chapter on large organizations, where one expects management challenges to be greatest. However, invisible does not mean absent.

Take the case of a jet pilot. Flying a big commercial plane is an onerous responsibility. Only the most experienced pilots graduate to long haul flights. At first sight, the jet pilot appears to have very little to do. The airline has a published flight schedule, and passengers are booked days in advance by airline staff. Various teams of engineers also regularly inspect the plane. Prior to take-off, it has been prepared for the flight by ground personnel. The flight path is predetermined and monitored by Air Traffic Control. There are complex instruments and sophisticated dashboards, tracking every important aircraft parameter. Guided landing and take-off systems and auto-pilot modes are available. The pilot has two or three other experienced people in the cockpit.

In comparison, the pilot of a light airplane, like the CEO of a small company, is in complete control. He can decide the destination and flight path, and must verify pre-flight checks done by technicians. In-flight instruments are fairly basic

and tracked personally by the pilot. Joystick and rudder are his to control. His responsibility is limited to either himself or perhaps a few more passengers.

The jet pilot's primary duty is a comfortable, safe and on-time flight for passengers and crew to the destination. His experience is required when there is weather turbulence, during landing or take-off, and in emergencies. At such times, his long flying hours, knowledge of the aircraft, and temperament under pressure, come into play.

The CEO of a large company too has to be a seasoned leader capable of piloting the organization successfully through many diverse situations. He/she is responsible to a number of stakeholders—employees, investors, customers, vendors and business partners. The most important task is to define the corporate vision for next few years, and get everyone aligned and motivated. The company structure should facilitate achievement of high-level goals. A mature governance model should ensure that vision is translated into specific objectives and actionable tasks at every level which should then be tracked regularly. Once current goals are met, or if circumstances change unexpectedly, the CEO must be able to point towards new horizons.

Governing a large business requires strategic, financial and operational acumen. At an abstract level, challenges are similar at any big enterprise, whether in software or manufacturing, and in India or outside.

For example, when IBM was in serious trouble in 1993, it appointed someone with no previous IT business experience as CEO. Lou Gerstner, who was previously CEO and Chairman at RJR Nabisco, describes the turnaround that he engineered in his book, 'Who Says Elephants Can't Dance'[13]. His first step was drastic financial pruning, which cut billions in expenses. There were massive employee layoffs. Unproductive assets, including expensive real estate, art collections and businesses like Federal Systems Company, were sold to raise cash. A plan to atomize the company into several operating units was cancelled. He states that being a rank outsider was an advantage. For example, with no attachment to any of IBM's products, he had no hesitation in killing loss-making ones like OS/2. He made fundamental changes to the company culture. Though he continued to support decentralized, market-driven decision-making, he strongly encouraged teamwork. IBM was re-positioned as a provider of comprehensive solutions with a continuum of support. Following his philosophy of "people don't do what you expect, but what you inspect", he created ways to measure results. When Gerstner left almost ten years later in 2002, IBM had recovered from an $8.1 billion loss to a net income of $7.7 billion.

There are few Indian software product companies that have crossed $20M, and barely five or six that are over $100M in revenue. Aspirants to the $100M and beyond club can learn by studying other large businesses. They can even bring on board, an experienced veteran from other industries like IBM did.

The following key aspects for piloting large companies are reviewed in the next three sections:

- Corporate structure and governance
- Balanced growth strategies
- New Horizons or Successful Exit

## Success Factor 1: Corporate Structure and Governance

Growth results in an increasingly distributed and diversified workforce. Presence in different verticals or geographies, whether through organic growth or mergers, brings in new opportunities, talent, and management perspectives. Keeping everyone aligned to a cohesive corporate vision and strategy becomes increasingly difficult. You may end up with business units or subsidiaries that operate like fiefdoms, not answerable to anyone. Or you will find corporations, where the policy and decision-making is highly centralized. Except in specific circumstances, when you are attempting to overcome certain issues, neither approach is conducive to creating a great company.

Organization structure is a complex subject. There are many classifications, such as functional, matrix, flat, team, network, virtual etc. The section looks at two models, federal and matrix, and highlights the factors influencing the structure at large corporations.

Corporate governance has to be robust. It is neither possible nor desirable to micro-manage activities of individual teams. The CEO and executive team has to set high-level financial and operational objectives. These are then resolved into division, department and team goals through a top-down process. A reverse bottoms-up monitoring of status enables progress to be tracked at all levels.

### Organization Structure

A large organization can be divided into units on the basis of products or services offered, functions (engineering, sales), or geography, or a combination thereof. This division depends on the nature of the business. Different models may exist within the same company. For example, most product companies have senior executives heading Engineering, Sales, Marketing, HR and Operations functions, reporting to the CEO. Engineering may be divided according to product categories, while Sales might be organized based on territory.

VERITAS, for instance, had VPs for Sales, Engineering, Marketing, Operations and others reporting to the CEO. Engineering had two separate product groups, Volume Manager and File system, in the early 90s. By 2003, following a series of acquisitions and new products, there were several large product divisions: Netbackup, Backup Exec, Foundation (Volume Manager, File systems), Storage Management and High Availability (Cluster Server, Replication). They each had $100M to $500M in revenue. Initially organized by geography, Sales however

moved to a different structure after the addition of so many high volume and specialized products. At the highest level, it was divided based on products, each of which had territories.

When structuring an organization, there is a balance that needs to be struck. For business units to achieve their maximum potential, they need relative independence. This carries the risk of inward focus and neglect of common objectives. The overall organization requires effective teamwork between units, thereby ensuring that the whole is much bigger than the sum of its parts. This means that central coordination is desirable. That, however, may degenerate into excessive control.

The previous chapter explained the 'clustered' model, which was set up at VERITAS India. Various groups operated quite independently. Communication was limited to senior managers discussing common issues and sharing best practices. Globally, VERITAS was an aggregation of three large product organizations that had merged over a five-year span. These companies were still in the process of getting integrated, and hence it made sense for each Pune team, to be tightly aligned with its US counterpart.

At my next start-up, In-Reality Software, this model evolved into a more cohesive 'federal' structure. In the clustered approach, teams tend to function in silos. At In-Reality, groups operated like a union of relatively independent states, but with a strong centre.

### Federal Model

In-Reality Software was in outsourced product development (OPD) space. We set up extended engineering teams for global product companies at our Pune office. In about fourteen months, In-Reality scaled to 12 product teams and 140 engineers. The new teams were each led by a competent leader.

So far, this resembles the description of the 'clustered' model at VERITAS India. But since product subsidiaries are different from OPD companies, the structure had to be upgraded to a federal one.

At In-Reality, the managers were required to be more multi-dimensional, than at captives like VERITAS. Besides strong technical capabilities and people leadership skills, they needed to have the maturity and the experience of dealing with customers. More importantly, we wanted them to be entrepreneurial–eager to manage and grow business relationships with clients.

Unlike a captive, whose expenses are met by the parent company, In-Reality had to generate and expand revenue. We had full-fledged sales, marketing and operations (admin, finance, IT, HR and recruitment) teams. New managers, joining us from diverse companies, had to be brought up to speed on interacting effectively with teams and clients. As a services organization, there was a need to constantly demonstrate progress and performance to existing clients. Hence, best practices for product delivery, team management and client communication were standardized.

In 2004, In-Reality was still a small company. We had a federal model where-certain functions, policies and practices were managed by a central core team (comprising the CEO and founders). Individual mangers worked directly with US clients. They utilized In-Reality's standard practices as best as possible (since client acquiescence was essential), and reported status and issues back to the core team. Communication and tracking was done informally. We relied on direct mentoring and regular meetings (2-3 times each week) between managers and us. Company progress and new initiatives were conveyed to employees in monthly all-hand meetings.

This changed with the acquisition by Symphony Services in late 2004. The combined company had 1500 employees in two locations, Pune and Bangalore. Just three years later, Symphony Services had expanded to 3500 employees across four locations with over sixty clients.

Symphony too had a federal style structure. However, the average client team size in Bangalore was 100, compared to just 10 at In-Reality (now Symphony Pune). This difference influenced governance and management practices in Bangalore, which were formal and structured. Management dashboards captured high-level status for client teams and internal support groups. The US-based sales team operated in traditional style, with quotas, pipelines and bonuses. Client negotiations were more complex, with sales reps being required to get good billing rates and long-term contracts.

After the merger, two business units (BU) were created. The Small and Medium Enterprise (SME) BU managed early stage accounts, while Enterprise BU was responsible for large clients.

SME clients expect a different engagement model than big enterprises. They prefer a direct interface with their development teams, highly responsive rather than process-driven engineering, and light touch management. On sales side too, start-up CEOs prefer to deal directly with someone who understands their language, can explain how their remote team would be built, and is in a position to negotiate and close an agreement quickly. Since Symphony Pune mostly had SME clients, the Pune management team headed the SME BU.

Over next two years, Symphony continued its heady growth and both the locations ended up with a mix of SME and Enterprise clients. Operations and core management functions were centralized in Bangalore. Sales and marketing was mostly at the Boston headquarters, since our customers were US and Europe based.

By early 2006, competition in OPD space had intensified. Prospects expected to see significant domain expertise in their offshore partner. By then, Symphony managers and sales people were sensitized to dealing with small and large companies. Therefore, the BU structure was changed from size based to verticals (Storage/Systems, Embedded, Enterprise Applications and eBusiness). To prospects in each vertical, we could now showcase a critical mass of talent and achievements. BU managers, architects and sales reps had the right domain knowledge to convince them about Symphony's expertise.

Though BUs changed, the federal structure was preserved. Symphony had also become well-integrated across locations, and internal systems, processes and practices were uniform.

In mid-2007, Symphony was voted amongst 'Top 50 Best Managed Global Outsourcing Vendor' by Brown-Wilson Group, and ranked as the No. 1 Software Engineering Company for the second year in a row. With four locations in India, one in China, and two in US, Symphony decided that it was time to move to a matrix structure.

### Matrix Organizations

C. Mahalingam is Executive Vice-President and Chief People Officer at Symphony Services Inc. Mali, as he is popularly known, has more than 25 years of industry experience. As HR head in the past for the India operations of IBM, Hewlett-Packard and Philips Software Centre, he helped them attain a position amongst the best employers.

Sharing his experience at large companies, Mali says, "Matrix organizations can execute well with discipline and results. IBM, in particular, has mastered the art and science of running a highly matrix structure with relative ease and great success. For those coming from a relatively small rolodex business, matrix may come as a culture shock. IBM has captured its complexity into teachable points of view and has a just-in-time training module for new employees on 'understanding and succeeding in a matrix environment.'

A matrix structure involves a complex set of reporting relationships, some of which are known as 'solid line' and others as 'dotted line'. Solid line reporting is normally into the vertically integrated organization, spanning across geographies. An example of this is managers in Desktop division in India, reporting to the senior manager of the same division in ASEAN region, who in turn will report into a larger geography (Geo) like Asia-Pacific and Japan (APJ) or Europe, Middle East and Africa (EMEA) or Americas. All Geo managers report finally into the global management at IBM headquarters. This is the case with all verticals such as Software, Servers and Storage, or industry-specific ones like Healthcare, BFSI, Telecom or Government.

The same managers of Desktop division in India have a dotted line reporting into the local Country Manager, who in turn is part of a reporting chain to Regional Manager—ASEAN, Geo Manager—APJ, and finally global management.

Welcome to this world of seeming matrix nightmare! If an organization lacks sufficient maturity, it can result in power struggles and authority overlap, leading to blame game and one-upmanship. I have occasionally seen geography leaders exercising undue control over vertical managers—what is humorously termed as 'putting more dots' in the dotted line relationship. This creates enormous stress and divided loyalty amongst next rung managers.

Complexity demands maturity and ongoing adjustments to crafting the organization structure. In IBM, for example, a leader may be groomed for future success by transitioning between vertical and region responsibilities. A successful manager of a vertical will be made country head to learn the nuances of managing multiple dotted line reporting. After making a mark there, the person could lead a large business vertical spanning across many countries, followed by an even bigger role for a large geo. Such rotation helps manager appreciate and adjust to the matrix structure.

Some organizations have overdone matrix reporting to unnecessary depth, thereby paralysing operations. In one multi-country enterprise, even security personnel were highly matrixed. The India security supervisor reported to his counterpart in Singapore instead of the India Administration head. The Singapore manager had no clue about ground realities of security in India.

However, there are cases, where deep level matrix works well. Most IT services organizations use a matrix structure quite effectively at a project level. In addition to dedicated team leads, the project manager may borrow domain experts from a service line or a subject matter centre of excellence. For the duration of their assignment to a project, these experts report directly to the project head. All of them combine forces to deliver a time-bound project for a client."

Mali rounds up his analysis by stating that, "Running a matrix setup is not easy, otherwise everyone would have succeeded as well as IBM. The trick lies in knowing where to draw the line in matrix reporting, preparing managers for this complex structure, and finally making sure that leaders are always aware of the overarching organizational objectives."

Matrix structure leads to a more uniform and predictable performance across divisions. The organization becomes more resilient, and does not have any single point of failure. There are fewer surprises, enabling better long term planning.

This stability comes at a price. Though more predictable, performance rarely reaches the highs (or the lows, to be fair), that are characteristic of clusters. Consensus building slows decision making. In a matrix setup, success has many fathers and failure, none. When there is a problem, it is hard to find the root cause. Those who manage relationships well may get more credit than they deserve. In contrast non-performers don't have a place to hide in a federal setup.

The nature of leadership is different. You will find more independent leaders in a federal style business, where they get the empowerment they crave for. Clustered or federated structures reward excellence, even if it comes from someone with a relatively maverick leadership style. Matrix organizations value conformance, and prefer leaders who are good at patient consensus building.

Overall, matrix works well in mature and large multi-divisional, multi-geography enterprises, whereas federal model is more effective for a mid-sized organization, which is in fast growth mode.

### Structure Follows Strategy

Organizational design must transition as company size and strategy keeps evolving. A structure must be primed to deliver results, and should not become an end in itself. Thus, even in a matrix organization, the CEO may want a new division, or recently acquired subsidiary, to be relatively independent for a while.

Whatever be the structure, growing organizations must pay attention to how responsibilities are divided between divisions, functions and locations. Precise definition is impossible, and there will always be exceptions and overlap areas, but some broad guidelines are possible.

The CEO and top management team set the high-level vision, strategies, overall targets, roadmap and basic operating principles. Senior BU heads are usually part of this team. Corporate targets are split into individual BU numbers (revenue, profitability, market penetration), in consultation with BU heads. This is done iteratively, through concurrent top-down and bottoms-up calculations.

Different units, then execute on their targets, while conforming to the overall objectives of the company. The BU head guides the specific implementation of the high-level strategies. In a federal model, the head can do this relatively independently, while matrix organizations will have different managers collaborating to achieve common objectives.

At a lower level, the division of responsibilities and powers will depend on a number of factors. Some of them are described below:

- **Organization type**—An army has a 'command and control' structure that is intensely hierarchical. Knowledge based and creative industries require a more subtle approach, relying on empowerment and mentoring to get maximum value from its talent pool.
- **Policies versus implementation**—Policies for IP protection, IT, Facilities, Finance and people can be standardized at the centre, while implementation is left to the local chiefs. There can be periodic reviews on policy conformance.
- **Specific circumstances**—An army in an extended war is different from that in peacetime. Local commanders get significant control in their theatre of operations. Similarly, a division head tasked with entering and gaining market share in China rapidly, may require autonomy and direct reporting to the CEO.
- **Specialization**—If the nature of work done by some units is highly specialized, they may need more autonomy. A BU working on green-field opportunities should get more latitude than others.
- **Size**—Once a unit has grown big enough, say 1000 people or $100 million, it will be useful to define high level engagement points rather than micro-manage every move.
- **CEO predilection**—More than anything else, the CEO and senior management ultimately decide how companies are run. In theory most

software companies have an empower-and-mentor mode. However, Oracle under Larry Ellison and Google under its founders, are clearly at opposite ends on the delegation index.

Corporate leadership must periodically review whether aspects such as division of labour, delegation of responsibilities and autonomy are functioning well in various business units. At least in IT, the cardinal principle is: 'When in doubt, delegate'!

### Support Groups

The discussion so far, applies to line functions that deal with the company's core business, and comprise most of the headcount. Support groups like facilities, administration, human resources, staffing, IT etc. are not as big, and should operate in what can be called 'unitary' model. Company-wide policies and processes can be set, while implementation and approvals can be local. Quarterly audits to verify compliance can be conducted.

Some companies make the mistake of centralizing all operations, ostensibly to save costs. Approval for every purchase, travel requisition, or hire, has to be approved at headquarters. This makes the organization appear sluggish to remote teams. Any direct cost savings are neutralized by indirect losses caused by delays and inefficiencies (for example, not using the most optimal local vendor).

Big companies tend to accumulate too many checks and balances. The intent is genuine; they are usually designed as a result of previous mishaps, or to prevent likelihood of a fraud. For example, Finance usually demands at least three quotations for every purchase. This puts a strain on the purchase department at smaller locations, and may not achieve the purpose it was designed for. More practical solutions can be found. In this case, standard supplies can be purchased from approved suppliers through fixed-rate contracts. The rates can be reviewed every six months. For non-standard items, the three-quote requirement can be waived, if the price is below a certain limit. Very few purchases then remain, which still need the cumbersome process.

Pragmatic leadership in support groups can cut through red tape without compromising on governance and efficiency. It can make even large companies feel responsive and employee-friendly.

## Corporate Governance

Irrespective of structure, large companies must implement a tight governance framework to set goals, track progress, and fine-tune plans and strategies at every level. In 1992, Dr. Robert Kaplan and Dr. David Norton described a strategic planning and management system, which they termed as Balanced Scorecard (BSC). Even if you choose not to follow BSC exactly, its principles are relevant for effective management of any large business.

BSC (also referred to as Balanced Business Scorecard or BBSC), consists of the following cyclical steps:

1. Define high level organization goals in line with the corporate vision and strategy
2. Following a top-down approach, set operational goals, and performance criteria for each division, team and employee
3. Implement monitoring of achievements against goals
4. Based on learning, adjust strategy and goals

BSC does not help in actually formulating your company's vision and strategy. Instead, the methodology ensures alignment of the entire company, towards what has been decided as the high-level objectives. Its name stems from the fact that BSC helps organizations achieve a 'balance' in selection of performance measures.

Companies tend to focus on financial results, but they represent an 'after the fact' assessment. Measurements of customer satisfaction, engineering and delivery performance, people and learning related parameters, and process metrics are the 'leading' indicators that influence the financial performance on a sustainable basis. BSC encourages this more rounded view of all aspects of the business. It enables management intervention in a timely manner into areas that need attention, thereby impacting the achievement of corporate end-goals (financial and others).

### Team Level Tracking

Emphasizing the importance of measurement to predict typical results, the famous American statistician, Dr. W. Edwards Deming, once remarked "You can only expect what you inspect".

You must institute a process in which every department and team, defines key performance parameters that are captured and tracked regularly. To avoid being deluged with information, limit the list to the most critical metrics. If there are issues, then you can collect more facts to analyze what is wrong. By making metrics gathering as efficient as possible, you can avoid it from being perceived by managers as a significant process overhead.

Here are a few basic metrics for a delivery organization:

- State of the engineering team
  - Business status (revenue, gross margin, forward projections)
  - Product status (issues, schedules, quality metrics, effort variance)
  - Support status (post-release defects, patch schedule, response time, defect re-open rate)
  - People (headcount, number of open positions, number of new hires, people at risk, attrition)
- Client interaction (services companies)
  - Customer impact (number of releases, headcount growth, innovations)
  - Performance metrics (quality, timeliness and productivity)

  - Key achievements (with client quotes)
  - Record of client-side peer manage communication, status templates
  - Record of quarterly governance meetings with client-side senior executives

Support groups should have their own metrics, and a few examples are given below:

- Facilities
  - Square feet per employee
  - Percentage of unutilized space
  - Rent and other expenses per employee
- HR, recruitment, training
  - Average employee salary by grade, employee mix (senior-junior), average management span (reports per manager)
  - Percentage of attrition by grade
  - Average cost of hiring, internal referral percentage
- IT
  - Average bandwidth per employee, percentage of usage
  - Number and type of software licenses and usage
  - Average cost of PC and hardware per employee
  - Number of trouble tickets closed per IT person, average closure time, percentage of re-opened tickets

A high-level dashboard can provide a consolidated view. Grading key health parameters, such as customer relationship and financial performance, into red (alarm), amber (some issues exist), and green (in good shape), can draw quick attention to problem areas. Financial data should be trended on monthly, quarterly and annual basis.

A Program Management Office (PMO) can roll-up dashboards from team-level to a consolidated one for BU heads, and finally create an aggregated corporate view for senior management.

Periodic reviews should be held at each level, to review hot spots (red and amber status), status of previous action items, and to decide on next steps and owners.

### Corporate Initiatives

In 2005, when I was part of Symphony Services, our India CEO initiated a practice of 6-monthly offsites, inviting the top 2-3% of its senior executives. The meeting would be flagged off with his keynote address, covering corporate vision, strategy, recent performance, and the outlook for the company. BU heads would then, describe key achievements and challenges in their line of business. The CFO gave insight into detailed financial trends and areas that needed attention. People related and other updates came from HR and operational heads. External faculty would conduct workshops or give motivational guidance in areas related to leadership or management skills.

Management offsites are a great way to communicate key messages to senior leadership, unite them towards meeting corporate goals, and get people from different locations and functions to know each other. But this should not just be a one-way exercise. Offsites must also serve as a forum to groom the next rung of leadership by assigning them important responsibilities.

In a 2006 offsite, we had breakout sessions, where groups of randomly selected 8-10 leaders discussed company challenges. Each group came up with a list of top 5 issues, and suggested ways to deal with them. At a combined session, through a process of aggregation and prioritization, most of the issues were clubbed into few broad categories. A decision was then taken to launch corporate-wide initiatives for improvements in three areas: Operational Excellence, Innovation Culture and People Engagement.

Each initiative was headed by a Senior VP, and supported by a team of six leaders selected from different divisions and offices. I was assigned the responsibility for Innovation Culture, which I describe next.

### Driving Innovation

*"Innovation is the specific instrument of entrepreneurship. The act that endows resources with a new capacity to create wealth."*

*— Peter Drucker*

The VERITAS patent program had been a revelation for me with its ability to motivate people, and benchmark an organization's innovation vitality. It could not be replicated directly at Symphony Services, since the IP developed by our teams belonged to the clients. Patenting is expensive, and very few customers had such a program.

Employees at large companies tend to be cynical about corporate programs, especially if they add more work to their already busy schedules. We decided to avoid a big bang announcement about intentions, but instead do something tangible first. The Innovation team defined the program's objectives, and its implementation approach. We documented this in an FAQ. An innovation website called Innovation Resource Centre (IRC) was created as an extension of our existing corporate portal. It would serve as the primary platform to enter and track innovations.

Ensuring wide participation was possible, only if we had supporters embedded in all client teams across the company. So we set up an Innovation Council consisting of people who were considered technical gurus, and had good communication skills. Referred to as Innovation Mentors (IMs), we aimed for a ratio of one IM per 25 employees. A training session for IMs was organized to explain the program and role.

We were ready to go live within two months. To ensure immediate participation, we announced that innovations in the past two years, qualified for entry into the system. Engineers love T-shirts, so the first 100 to file ideas were promised

special Innovation T-shirts. The initial response was beyond expectations, with the first 100 entries coming in less than ten days.

The program rewarded innovation and not ideas. Ideas are good, but become useful innovations, only after they are implemented and result in measurable business or revenue impact. We set a high bar for recognizing innovative contributions, categorizing them as having low, medium, high or disruptive impact. Low impact improvements were considered as being part of the normal job function, and not recognized as innovation.

IMs awarded innovation points by judging them on two dimensions—progress from acceptance to implementation, and overall impact. High impact ideas that were accepted by client and implemented in the product, received the highest score. Points were also awarded for patents filed and received, and papers published at technical conferences.

Given IP sensitivities of clients, each team's ideas were visible only within that team. Their IMs rated those ideas. We encouraged client side architects to become part of the review process.

The IRC kept track of points awarded to engineers and cumulatively to the team. A rewards scheme based on accumulated points was established to recognize and reinforce innovation. Awards ranged from Spot and Hall of Fame, to the ultimate recognition of being a 'Distinguished Symphony Innovator'. Each quarter, a jury of senior executives would select the best performing employees and teams, and awards were handed over by the CEO at company meetings.

From a business perspective, the innovation initiative yielded significant results in three areas:

- **Discovery**—Symphony now had a platform to discover innovations that were already impacting customers. Many achievements were not visible even to Symphony management. As a case in point, we discovered that a team had conceptualized and built an entirely new product for a customer, and created a substantial revenue stream.
- **Visibility**—High-value innovations from India teams could now be projected to senior client-side executives (CEO, VPs) at governance meetings. Until then, this aspect was rarely highlighted, and client senior management were unaware of innovations that had originated from their offshore Symphony team. A Symphony Innovation Scorecard was created, which captured the range and depth of our contributions to clients. In sales presentations, it showcased Symphony's innovation capabilities and became a compelling differentiator relative to our competitors.
- **Client reinforcement**—Customers appreciated the enhanced value created through this program, and began to view Symphony as an Innovation Partner rather than just outsourcing vendor.

Within one year, almost half the company had contributed in one way or the other—by filing ideas or being mentors. The program, motivated engineers to

go beyond what clients had instructed them to do. It created a self-perpetuating cycle of high awareness and motivation, innovative contributions, matching rewards, which in turn led to more innovation.

Amitava Roy, COO of Symphony Services, summarizes the impact as follows: "In the past 2.5 years, our Innovation Program has witnessed participation by more than 1800 employees, generating over 6000 ideas. Of these, a significant number are high-impact ideas that have brought millions of dollars of benefit to clients who took them forward. The program has also catalyzed 33 patents submitted on behalf of clients and 2 filed and granted for Symphony. Today, Symphony is pioneering the concept of 'Engineering Outcome Certainty' as a core theme, to create guaranteed business value for its customers. The innovation metrics are playing an important role, and stand as a glowing testament to its leadership in the OPD market."

### Intrapreneurism

In a services company like Symphony, innovation was possible only if the client believed in it. Even with their support, the challenge remains that the product management inputs are rarely available. Only when the relationship has matured, does the client share market feedback and allow participation in framing the long-term product roadmap. This limits an outsourced vendor's ability to come up with innovative, high impact ideas.

An Indian product company has no such constraints. Start-ups by definition have to be innovative. Growth stage companies must invest in separate R&D efforts to avoid being swamped by ongoing engineering and support activities. Large businesses must institutionalize their innovation programs, and assign a certain percentage of their budget to R&D activities. Existing product teams should be investing some of their bandwidth in investigating ideas, and technologies that can transform their offering. Their planning horizon should extend beyond the next two or three planned releases.

Going beyond the incremental efforts, large enterprises should also invest in incubation teams. They can explore possibilities of creating IP and products in broad areas, identified by the executive team. For example, in 1998, VERITAS was mostly known for products that offered improved performance, and high availability of storage. They had also acquired FirstWatch in 1995, which enabled failover from active to a standby computer. While this product was doing well, it was facing strong competition. In an endeavour to move beyond storage management, Fred van den Bosch, then EVP of Engineering, assembled a talented team to build a solution for managing application failover. By 2003, the Cluster Server product delivered by the group was earning $100 million. VERITAS re-positioned itself as a 'Data Availability' company, combining storage and application availability.

Incubation groups are highly prized. Engineers are attracted by the notion of working on cutting edge technologies. Absence of routine work and deadlines

is an added incentive. Senior managers and technologists, who have been with the company for a while, may see their selection to these teams as a prerogative. To prevent this, the group must be structured like an internal start-up. An 'intrapreneur' with good mix of technical and business capabilities, and strong domain expertise, should lead this group. It helps if key members have been with the company for enough time to understand the overall vision, but not so long as to be blind to other possibilities.

Starting as a small team for exploratory work, the group must draft a business note and budgetary estimate. The review process should be like an investor, assessing an early stage company's plan. Once approved, projects should be staffed with employees, who are highly capable, innovative and willing to take risks. Their compensation can be different from the structure in the rest of the company. It can be modelled like a start-up—same or reduced salary for two years and a 'virtual' option pool, whose value is tied to the program's success over the next 2-3 years. Such a long-term earnings model will eliminate the wrong kind of people from trying to get in.

### IT Enablement

Product organizations readily adopt software tools for their core business, such as development tools for Engineering, and CRM systems for support, marketing and sales. However, they are slow in e-enabling their operations. Many companies preach the virtues of IT when selling to clients, but don't practice it themselves. They may not even use their own products—I remember that it took an executive fiat from the VERITAS CEO for IT to use its storage backup solution internally.

A well-designed company portal is invaluable as a platform to disseminate company vision and values, corporate news and events, results of internal organization initiatives like innovation or special training programs, thought leadership notes from employees and leaders, employee awards, internal career opportunities for employees interested in change, and so on.

Apart from being an information repository, it should become the primary Business to Employee (B2E) platform. Every department, including admin, HR, finance, facilities, IT and staffing, must have their policies online and interface with employees through automated applications. People should be able to apply for leave, fill their appraisal form, refer a candidate, post a problem with their desktop, make travel bookings, get last month's salary slip, find the location and phone extension of another employee, review the latest reimbursement policy etc. on the portal. Applications should be workflow-based with online approvals and status updates.

Employees are customers of support departments. There should be announced SLAs for various services. Like with technical support for external clients, a system should be implemented that tracks open requests, response time, and performance against SLAs for each department.

A robust company portal promotes transparency, and makes a large company feel very responsive. Application design can encourage this. For example, if a manager does not process a leave request within 2-3 working days, it should be approved automatically. Statistics on manager responsiveness can be maintained.

Even mainstream engineering activities can leverage the portal. Software delivery management, hardware usage, software license utilization, budgeting and internal governance can be done through online applications, to improve efficiency. The program management office can supply managers and CxOs with trends related to predicted and actual efforts, schedule variance, costing, and quality of ongoing releases compared with the previous ones.

New tools like podcasts, wikis, blogs and twitter can be adopted. Besides creating multiple communication channels, it makes IT appear innovative and agile, and pre-empts employees using external and less secure systems.

## Employee Communication

Besides his executive role as Chief people Officer and EVP at Symphony Services, Mali is President of the IT Industry HR Association, Bangalore, and is on the National HR Committee of the Confederation of Indian Industry (CII), New Delhi. In many ways, his views on employee communication represent the collective wisdom of Indian software's HR community.

Mali explains its importance: "Communication constitutes a key component of employee engagement. In small companies, it happens on a regular and real-time basis. But as organizations grow, communication becomes sporadic, event-based and eventually ineffective. Most employee satisfaction surveys reveal their disillusionment with the amount and quality of communication that takes place.

Engaged employees provides a significant competitive edge, since they tend to stay longer, speak well about the employer, recommend the company positively to prospective candidates and customers alike, and finally exert the all important 'quantum burst of energy' for the company, which cannot be mandated by policies and programs.

Employee engagement requires paying attention to 4 Cs, namely, Communication, Culture, Career Development and Compensation and Benefits. While all four are equally important, what is often ignored is Communication. This is not due to lack of emphasis or awareness amongst management, but because effective communication is not as simple as it sounds. Some of the challenges are as follows:

- Communication is often interpreted to be a top-down affair. As such the focus tends to be on management updates and policy announcements. In reality, it should be multi-dimensional—top-down, bottom-up and circular.

- Communication is also misunderstood as being HR's responsibility. It can be HR-facilitated, but ownership must lie with line managers. Organizations must assess managers on the frequency and quality of communication with their teams.
- Communication is confined to project issues and business updates, while employees are most concerned with their career growth and development, and how their performance is being viewed.
- Many organizations think that e-mails, conference calls and electronic bulletins are good enough communication media. While these technology-enabled tools have a role to play, they cannot replace face to face communication between a manager and team member, or a CEO's address to the company employees.
- Finally, most managers fail to grasp the path-breaking difference between 'informing employees' and 'connecting with them'. Your communication must carry credibility and transparency to be able to connect with your listeners.

Mali has provided a table listing some of the best practices at companies with a long history of effective employee communication.

**Employee Communication Matrix**

| Communication Channel | Ownership / Accountability | Objectives | Periodicity | Effectiveness Measurement |
|---|---|---|---|---|
| One-on-one with employees | Immediate manager | Build bond with the employee, understand and act on their concerns and aspirations | Monthly | • Meeting regularity<br>• Commitments made in the meetings met |
| Skip level | Manager's manager (Up-line managers) | Understand effectiveness of first-line managers and style-related issues | Quarterly | • Meeting regularity and documented minutes<br>• Commitments made in the meetings met |
| All heads meeting | Department head | Provide business and policy updates, and respond to employee queries | Quarterly | • Information adequacy and relevance<br>• Employee attendance at these meetings |
| Employee round table | Centre head / Business head | Understand ground level issues and suggestions | Monthly | • Meeting regularity<br>• Action points documented and implemented |
| Employee suggestion scheme | HR – set up a committee with HR and employee reps | Invite, process and implement employee suggestions | Quarterly | • Number and quality of suggestions<br>• Employee participation<br>• Implemented suggestions |

| | | | | | |
|---|---|---|---|---|---|
| Employee satisfaction/ engagement surveys | HR | Get confidential employee opinions and experiences on various aspects of organizational life | 6 months (size < 500), Annual (large firms) | • | Satisfaction score and trends<br>• Actions taken<br>• Employee retention |
| Company newsletter | Internal PR team | Provide business updates and invite written employee feedback | Monthly (size < 500), Quarterly (large firms) | • | Readership<br>• Employee participation/ communication |

Employee communication should be direct and shorn of hype. Focus on actual achievements and avoid promises that you have to later retract, or which will be forgotten. As an example, do not announce deals that are in the pipeline, since the disappointment over a failed deal is worse than temporary elation. Use meetings to explain decisions taken, or to scotch false rumours. Company meetings need not be only about work. It can be a platform to introduce new hires, announce performance awards, and even celebrate the month's birthdays with a small party.

Company newsletters should first be written by senior executives, and then polished by internal PR person. Employees can see through platitudes. Keep the corporate spin for the outside world, stick to facts within the company.

## On Becoming a 'Great Place to Work'

Peter Drucker once mentioned that "You will not have shortage of talent, if you are a great place to work." What defines a great place to work?

Company brands are useful in hiring, but not necessarily in retention. Not all organizations have learnt to differentiate between the great brand image they may enjoy in the market place for their products, and their reputation for people practices. Some great brands do a poor job of investing in people, while there are many small companies doing exemplary work in creating and sustaining a powerful employee brand enabling them to attract, and retain real cool talent.

Mali emphasizes that, "Outstanding organizations understand that building an employer brand takes time. It is more than just PR. Full page advertisements, frequent CEO interviews, and showcasing their fancy premises may offer some short term benefits, but long term employer branding is a different ball game. Sustainable branding happens, when an organization takes an 'inside-out' rather than publicity-driven 'outside-in' approach. Inside-out means that employees are treated well, the policies are employee friendly and employees' views are listened to seriously. When that happens consistently across management layers, employees become your brand ambassadors and spread the good word."

Some useful steps towards becoming a great place to work are as follows:

- Determine and articulate your Employee Value Proposition (EVP). It should clearly state the value that employees get from being part of

your company in return for their contributions. EVP components include learning opportunities, well-balanced work-life program, industry competitive compensation and benefits, career progress, celebrating diversity and the like. Claims should be substantiated with examples and proof-points to carry credibility.

- Implement a well designed employee portal as discussed earlier.
- Create a strong bench of competent people managers. Research findings have consistently shown that people join corporations but typically leave their managers. Having competent and level-headed managers plays a strong role in employee satisfaction.
- Along with corporate vision and values, keep articulating the specific roadmap, including the technology and domain directions that your company intends to take. Engineers are passionate about technology areas that they want to work on, and there should be no disconnect between what they are promised and actual job function.
- Build strong links with Business and Engineering colleges, since today's students will become tomorrow's potential employee pool. If they hear good things about you on campus, they will look to you in future, as a prospective employer.
- Participate in industry conferences, seminars and symposiums, thereby showcasing your technical capabilities, unique contributions and even people policies. Attendees are prospective employees, who may be drawn to your technologies and work environment.

Mali concludes by saying, "It's not just the big brands that have a monopoly on talent today. Employees are not too fascinated by size, or celebrity CEOs, who have become poster boys of the industry. Instead, they want the freedom to learn and contribute, opportunity to grow in terms of technical ownership and career, and a politics-free work environment." Attention to these basics can make your company a very good place to work.

## High Level Oversight

Company culture and standards of corporate governance are determined by the conduct of its leaders. Founders and CxOs must exhibit the highest levels of integrity and transparency. More than any internal messaging about corporate values, how they 'walk the talk' moulds internal culture.

In small and medium companies, senior management provides direct oversight for proper enforcement of corporate values and behaviour. This becomes impossible at large organizations, which must institutionalize governance practices. In addition, they need to establish processes for tracking a host of compliance matters relating to financial data, regulatory norms and investors.

For example, Ministry of Corporate Affairs (MCA) requires companies to hold quarterly BOD meetings and Annual General Body Meetings (AGMs)

of shareholders. The Company Secretary (CS) must maintain BOD and AGM minutes, statutory registers, shareholder information and company articles of association. Annual returns and updates of new and retiring directors have to be filed. Director Identification Numbers (DIN), various registrations like Shop Act, Provident Fund, Profession Tax for Company and Directors, Service Tax Number, Import Export Code (IEC) etc. have to be obtained and kept current.

The best way to ensure conformance is through visibility. All departments must publish a list of practices and documents required for internal or external regulatory purposes. Each item must be tagged by the responsible person, renewal or filing date, internal review timetable, and review participants. These lists must be made available online to senior management. They should be kept updated with current status, date for next update, and repository, where hard copy documents are kept. Backups and copies must be maintained at alternate locations. IT can provide an application, to post reminders regarding filings, and alerts if any statutory activity is delayed.

The composition of BOD is important—at least 33% of its members should be Independent Directors, consisting of eminent people with background from legal, finance, business etc. Independent directors are required to safeguard the financial interest of the organisation. Previously, this position was often viewed as a perk. After the Satyam scam in 2009, their role and responsibilities have come under intense scrutiny. As board members, they are expected to take part in the decision making process and consequently they are also liable for consequences of their action or inaction.

Oversight for regulatory and internal matters can be provided through teams consisting of senior management and at least two independent board members. Websites of most public companies mention various internal committees that are constituted. Infosys, for example, has committees for audit, compensation, nominations, investor grievances and risk management. Infosys only appoints independent directors to such bodies.

Most organizations also have the equivalent of a Whistle Blower Policy, which provides an avenue for employees to raise concerns of any violations of Code of Conduct, incorrect or misrepresentation of any financial statements and reports, unethical behavior, etc.

## Success Factor 2: Balanced Growth Strategies

The book has repeatedly emphasized the importance of focus. A product company must aim at being the leader within a limited circle, and then expand its area of domination. The limits to push relate to product functionality, verticals and geography.

Archimedes famously said this, “Give me a place to stand and I will move the world”. So also, from an entrenched position, you can extend your reach

into new areas. How does a company decide on the next frontier? The answer is simple: it should be one that you think, will yield maximum incremental revenue relative to the extra investment.

Growth can happen along multiple dimensions, such as:

- Engineering driven
  - Offering more capabilities to existing clients through more features
  - Expanding reach within existing vertical by offering product variants (lite and enterprise, SaaS)
  - Vertical integration by incorporating higher level intelligence and decision making, or automating low end functionality
- Business model based
  - Offering products and related services
  - Building new products in adjacent areas
- Sales diversity in
  - Verticals
  - Geographic expansion
  - OEMs
  - Channel partners
- Inorganic
  - Acquisitions (of related product or services companies)

Companies scale by judiciously and progressively expanding along these dimensions, based on revenue potential, weak areas of the competition, and cost of development and sales. Other influencing factors are the general economic environment, especially in target markets, customer feedback from sales and support teams, and inputs from key clients and partners. Each new push requires planning and execution. When successful, you move to the next opportunity. Mistakes can happen, and the company may have to back-track.

Larger organizations can leverage cash and stock to acquire technology or smaller companies. The 'buy versus build' decision is made on the basis of right fit (product, culture, revenue), acquisition price, and cost and time to market for building similar capabilities.

Another important aspect to keep in mind is risk management through balanced growth. As an example, a company with only US sales is vulnerable to economic downturn in that geography. Another that sells to mutual fund companies will be severely impacted by a 2009-style recession that hit capital markets. A business becomes more resilient, if it has the right mix of verticals (whose business up-down cycles don't overlap), optimal distribution of revenue from products and services, diverse sales channels, and equitable geographic spread. This can be planned. For example, in the late 90s, VERITAS had almost 100% of its revenues from North America. A target of 5% faster growth in global markets improved the non-US revenue share to 30% by 2000-01 and 40% in 2004.

## Corporate Metrics

Well-balanced and large companies are less vulnerable to external environment by virtue of their size and diversity. Even sudden shocks take some time to have any impact—by then the organization has figured out a way to respond. Trending key metrics can help identify weak areas and drifts, thereby enabling the business to initiate corrective steps.

The table below consists of operating metrics published by i-flex in 2002-03. Though this example has data for four quarters, a typical review should have trends for past two years. I have added a few comments, with more extensive notes in the subsequent i-flex case study.

**Example: Operating metrics for a public company (i-flex)**

| **i-flex Solutions Ltd. (and subsidiaries)** | **2002-03** | | | | | **Comments** |
|---|---|---|---|---|---|---|
| **Operating Metrics as per Indian GAAP Consolidated** | **Q1** | **Q2** | **Q3** | **Q4** | **Full Year** | |
| | | | | | | |
| **Revenues by Geography (%)** | | | | | | |
| **Products** | | | | | | |
| USA | 19% | 25% | 25% | 36% | 27% | Scope to grow, after getting strong lead in Middle East and Africa |
| Middle East and Africa | 36% | 48% | 35% | 19% | 33% | |
| Asia Pacific | 24% | 9% | 18% | 19% | 18% | |
| Europe | 19% | 18% | 21% | 25% | 21% | |
| Latin America and Caribbean | 2% | 0% | 1% | 1% | 1% | |
| Total Products | 100% | 100% | 100% | 100% | 100% | |
| | | | | | | |
| **Services** | | | | | | |
| USA | 51% | 57% | 60% | 70% | 61% | |
| Middle East and Africa | 7% | 10% | 7% | 8% | 8% | |
| Asia Pacific | 24% | 17% | 19% | 11% | 17% | |
| Europe | 18% | 16% | 15% | 12% | 14% | |
| Latin America and Caribbean | 0% | 0% | 0% | 0% | 0% | |
| Total Services | 100% | 100% | 100% | 100% | 100% | |
| | | | | | | |
| **Total Company** | | | | | | |
| USA | 30% | 37% | 25% | 50% | 39% | |
| Middle East and Africa | 26% | 33% | 35% | 14% | 24% | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Asia Pacific | 24% | 12% | 18% | 16% | 17% | |
| Europe | 19% | 17% | 21% | 19% | 19% | |
| Latin America and Caribbean | 1% | 0% | 1% | 1% | 1% | |
| Total Company | 100% | 100% | 100% | 100% | 100% | |
| | | | | | | |
| **Products Revenues by Type** | | | | | | |
| **Total Products** | | | | | | |
| License Fees | 55% | 54% | 43% | 38% | 47% | |
| Implementation Fees and enhancement fees | 26% | 27% | 41% | 43% | 35% | |
| AMC | 19% | 19% | 16% | 19% | 18% | |
| **Total Products** | 100% | 100% | 100% | 100% | 100% | |
| | | | | | | |
| **Customer Concentration (For Total Company, Products and Services) - %** | | | | | | |
| **Products** | | | | | | |
| Top Customer | 14% | 11% | 8% | 9% | 9% | |
| Top 5 Customers | 46% | 42% | 31% | 29% | 29% | |
| Top 10 Customers | 61% | 61% | 49% | 47% | 47% | |
| Citigroup and its entities | 33% | 27% | 28% | 27% | 27% | Relatively high, but safe client as i-flex is a spin-off |
| | | | | | | |
| **Services** | | | | | | |
| Top Customer | 24% | 9% | 10% | 11% | 11% | |
| Top 5 Customers | 57% | 36% | 35% | 36% | 36% | |
| Top 10 Customers | 76% | 58% | 55% | 57% | 57% | |
| Citigroup and its entities | 81% | 73% | 68% | 61% | 61% | Too high, but reducing steadily |
| | | | | | | |
| **Total Company** | | | | | | |
| Top Customer | 9% | 7% | 7% | 6% | 6% | |
| Top 5 Customers | 39% | 27% | 23% | 21% | 21% | |
| Top 10 Customers | 52% | 42% | 36% | 34% | 34% | |
| Citigroup and its entities | 45% | 42% | 42% | 40% | 40% | |
| | | | | | | |
| **Trade Receivables %** | | | | | | |
| 0-180 days | 87% | 85% | 83% | 76% | 76% | |
| More than 180 days | 13% | 15% | 17% | 24% | 24% | High |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Days of sales outstanding** | 126 | 107 | 102 | 87 | 87 | Too high, ideal is mid-40s |
| | | | | | | |
| **Customer Addition** | | | | | | |
| Products | 6 | 6 | 7 | 12 | 31 | |
| Company | 12 | 17 | 15 | 13 | 57 | |
| | | | | | | |
| **Number of countries (Cumulative)** | 85 | 86 | 89 | 93 | 93 | Global reach |
| | | | | | | |
| **Staff Data** | | | | | | |
| **Staff Count** | 2083 | 2169 | 2255 | 2327 | 2327 | |
| Products | 899 | 836 | 872 | 897 | 897 | Compare revenue and staffing ratios for product & services |
| Services | 844 | 967 | 1009 | 1059 | 1059 | |
| Support group | 340 | 366 | 374 | 371 | 371 | |
| KPO Business | | | | | | |
| | | | | | | |
| **Recruitment** | | | | | | |
| Fresh Recruits | 32 | 50 | 1 | 4 | 87 | |
| Lateral Recruits | 71 | 69 | 132 | 110 | 382 | |
| **Total** | 103 | 119 | 133 | 114 | 469 | |
| | | | | | | |
| **Attrition Rate** | 7% | 6% | 7% | 7% | 7% | Low attrition for India |
| | | | | | | |
| **Services Business Metrics** | | | | | | |
| **Revenues by Fixed Price / Time & Material Basis** | | | | | | Need profitability in each case: fixed price and T&M: |
| Fixed Price | 39% | 33% | 35% | 34% | 34% | Lower profitability could mean poor estimation |
| Time & Material Basis | 61% | 67% | 65% | 66% | 66% | Lower profitability could suggest trying a shift to fixed price |
| | | | | | | |
| **Revenue Breakup** | | | | | | |
| On-site | 64% | 56% | 61% | 65% | 62% | % profit may be lower though revenue per person is higher |
| Off-shore | 35% | 42% | 39% | 35% | 38% | |

## Success Factor 3: New Horizons or Successful Exit

Not every business needs to worry about exit. Doctors, lawyers, accountants run their private practice for a lifetime, and sometimes their children take over. Hotels, theatres and stores may survive more than one generation. Most manufacturing and services companies have a relatively long life span.

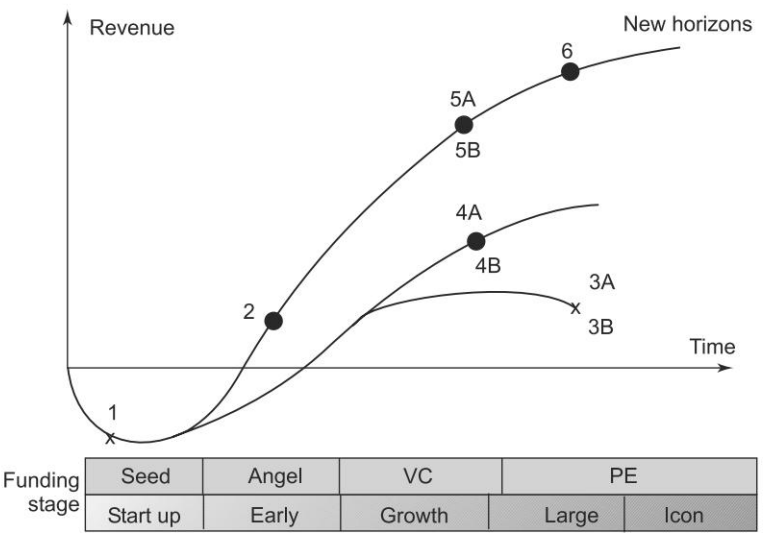
Software companies are different. Technology obsolescence is rapid. If your current product or offering will only survive for a few years, then it's necessary to be planning for the future. Competition is intense. This too creates pressure to stay ahead in the race. Each stage of the growth lifecycle brings new challenges as discussed in this book.

This velocity of change can force software companies out of business, faster than traditional businesses and professions. Therefore, they must re-invent themselves every few years. This is achieved by evolving existing offerings, building entirely new products and services, changing sales and marketing strategies, acquiring companies, getting funding, or bringing in new management with a fresh outlook.

Organizations that do not adapt eventually plateau, and die. Others escape that fate by recognizing long term risks, and aiming for an acquisition by a stronger player. A few sustain their growth, and go for an Initial Public Offering (IPO), which is primarily a means to get access to significant funding. An IPO marks a successful milestone in a company's history. It also provides an exit for early investors and liquidity for founders and employees. A handful of great enterprises continue on and eventually attain an iconic status in the industry.

Some of these possibilities are shown below, and the next few sections discuss them in more detail.

**Exits—Successful or otherwise**



| Tag | Exit Type | Exit Description |
|---|---|---|
| 1 | Fail | Start-up—failed with product / funding |
| 2 | Success | Early acquisition—modest returns |
| 3A | Fail | Failed to sustain growth—liquidation |
| 3B | Partial success | Failed to grow—acquired at low price |
| 4A | Success | Acquisition—good returns |
| 4B | Partial success | IPO—successful exit for early investors, but company growth modest after IPO |
| 5A | Success | IPO—successful IPO and continuing growth |
| 5B | Success | Acquisition—excellent returns |
| 6 | Success | Industry icon |

## Mergers & Acquisitions (M&A)

Acquisition refers to the business strategy and process of buying another company, or selling your own. The term 'merger' is used when both companies are similar sized. The purpose of M&A is for the combined entity to gain leverage from each other's strengths, and eliminate some of the individual weak areas.

Organizations are built by founders and key employees, who invest considerable time and emotional energy. Their dreams are similar—make a great product, build a famous company, and hopefully reap rich rewards. Investors have a simpler objective—put in some money, and exit in a few years with lots more cash. These goals may appear to put founders and investors on opposite sides of the fence, when it comes to getting acquired, but that is not the case.

Founders must realize that getting acquired is like reaching a junction, and then switching your wagons to a long distance train going in the same direction. Your dream need not die—in fact it may have a better chance of realization.

A successful IPO is valued as a key measure of business success. But M&A is an equally good exit option. Founders, investors and shareholders are likely to be rewarded almost as well as an IPO, when a company is sold. Of course, IPO and M&A are not mutually exclusive, and public companies can get acquired too.

M&A has always been considered a standard route to success by US technology start-ups, especially in the Bay area. Every second software person has been an employee at a company that got acquired. A large number of entrepreneurs have built and sold their business at different stages of growth, from a few million to hundreds of million dollars in revenue. There are quite a few serial entrepreneurs with more than one start-up, successful or otherwise, under their belt. VCs also seem to prefer funding early stage companies founded by previous entrepreneurs.

### Why Sell?

Entrepreneurs may be reluctant to sell their companies, especially when they are on a roll. In good times, it is easy to become ambitious and aspire for huge revenues and an IPO. But it is important to know one's limits, and be sensitive to the possibility of unexpected developments. According to Josh Kopelman at First Round Capital, out of 21,000 US companies, which got venture funded since 2001, only 380 made it to an IPO. Another angel investor, Ron Conway, noted that 70% of his portfolio companies went out of business during the unexpected meltdown during 2001 to 2003. Not surprisingly, this period is also termed as 'Nuclear Winter in Silicon Valley'.

Why should entrepreneurs sell their company? There can be different reasons. You may perceive greater opportunity in being part of an enterprise that has complimentary products, enables expansion into new markets, has broader sales channels, or more experienced management. Sometimes, high corporate debt and competitive threats create pressure to exit. There may be non-business reasons such as deteriorating personal finances, issues between founders, or wanting a less stressed lifestyle.

Companies rarely get sold—they get acquired. This means that buyers will be wary if you appear to be desperate to sell. They want to see confidence in the seller's management team about their product and future.

Though M&A cannot be precisely timed, an acquisition should happen from a position of strength to get the best valuation. Always keep your options open, and sell if possible when your company is doing well. Most companies begin to shop around when they are in trouble, or the economy is headed south. Unfortunately, that is when buyers become cautious and M&A deals begin to dry up. Valuations will also be significantly lower.

### My Experience with Acquisitions

By mid 1998, my first company, Frontier Software, was approaching the 100 employee mark. It was becoming evident that we needed a direct sales team. During US visits, my time was being increasingly spent with existing clients, rather than approaching new prospects. Though we were profitable, full-time sales presence in US would be very expensive. Around this time, we were approached for possible investment by Draper International. VC investment in India, especially in services companies, was not common then. However, our discussions progressed well and we had the rough terms worked out.

Coincidentally, Fred van den Bosch, VP of Engineering at VERITAS, was visiting India and we met over dinner. When I spoke to him about the VC funding, he asked whether Frontier would be interested in being acquired. As background, he stated that the VERITAS India operation, after being transferred out of Frontier in 1996, had grown to a 40 person team. VERITAS globally had 1200 employees, and expected to double that in 1999. Though the India team

was extremely competent, the small size limited its impact on the company. Fred wanted to accelerate the growth of the Pune subsidiary, and set me a goal of 10-fold growth in 3-4 years.

Comparing the two options, I felt that VERITAS would provide better opportunities for Frontier engineers to work on cutting edge technologies in the world's largest storage software company. Having gone public in 1993, VERITAS had a generous stock option plan for employees, which could potentially generate good returns. On a personal front, I neither had the experience, nor the inclination, to set up an effective sales team and build a large business. VERITAS had a real need, and specifically wanted Frontier management's expertise in scaling engineering teams. The cultural alignment was good, since VERITAS was an old client and I had known Fred since 1992.

The deal was signed in February 1999. It was perhaps the first such acquisition of an Indian services company by a global product organization. The decision proved to be a good one. VERITAS became one of the big success stories of the decade, with revenue rising from $400 million in early 1999, to $3 billion by 2004. Its stock price rose significantly, and employees benefited by selling their options.

My second experience came in late 2004. I was CEO at In-Reality Software, which was in the outsourced product development (OPD) space. We were on a fast growth track, and came to the attention of the Symphony M&A team. Symphony Services Inc. was a well-funded, US based OPD company set up in 2001. With 1000+ employees based mostly in Bangalore, they had several reputed brands as customers. Symphony wanted to expand to a new location, and had been scouting for the right company to acquire.

After narrowing down to In-Reality from a number of other contenders, they approached with an offer. We were not looking to exit, but the deal made sense for both sides. The two companies were in the same space (OPD), but were very complimentary. Symphony had large customers, we had SME clients. Their average team size was 100 per client, ours was 10. They were strong in enterprise applications, while In-Reality's expertise was primarily in storage and systems. We lacked the strong US-based sales and marketing team that Symphony had. The combined company could offer Bangalore and Pune as locations to the clients. We signed the deal and became part of Symphony in October 2004.

The combined entity has flourished, and Symphony Pune went from 140 (9% of overall Symphony) to over 725 (21%) employees in just three years. Symphony is rated as the largest OPD services provider. As of 2009, it is still privately held. If it does an IPO at some stage, its prospects appear very bright.

### Why Companies Buy Others

Acquisitions work only because there are companies willing to buy. Between them, Google, Oracle and Microsoft acquired more than 80 companies in 2006 and 2007. M&A declined significantly in 2008, and may remain flat in 2009,

but should recover with the economy. Case studies of even Indian product companies like Kale Consultants (previous chapter), Subex and i-flex (this chapter), show significant acquisition activity after their IPOs. Most medium and large companies have a small M&A team or advisors, to look out for organizations that complement them.

An acquisition is intended to quickly bridge specific gaps in the company's profile and take a time leap on the growth trajectory. The buyer is aiming to get one or more of the following in one swoop: new products, increased client base, new markets, bump in revenues and profits. There are companies, which bulk up quickly through acquisitions, in order to qualify for an IPO or become a more significant player in their space.

Depending on the rationale for M&A, the target company will be assessed on those parameters. If the buyer wants access to technologies, products or services, the evaluation will be about 'buy versus build' costs and time to revenue. New clients and products are valuable to a buyer, if they open up cross-selling opportunities. The seller's domain and sales expertise in a challenging geography, vertical, or industry can be of advantage. For example, someone looking to sell their product in India could benefit by acquiring an established local player with market reach. When VERITAS acquired OpenVision, they moved beyond storage management into data backup space. Equally significantly, they could now tap into OpenVision's huge distribution channel for all products, including OEM and reseller network and direct access to global 2000 end-user customers.

### How Acquisitions Proceed

Acquisition opportunities arise through design, or by chance. As your company profile improves, bigger players may approach you, if they perceive a complimentary relationship. That could be a large competitor, who has been losing key accounts to you. An OEM or strategic partner, who observes significant sales resulting from the partnership, may look for vertical integration.

It is also possible to plan for an acquisition, once your business has reached a certain scale. The points made above can work in reverse—you can judge which competitor, partner, or someone in an adjacent space, can benefit from acquiring your product. As part of your roadmap, you can then align your positioning, offerings and client base to be complimentary. By winning deals with some overlap in clients, you can work towards some kind of sales, SI or OEM relationship. After creating a network of senior level contacts inside that organization, you can make an overture for a strategic investment, or outright acquisition.

The first contact must be at a high-level, preferably CEO, directly or through trusted contacts. Once initiated, an M&A negotiation proceeds like an investment deal. The acquirer has to find your product, leadership team, client base, current revenue and growth potential, attractive enough. You must be convinced

that the buyer is the right one in terms of business prospects, culture, and management team.

Negotiations have to proceed in strictest of confidence. The risk is higher for the smaller company—any leak can impact market confidence in your future, if the deal falls through. After signing a mutual NDA, both sides share high-level revenue and profitability numbers. You may have to part with much more information, than the buyer, if you are much smaller. Get clarity on mutual synergies in clients and products and future combined roadmap. M&A makes sense if 5 and 2 can result in something more than 7.

The first one or two meetings are usually decisive. It is quickly apparent, whether both sides have a similar vision and share similar values. Cultural fit can make or break the deal. With two CEOs used to having their own way, a lot depends on their rapport. M&A deals have fallen through because of ego issues between leaders.

If there is good business synergy, the acquisition amount and terms are discussed. Once there is a handshake on valuation and broad merger principles, a term sheet is signed.

The previous chapter covered the due diligence process in the context of VC funding. In M&A too, the buyer will assign a team to verify all claims, do customer checks, and examine potential risks or liabilities related to tax, loans, IP, client defaults etc. Any major risks or liabilities discovered during this review can result in the deal falling through, or change the valuation. If all goes well, both sides work on a comprehensive agreement to conclude the deal.

### Acquisition Valuations

In M&A, both sides have to agree on the price at which, the buyer acquires the seller's company (valuation). How is valuation arrived at? There are thumb rules, but only when the buyer finds the business attractive. A low price will not motivate disinterested parties, and a high one will not easily deter a really keen acquirer.

Buyers expect payback in 3 to 5 year time. Let's look at how that is achieved with typical valuations. In India, valuations for software services companies have typically ranged between 0.5 to 1.8 times, the previous 12 months revenue. Assuming 15-25% net profitability, 30-60% annual revenue growth, the math shows that the buyer can recover his investment through net profits in a 3-5 year period.

Services companies that are valued on the basis of net profit have multiples of 2 to 6 times. If a company were to pay (say) 5 times current net profit, it will take 5 years to recover its investment, if profits were to remain constant. The assumption is that the acquired business will keep growing in revenue and net profit, so that payback is in 2-3 years. The acquisition fails, if the seller's profits decline.

Future growth in a services business is expected to be fairly linear. Therefore, acquisition price is in a relatively tight range. With product companies, rewards

and risks are both very high. Hence, the valuation spread is much wider. Good synergy between merged organizations can result in huge revenue increase. Depending on the buyer's keenness or seller's desperation, multiples can be 2 to 15 times the revenue, or higher. On net profit, they can be 8 to 20 times, or more.

These are approximate numbers. Every case is different. Valuation will be on the lower side, if a company is small (hence higher risk), growing slowly, not very profitable, or the overall economy is in a downturn.

Payment may be all-cash, all-stock or combination of the two. Cash provides immediate returns to investors and shareholders. If the buyer is publicly listed, then shares can be traded for cash. However, buyer's stock will typically vest over a 1-3 year period, and hence its liquidity is not immediate. If the buyer is privately held, then you have to assess the chances of the company having an IPO in a reasonable time. Also, the stock should be at a reasonably low price so that the future earnings from an IPO will be more lucrative.

Public companies prefer to use stock, when the market is doing well and their share price is high. When the reverse is true, as in 2009, deals tend to be mostly cash. Sellers will want at least some cash.

Payment is made in instalments—the first when the contract is signed, and others spread over one or two years based on fulfilment of future commitments. Targets can relate to meeting revenue, profitability or certain operational goals.

The seller's senior executive team will have a lock-in period in which, they must continue to work at the combined company. Those perceived as key to future business may have 2–3 year lock-ins, while it can be a few months for those, who may not fit too well into the new organization.

As a seller, you will want to negotiate hard for desired cash-stock ratio, more upfront payment, and minimum lock-in. Consider compromising on total valuation, if some of these are very important for you.

### When to Exit

An early stage Indian company should strive to reach annual revenue of Rs. 2–5 crores ($0.5–1 million) in 24–30 months with a total spending of Rs. 2–3 crores ($500K). At this juncture, you will probably have a good client list, and are well known within your target market. It may still be a founder-centric company, without significant direct sales capability. Transitioning to growth stage requires investment. Another equally good exit option can be an acquisition.

With a few crores in revenue, an exit at Rs. 4–8 crores valuation is possible. Since the founders still hold almost all the equity, and have spent around two years on this enterprise, this will net them reasonable personal wealth by Indian standards. They can negotiate good terms for themselves and their team in the merged company. In their new role, founders can help realize the full potential of the product in the next few years. If they want to, they can then return to being entrepreneurs, this time for a longer haul.

Let's compare this with the VC funding option. Assume that you trade 35–40% of equity to the VC and another 10–15% to employees, in return for Rs. 4 crores in funding. The investor will look for a 10 times more return in 4–5 years. Your revenue target is at Rs. 25–30 crores in this time frame. Besides a lot of hard work, many things have to go right for the company. You must continue to innovate in product features, build direct and channel sales, and strengthen the management team. The business has to compete and overcome competitors and new start-ups. Additional rounds of funding may be required, diluting your equity further. There will be occasional dips in the general economic environment. Provided all this pans out, you may be ready for an IPO or become a prime M&A target.

A successful acquisition at this stage could be at a valuation in the Rs. 50–100 crores range. Depending on equity held by then, founders can hope to make Rs. 10–25 crores. This is 3–10 times higher, than the early stage acquisition.

Assuming both were indeed possible, which scenario is better for founders? It really depends on what you want from your career, and the risk that you are prepared to take. More risk can either mean more gain, or everything lost. For first time Indian entrepreneurs, in this nascent product industry, I feel that a reasonably successful exit at an early stage is preferable.

Compared to services, there are very few examples of Indian product firms being acquired. Once there are some well publicised successful exits, it will encourage more entrepreneurial activity in product space and greater interest in M&A from global firms.

## Initial Public Offering (IPO)

Not every early or growth stage business that is doing well, wants to get acquired. Quite a few go for an IPO. Though a public listing provides liquidity for shares, held by early investors, founders and employees, it is more than an exit strategy. It marks a significant milestone in the company's history, and provides funding required for continuing its growth trajectory.

IPO refers to the issue of shares for purchase by the general public. These outside investors will not have any direct say in the management of the company.

The IPO takes place on stock exchanges, regulated by national governments. In India, this can be the Bombay Stock Exchange (BSE) or National Stock Exchange (NSE). In US, technology stocks are usually on NASDAQ. Shares of publicly listed companies are traded through brokers or increasingly, online by individual investors.

Going public requires significant expense, but results in multiple benefits:

- Huge capital is raised for expansion. Funds can be invested in product development, buying infrastructure (offices, servers), expanding sales, diversifying to new geographies and verticals, and paying off high-interest debt.

- More funds can be raised through future rights issue. You don't have to depend on bank loans or private investors.
- Existing investors and employees can make money by selling their vested shares in the open market.
- It is easier to attract new hires. Their compensation can be a combination of salary and shares that vest over the employment period.
- An IPO improves credibility and brand. This helps in sales and setting up partnerships.
- Future acquisitions become easier since stock can be used as part of the purchase price.
- Employees feel a sense of ownership and responsibility. They know that if the company's revenue and profits increase due to their collective contribution, it benefits them all through an appreciation of the share price.

Investors buy stock during an IPO in anticipation of future returns. As long as the company performs, stock price will improve and existing shares can be sold for a premium. Poor performance or an economic downturn can push stock price down.

IPO also brings certain constraints and challenges:

- The company must conform to the rules established by the regulatory authority that controls the stock market. Its balance sheet, profit and loss statements, sales figures and marketing plans have to be public. It has to make projections about future revenue and profitability, and identify potential risks foreseen.
- Accounting practices must adhere to established norms. These regulations help prevent fraud. Any false disclosures or financial statements can lead to legal suits against key executives (especially the CEO, CFO and the Board).
- CxOs at public companies may feel like they are on a treadmill. Their performance is judged on their ability to deliver results, quarter after quarter. Failure to meet projections and market expectations can cause stock price to fall. This fear creates pressure on management to keep doing only those things that yield short-term gain, often at the cost of long-term health of the business.

Poor performance can also negate many of the gains listed above in terms of sales, employee retention and acquisitions.

### IPO Process

Before initiating an IPO, the company has to establish the highest quality governance and financial practices. It should be able to forecast financial performance reasonably accurately in each quarter. Revenue and profitability should have increased steadily over the past few quarters.

Most stock exchanges have mandatory guidelines to qualify for an IPO. For example, as of 2009, some of the BSE requirements for small cap companies, as it calls them, were:

(i) Post-issue paid-up capital of the company should exceed Rs. 3 crores
(ii) Minimum issue size is Rs. 3 crores
(iii) Income must be above Rs. 3 crores for each of the three years prior to the IPO
(iv) Minimum number of public shareholders after the issue should be 1000

The IPO is guided by an underwriter—typically an investment banker. The underwriter prepares a prospectus that provides detailed information about the company as required by the stock exchange. They help set the offer price for the shares. This price is critical. If it is too low, then the company collects less capital than it could have from the IPO. If too high, it can turn off investors, and create negative publicity because the stock price may fall after going public. Underwriters have industry contacts and distribution channels to ensure that the shares on offer are sold. IPO buyers are usually institutional investors, such as investment banks, brokerage firms, pension funds, private trusts, foreign institutional holdings. They may also be retail investors, mostly belonging to the underwriters' investment bank and preferred partners.

Once the IPO is complete, the shares start being traded on the stock exchange, and more investors bid for them. If the IPO price was set correctly, the stock starts trading at a higher value. Those who purchased IPO shares can make some quick money.

Stock owned by employees and original investors can also be sold after a blackout period (typically 60-90 days after the IPO). There may be other restrictions on what percentage of shares can be sold by key employees. These shares would have been issued at a very nominal price, especially to early employees, who therefore can make a lot of money. We have all heard stories of how early Infosys hires became rupee millionaires after it went public.

## Iconic Companies

Like an eagle in flight, a few organizations are able to catch the next rising air stream to soar ever higher. One can only wonder what keeps them going, and how the baton is passed from one leadership team to the next. As they reach one level, they set their sights on something new, and rally the organization to the fresh challenge.

IBM is the best example of a technology company that has lasted for several generations. With origins dating back to 1896, it formally became IBM in 1924, much before the invention of electronic computers. An industry leader for almost its entire history, it is truly a supreme symbol of excellence that very few companies in any industry can match.

Cisco is another icon in the technology sector. Founded in 1984, it was the first to sell commercially successful routers supporting multiple network protocols. Since then, it has kept pace with all emerging opportunities in networking, including hubs, switches, remote access, branch office routers, ATM, security, IP telephony, wireless, network management and others.

Software companies like Microsoft and Oracle have also been industry leaders for more than 25-30 years. Considering the short half-lives of software businesses, they too have achieved iconic status in our lifetimes.

Any observer of the IT industry will acknowledge Infosys, as someone that levelled the global playing field, and put India on the map as an emerging knowledge superpower. TCS, India's largest IT services company, deserves our respect as a pioneer since 1968, which were the heydays of License Raj.

I have always been fascinated by the description of the Kailash temple, which is the centrepiece of the World Heritage site at Ellora. As noted by Wikipedia, it was designed to recall Lord Shiva's home in the Himalayas. Carved from one single rock, the temple covers an area double the size of the famous Parthenon in Greece, and entailed removal of 200,000 tonnes of rock. Built almost 1500 years ago, the construction lasted over 100 years. Imagine the vision, planning and execution required to guide several generations of artisans! Working without the kind of tools, documentation and processes we have today, they created a monument that has stood the test of time.

Technology icons may not survive that long, but they still represent an incredible achievement of institution building. They are an inspiration for leaders and employees at every company, that it can be done, and perhaps they will be the ones to help take their organization a long way along that path to glory.

## Case Studies

### (Large companies—aspiring for $1 billion revenue)

There are very few Indian software product companies with over $100 million in annual revenue. I picked three that have scaled different peaks, and exhibit unique facets regarding business model and entrepreneurship. They dared to take the less trodden path of products, at a time when India's software industry was satisfied with the easy pickings that project services and onsite consultant placement had to offer.

i-flex became part of Oracle in 2008, and hence won't be part of any future list of Indian product companies. It is also not a rags-to-riches transition, since it had clients, funding and more than 200 employees, when it was spun off as an independent company. Despite this, i-flex is a trail-blazer in having achieved half billion dollars in product revenue, before its acquisition.

Subex is the arch-typical start-up success story. It bootstrapped with its own funds, transitioned from integration services to products, went IPO, and did a number of acquisitions to zoom past the $100M revenue barrier. A NASSCOM study[3] ranked it as fifth largest in product sales behind i-flex, TCS, Infosys and 3i Infotech in FY2008.

Unlike other case studies, the last one is about a services company. Founded in 1990 by Dr. Anand Deshpande, CEO and MD, it has grown steadily to over 4000 employees and over a $100 million in revenue and went public in March 2010. As the name Persistent Systems so aptly demonstrates, Anand has held to a firm vision and steady course, leading his company from a start-up to outsourced product development (OPD) services leadership. The Persistent example will benefit those working at services companies. Further, OPD companies have helped create product development culture in India, and laid the foundation for today's product aspirants.

## i-flex (now Oracle Financial Services Software): The World Banks on it

i-flex solutions, now Oracle Financial Services Software, has been India's most successful independent software product company.

After being spun off from Citigroup in 1993 as an independent company, it grew from $250,000 to $594 million (Rs. 2380 crore) in annual revenue and had over 11,000 employees by March 31, 2008. It has serviced over 800 customers in more than 130 countries.

It was founded as Citicorp Information Technology Industries Limited (CITIL) and formally became i-flex solutions in March 2000, went public with a listing on BSE and the NSE in June 2002, and was renamed as Oracle Financial Services Software Limited in August 2008.

Its 19+ year journey is full of milestones with changes in ownership, product evolution, major client wins, geographic expansion and acquisitions.

### Opening the Account

In the 1980s, Citibank Overseas Software Ltd. (COSL) was formed as a 100% subsidiary to provide software services for Citibank from India. It developed two banking products, MicroBanker for universal banking, and Finware, which served retail banking. The products were sold, along with related services, to a few customers in Africa.

COSL was a cost center and restricted to export-only services by law. Hence, in 1992, CITIL was formed as a separate market driven product entity. Its mandate was to become profitable by serving Citicorp, as well as, the global financial software market. CITIL acquired MicroBanker and Finware from COSL, together with six clients in three countries, 117 experienced ex-COSL staff and managers, and $400,000 in investments from Citigroup.

CITIL took a big risk in bucking the prevailing trend. Despite the boom in software services exports, it chose to be a specialist product company that targeted financial services.

Rajesh Hukku, who came back from his US assignment at Citigroup, became the CITIL head. He has a double degree from BITS Pilani, and feels that he owes a lot as an entrepreneur to his alma mater, where risk-taking was encouraged. His first job in 1979 was at Tata Consultancy Services (TCS). There his team built India's first LAN system, both hardware and software, called Falcon. The product was ahead of its time, and was released even before the globally successful Netware product from Novell. Since LANs were new to India, Rajesh participated actively in its marketing efforts. A keen learner and a shrewd negotiator, Rajesh absorbed the importance of brand-building and value-creation from L.C. Singh, then Product Marketing Manager at TCS (and later CEO of Nihilent). Though he was successful at TCS, Rajesh left for a smaller start up, COSL by Citigroup, where he felt he could make a greater impact. Assigned to a US-based role, he completed the transition from a hands-on techie, to a full-blown sales and marketing person.

Along with Rajesh, R. Ravisankar and NRK Raman, also from COSL, formed the core management team and continue to steer the company. Deepak Ghaisas joined as CFO later and left in August 2008.

## Building the Initial Account Balance

MicroBanker was listed as the No. 1 selling back office system in the International Banking Systems (IBS) Sales League Table for 1995. Despite its success, it became clear that a new product was required because MicroBanker's underlying database was not scalable enough to handle large transaction volumes.

CITIL had begun building the next generation banking product called FLEXCUBE soon after its inception. Profits from MicroBanker and services funded its development. FLEXCUBE's backend consisted of the latest Oracle database. It had a client-server architecture, in which the core business logic resided on the server, and users accessed the application through Oracle Forms. Progressively, this allowed customers to access their accounts through the internet, ATMs and eventually mobile phones.

The company staked its future on the new product by discontinuing MicroBanker and its annual revenues of over $15 million. The move proved to be successful because FLEXCUBE delivered what the market wanted. It provided a comprehensive, modular, integrated solution for consumer, corporate, investment and internet banking, and asset management. Until then, banks purchased software on a piecemeal basis, to automate parts of their operation. For example, they would go in for separate treasury, retail or such other functional software, as and when these operations became unmanageable. Typically, each product would be purchased from a different vendor, making

them incompatible with each other. With FLEXCUBE, the customer had the flexibility to buy what they needed immediately, and add more modules when required.

Rajesh Hukku's focus and flair for sales helped i-flex during this risky transition from MicroBanker to FLEXCUBE. His aggressive and competitive strategy meant, arming sales staff with the ability to show clients how much money they would save by using FLEXCUBE. In 1998, 25 out of 500 employees (or 5% of the staff) were in sales.

When FLEXCUBE was launched in 1997, HDFC Bank in India signed up as the first customer. i-flex expanded to its traditional base in Africa, followed by Middle East, Southern Europe, Asia-Pacific and Europe. In 1999, when entering a mature market like Europe, Rajesh hired local staff—Dutch, German and also US nationals, with experience selling technology solutions to European banks. The team ensured growth in European markets by enabling access to specialist companies, who helped their solution to conform to local regulations. The company established links with local implementation partners, thereby providing a personal interface to potential customers. Each region was ably run by a blend of Indian and local managers.

In January 2002, FLEXCUBE had won it's first customer in North America. That year it also became the best selling universal banking solution in the world. It topped the sales table in IBS rankings, with 36 new client wins.

## Creating Wealth

The IBS Sales League Table's No. 1 position was just the start. FLEXCUBE headed the table for next 4 years in a row until 2006. It continues to be the company's flagship solution even today, earning No.1 position in the 2008 Forrester Deal Flow Report.

Meanwhile, the organization had gone through some changes. In 2000, Rajesh was appointed Chairman and Managing Director of the newly christened i-flex Solutions. Under his leadership, the company went public in June 2002. The market was not doing too well with a downturn and an impending Indo-Pak war. Rajesh and his colleagues were however very bullish. Their gamble paid off handsomely. Despite the shares being high priced, the IPO was oversubscribed. It was easy to see why. i-flex was India's largest product company with revenue of Rs. 435 crores, 24% profitability, 60–40 product and services revenue mix, and a well-balanced geographical spread (32% sales in US and around 20% each from Europe, Asia-Pacific, India and Africa combined).

The company's founding executive team owned around 1% of the company, and all employees were covered under the Employee Stock Option Plan before the IPO.

i-flex continued its steady growth. By March 2008, annual revenue was nearly Rs. 2400 crores ($500+M). This represented a six-fold growth, in as many years

since the IPO. The company also reduced its dependence on top five customers from 42% to just 23%.

There are several reasons for the company's remarkable success. Its birth from an existing Citi business provided i-flex a significant head-start. Thereafter, it reaped rich benefits by maintaining focus on a single vertical (financial services) and striving to be the market leader. It created and maintained a strong brand by consolidating all its offerings under the FLEXCUBE product name.

As early as 1995, CITIL became the first company to be assessed at SEI CMM Level 4. This helped win customer confidence, and also embedded quality into its internal processes, in a manner that was unique to the industry. An internally developed tool, called Promotr, was later used by many companies in their journey to SEI CMM Level 5.

On the sales side, i-flex first pursued banking institutions in markets such as Africa, Middle East and India, which were being under-served by global competitors. In various African countries, they own between 25-50% of market share. As their reputation grew, they expanded into the developed markets of US and Western Europe. The near-equal revenue base from Europe, USA and Rest of the World (RoW), insulates the company somewhat from downturns in specific geographies.

Their Citi connection continued to provide a competitive advantage, beyond just being a high-valued customer. FLEXCUBE was deployed between 2001 and 2007 in 76 countries at Citigroup subsidiaries and branches. As part of the rollout, the product would be customized to conform to the complex banking regulations in each of the countries. In turn, this would make it easier to win orders from other financial institutions. For example, i-flex went to untapped Chile, and used FLEXCUBE, to enhance and transform the core banking systems at Banco de Chile, the oldest bank in the country. It followed this up at various banks in the region. In 2005, Rajesh Hukku was honored in 2005 with the 'Order of Bernardo O'Higgins, the Grand Official'—the highest civilian honor conferred on foreign nationals by the Republic of Chile.

To ensure adequate domain knowledge, i-flex always hired 10%–15% of staff from the banking community. It recruited locally at global offices, and there are 18+ nationalities represented amongst i-flex employees.

As Rajesh Hukku puts it in his interview with Ravi Aron, a senior Fellow at Wharton's Mack Center for Technological Innovation: "Our customers cannot say that, 'These guys are great techies, but they don't understand my business.' We have lived up to the original dream of being 100% customer focused. We are proud to be techies. But I think at least 25% of our people can walk onto the trading floor, and talk to a trader in his language. We can go to the operations head of a bank and tell him: 'Hey, you're running it this way, but in Chile, it's done differently, and in Moscow, some other way'."

Explaining this further, he says, "You cannot be an expert in everything. So our first decision was to build a specialized rather than generic horizontal services

company. The real test came with the Y2K opportunity, which was at a sensitive time for us. We were investing in FLEXCUBE, and Y2K triggered a big debate internally. Some felt that we should delay the product by two years, re-deploy 150 people (half the company) on this one time opportunity, and quickly make $15 million in revenue. As a small company with limited funding, the near doubling of revenue was hard to ignore. Yet we decided not to destroy what we had begun, and continued building FLEXCUBE. We did not do a single man-day of Y2K."

In 2001, i-flex hired S. Ramakrishan, a Citibank veteran to create the Reveleus product division that focused on solutions for Basel II and Customer Analytics. Today Reveleus is used by the top four US banks. It has been very successful in the regulatory and risk solutions space across Europe and Asia. In India, Reveleus is the most widely sold Basel II solution.

In addition to organic growth through continuously enhancing the FLEXCUBE product, i-flex had an aggressive acquisition strategy. Companies always need to take a build-or-buy decision. To enter a new domain, it makes sense to look for a well thought out, conceived, and architected product, and pay to acquire and integrate it, rather than spending years building that expertise.

Two key product acquisitions were DayBreak and Mantas. Combined with Reveleus, the Mantas products enhanced coverage in the entire space of governance-risk-compliance. The integration of DayBreak with FLEXCUBE, as a result of acquiring US based Super Solutions, led to better coverage of non-bank lending institutions. Other acquisitions included Equinox (Financial Knowledge Process Outsourcing), ATC's operations in Greece (for enhancing local implementation capabilities in Europe), and Capco's Asia operations based out of Singapore.

These acquired companies were in the financial space, but with products complementary to FLEXCUBE. They enabled i-flex to compete across the entire canvas of the financial services industry, and provided alternate entry points into new customer accounts. By creating multiple revenue streams, they made the company more resilient. The acquisitions reflect i-flex's strategy of maintaining focus, while taking measured steps to expand its reach in the banking and financial services industry (BFSI).

## Reviewing i-flex's Financial Statement

The 2007–08 Annual and Q2 2008 financial data provides some interesting insights about i-flex.

Operating revenue was Rs. 2,380 crore, growing 15% over the previous year. Net profitability was 17.45%. Earnings Per Share (EPS), grew steadily from Rs. 6 in 1998-99 to Rs. 49.6 by March 31, 2008. Book value increased from Rs. 15.49 to Rs. 331.60 in the same period. Average revenue per employee was around Rs. 22 lacs, with 20-25 % of employees based outside India. Even after

de-rating higher cost of overseas employees by a factor of (say) three, the per-employee revenue was a very healthy Rs. 15 lacs.

Though the overall company had near-equal revenue spread across USA, Europe and RoW, the picture is different, when viewed at product and services level. USA was only 13% of total product sales, while it was 56% of services revenue. This was probably due to the Citi influence, considering that they comprised 30% of services revenue, and only 10% of product sales. While the Citibank association was a blessing for i-flex in the early years, it later became a hindrance when negotiating deals with large banks who competed with Citi.

An important metric is 'Days of Sales Outstanding' (DSO), which measures the time between invoiced sale and revenue receipt. This was 102 days, which is quite high. I remember that DSO used to be tracked closely at VERITAS Software, and was improved from 60 days to an impressive low 40s by 2003.

Though products represented 58% of total revenue, the relative employee count was 46%. This is expected, since a good product will generally yield higher revenue per employee. There was a slow but a steady trend of decreasing product component in total revenue from 63% in 2002 to 58% in 2008.

Looking at product revenue breakdown, only 20% was from new license sales. 61% came from implementation and enhancement sales, and AMC was a significant 19%.

On services side, 84% of the revenue was on time and material (T&M) basis. With increasing competition, T&M profitability per employee, will probably shrink over time. 34% of services employees were based offshore, which usually drives up revenue per employee, but not necessarily the net margin.

Based on the above data, is i-flex a product company or services or both? In the interview with Ravi Aron of Wharton's, Rajesh Hukku states: "The answer is simple and goes back to our mission to make financial institutions excel in their business. You should be capable of solving the problem, either by yourself or through your network of alliance partners. And every year, the problem will change, from country to country, from division to division. So you can't say you are a pure play product organization, and FLEXCUBE is all I should focus on. We value the intimacy and trust of the customer. Whatever his challenge or opportunity, we want him to come to us first."

## Banking on the Future

i-flex always had a strong relationship with Oracle. FLEXCUBE was built on the Oracle platform. The two companies collaborated on technology, sales and distribution since 1995. Every time that i-flex sold FLEXCUBE, the client also purchased Oracle database. As i-flex became the industry leader in the BFSI space, increasing Oracle revenues brought it to the notice of their senior management. Striving to improve market share in enterprise software, Oracle has been looking beyond ERP and databases to vertical applications–Financial,

Telecom, Retail, etc. When analyzing players in the BFSI vertical, they must have found i-flex to be the most exciting company to partner with.

Oracle's acquisition of i-flex was not a hostile one, and was implemented in a phased manner. It began in 2005 with the purchase of the Citi stake (44%) for $593 million. For Citi, the initial $400,000 investment had grown almost 1500 times more in 18 years! Oracle continued acquiring more stakes in the company, including through open market purchases of stock from minority and individual shareholders. Unlike Citi, Oracle was not a passive investor, and was keen to leverage i-flex's presence and expertise in BFSI.

In 2008, the name of the company was formally changed from i-flex to Oracle Financial Services Software Limited. According to the 2007-08 annual report, "The proposed name demonstrates the synergies of scale, resources, expertise and efficiency across the two organizations and reflects the importance that Oracle attaches to the financial sector." Today, Oracle holds 80.58% of equity in the company.

With 2008 revenues exceeding $22 billion, Oracle is the world's second largest software company after Microsoft and the largest business software company. It established its Indian subsidiary in 1993, and set up development centers in Bangalore and Hyderabad. With the i-flex acquisition, it gained more development centers across India, and employee count now exceeds 19,000.

As a subsidiary, Oracle Financial Services Software will be able to leverage its parent company's broader geographical, financial and technical footprint, to significantly accelerate growth. Oracle's acquisition of other companies like PeopleSoft, Siebel Systems, JD Edwards and Agile has further expanded the company's universe of clients and coverage of business processes.

### Closing Balance

Reviewing the saga of i-flex, it is evident that it had a relatively secure start as a Citi offshoot. In 2008, marking a successful exit, it became an important subsidiary of the world's top business software company. However, the success that i-flex achieved in the intervening two decades is phenomenal. It is truly a 'Made in India' success story with locally developed products, Indian management team, and largely Indian staff. Adopting a global outlook, i-flex operated like any successful international company. Its outstanding growth strategies and execution excellence make it a role model for Indian software product companies.

## Subex: At the Heart of Revenue Operations

What began as a one-man operation in 1992, is today, a company with more than 200 customers in 70+ countries over 6 continents. Subex is listed on both NSE and BSE, as well as on the London Stock Exchange (LSE). And with

revenues over $120 million (Rs 603 crores) in FY 2008-09, they are clearly on a roll.

## Operations and Business Support for Global Telecom

Subash Menon, CEO and Founder of Subex, always wanted to do something on his own. The thought of becoming an entrepreneur first came to him in 1984-85, during his engineering days. Twenty-five years later, he has fulfilled his ambition, by building a company that is a recognized name in the telecom space.

Subex has two key sets of products—one providing Revenue Maximization solutions, and the other for Fulfillment and Assurance. Combined, it makes them a leader in the Operations and Business Support Systems (OSS/BSS) space. The company also pioneered the strategic concept of Revenue Operations Center (ROC)—a centralized and integrated infrastructure for end-to-end monitoring, measurement and control of the telecom operator's revenue chain. It promotes what Subex terms as 'operational dexterity', which is a combination of operational efficiency and service agility. While the former helps maintain cost of operations at low levels, the latter ensures that adequate service levels are achieved. Together, they help the client achieve sustained profitability.

Major clients include 32 of the world's top 50 communications service providers, such as AT&T, British Telecom, Starhub, Vodafone, Quest, Bell Canada etc. In the domestic market, the list covers all GSM players, except BSNL.

Subex leads on the innovation curve, and its latest products are targeted at mobile companies. With mobile operators becoming cost conscious in the tough economic climate, their premier product, TrueSource, incorporates enhanced capabilities to improve operational efficiency and reduce their capital and operating expenditure.

## A Product Person at Heart

Subash started off on his own by incorporating the company in March 1992, and P.J. Alex joined him a year later. Alex looked after technology, while Subash managed everything else, but technology. This partitioning of responsibilities and mutual trust proved to be an asset. Both of them could concentrate on their respective fields. Beginning with a 5 person engineering team, they scaled to about 15 people in first three years. Alex eventually left Subex in 2004.

Right at the start, they faced a challenge which had a significant bearing on the business and culture, though the impact was not so evident at that time. Subex had an order to supply fiber optic test equipment to the Department of Telecom (DoT). In those days there was no BSNL, only DoT. He had tied up with an Australian supplier, to bring their products and integrate them for DoT. Just as it looked that they had won the contract, the Australian company closed shop. Even though they had lost their supplier, they did not lose heart. They

scouted around, approached a Canadian company called EXFO and convinced them to partner with Subex. That relationship, which lasted eight years, turned out to be pivotal for Subex.

Subash feels that their resilience after losing the first supplier, and salvaging the situation with an even stronger alliance, is now ingrained into the company. This spirit has helped them see off tough times.

Subex continued as a Systems Integrator in the telecom market for several years. Though it became a profitable and steady business, there was limited potential for non-linear growth. In looking for a new strategy, Subash approached it from a domain perspective. Assessing their core competency, telecom became an obvious choice for the vertical. The next option was whether to build a software or hardware product. In the 90's, the infrastructure to develop hardware, and market to sell in India, were quite poor. Surveying the Indian IT landscape, Subex found software to be more attractive. However, Subash was not enthused by the services business that most companies were into. In services, one is compelled to only do what clients want, while he was clear that Subex must build a product and own the IP. That is how, in 1999, Subex decided to build a product targeted for telecom companies.

## Trojan Horse Approach to International Sales

The initial development was funded through cross-subsidy from their profitable system integration business. Soon, they began to face a resource crunch. In 1999, there were only a few VCs. When they pitched their Fraud Management related product to the VCs, they were quick to point out the negatives: Subex was new to the telecom software space, their CEO, Subash, had never sold software products before, and competitors were established global players such as Nortel, Ericsson and Lucent. Naturally, neither VCs, nor banks were ready to approve funding. To add to their woes, their development head resigned around the same time, probably thinking that there was no future for the product.

Things certainly looked gloomy. The company's resilient attitude re-surfaced at this critical juncture. They decided to take a big leap of faith by trying to raise money from the general public through an IPO. Their prospectus focused on the success of their existing hardware business, and projected opportunities from their new telecom software product. The first IPO was on Bangalore Stock Exchange in September 1999. The company pulled in about Rs. 7.5 crores, at a valuation of about Rs. 21 crores and a dilution of about 35%. Later, Subex listed on BSE (2000), NSE (2003) and LSE (2007). They raised $180 million on LSE through a 5-year convertible bond. Subex also voluntarily de-listed itself from Bangalore Stock Exchange in 2007, as there was hardly any trading on this exchange.

With investable funds at their disposal, and no domestic telecom companies to speak of, Subex ventured into the overseas market. At the end of the first

year, they had not landed a single deal. They sat down and analyzed the reasons. They came to the conclusion that they had to revamp their sales pitch, product positioning and target customers. They deleted 80% of the prospects from their pipeline, which as any sales person knows, is tough to accept. This was yet another instance of the company's ability to be objective about the business, and take the required tough decisions.

Despite adjustments in sales strategy, client growth in US continued to be slow. It was a catch-22 situation, where it was difficult to win deals without having a large number of clients, which in turn hindered having such a list. They decided that the only way to break the logjam was through a Trojan Horse strategy, in which Subex would acquire a US company and leverage their client base. In January 2000, Subex purchased 4th Generation, a US company, for $5.5 million. Quickly thereafter, Magardi in Canada was acquired for $3 million. This opened the floodgates and resulted in rapid increase in sales.

The inorganic growth strategy continues, with several subsequent acquisitions in the US, Canada and UK. While most of them have been relatively small ($3–6 million), two large ones have been Azure (UK based company for $140 million) and Syndesis (Canadian company at $180 million) in 2006 and 2007 respectively.

While Azure was a stock acquisition, all others were acquired for cash generated mainly through Foreign Currency Convertible Bonds (FCCBs). Subex has a clear and well defined process related to acquisitions. Potential targets are identified keeping in mind their strategic fit with Subex's long term plan. An investment banker is then mandated to approach the companies. Thus, targets are identified internally, and not left to investment bankers.

The Syndesis deal is strategic to the company's future. By 2006, Subex had achieved market leadership in the Revenue Maximization space, and maintaining high growth seemed to be at risk. It was important to enter a new, but adjacent area that would open up more opportunities. This coincided with a new trend that was emerging. Most of the telecom companies, particularly the large ones, were demanding platforms, which could handle multiple tasks in the OSS stream. Syndesis, with its industry leading products in Service Fulfillment space, would help meet both objectives.

## Turbulent Times

Financial year 2007-08 was most challenging. They were buffeted by the challenges posed by the Syndesis acquisition, and delays in a few key contracts. The consolidated revenue (Subex and Syndesis) increased by 45% over the previous year to Rs. 540 crores. However, standalone revenue for Subex declined from 236 crores to 200 crores. The company made a loss of -12.6% (combined) compared to 8.8% net profit (standalone) in FY 2007. Average revenue per employee dropped from $107K in the previous year to $84K.

Subex's 'can-do' spirit has come to the fore again. The team is meeting these challenges head-on.

Integrating the Syndesis products and company, nearly took 10 months. This de-focused efforts on sales front. Prospects too, may have waited for an integrated offering. Though the deal happened in April 2007, the projected annual cost reduction of $12 million due to combined synergies, came into play only by January 2008. This led to a loss in FY 2007–08, but this 10% saving set the stage for a turnaround.

Along with product integration, the entire delivery process was made more efficient. Coupled with better execution, the rate of conversion of orders booked to revenue began to surge. In FY 2008–09, revenue climbed by 24% to Rs. 603 crores and operational profit went from negative to 16%.

## Five Petal Strategy

Since 2003, Subex has been executing to a grand plan, which it refers to as its Five Petal Strategy. It is a good articulation of the basic principles that any software product company must follow. The five elements or 'petals' are:

- Product Innovation
  - As a company in a highly technical space, Subex continues to break new ground with products like ROC and TrueSource.
- Local Presence Leveraging Global Resources
  - Subex utilizes talent sourced across the globe, and deployed where it has maximal impact. Sales and support staff must be customer facing, and hence are at offices around the world. Engineering, back-end support, and mobile resources for onsite customization work are based in Bangalore. This concentration of engineering in Bangalore provides economies of scale and high availability of required talent.
- Incremental Investment Model
  - Product companies often invest too much up-front in sales and marketing, and find that revenues substantially lag investment. This leads to high cash burn, lack of profitability for an extended time and sometimes bankruptcy. Subex invests in small doses, weighs the returns, re-calibrates and rapidly adjusts the strategy as required. This reduces risk, leads to optimal investment and ensures predictable growth.
- Niche Focus
  - Subex has always maintained laser focus on its core area. After establishing leadership, it then expands its footprint in allied areas. Thus it moved into Fulfillment Assurance, only after becoming the leading player in Revenue Maximization. Product companies sometimes spread themselves thin, and lose their competitive edge even in their core competency.

- Blended Growth Model
  - Subex maintains a healthy balance between organic growth and M&A. Acquisition targets are carefully selected for a strategic fit. Mergers so far have led to accelerated growth on top of the combined revenues.

## Operational Snapshot

The combination of internal product development and acquisitions has helped create three business units (BUs): Revenue Maximization, Fulfillment and Assurance Solutions and British Telecom (BT).

Revenue Maximization is the oldest and most successful BU. Subex is the worldwide market leader in this space, with specific solutions for revenue assurance, fraud management, cost management, risk management, interconnect billing and related solutions.

Fulfillment and Assurance BU was formed on the back of the Syndesis acquisition. Millions of telecom subscribers receive their high-speed Internet, VoIP, IPTV and other advanced services, thanks to the Subex product.

The size of operation with British Telecom, justifies a separate BU. It ensures the required level of support to a key customer.

Each BU has a President who reports into the Group President. Further, operations have been organized horizontally into 3 geographical units—Americas, EMEA and APAC—and each region is headed by a Regional President. The Regional Presidents too report to the Group President. The Group Presidents, along with heads of Engineering, HR, Product Management etc. come under the COO in the organization hierarchy. Core operations are supported by functions like Finance, HR, Facilities Management, Secretarial, Legal etc., which are centralized. The COO, along with the heads of Finance and Legal & Secretarial, report into the CEO. Thus, Subex has a fully functional matrix structure, which enables it to scale up considerably.

Subex's sales are mostly through software licenses, which are based on per subscriber or per transaction basis, for each revenue stream that their customers have. This ensures continuous rise in license revenues, depending on the growth of the providers' networks. Clients benefit because their payment is tied to how much they are earning, instead of a large up-front payment to Subex for permanent licenses.

Revenue is also generated from support fees, which are charged as a percentage of license revenue. Clients also pay for any customization work done by Subex.

Finally, a recent innovation has been the concept of Managed Services, in which Subex hosts, manages and provides end to end revenue optimization services to telecom providers (essentially a SaaS model) through multi-million, multi-year contracts.

The revenue mix has become more balanced over the years. Dependence on license revenue has reduced from 88% in FY 2004 to 49% in FY 2008, while support has increased from 10% to 30%. Managed Services revenue is already at 8% after being introduced in FY 2007.

## From Start-up to $100M—Trending Operational Changes

Subex is an entrepreneurial company that started with zero revenue and climbed to over $120M in 17 years. Bulk of the growth came after 2000, at which point the revenue was just $2M. It is instructive to trend some engineering and sales related statistics through various phases of its growth, as shown in the table below.

**Subex: Operating metrics at $1M, $10M, $100M revenue mark**

| Parameter | Till $1M | ~$10M | ~$100M |
|---|---|---|---|
| Eng as % of total expense | 55% | 30% | 21% |
| Sales as % of total expense | 5% | 11% | 17% |
| Mktg as % of total expense | 1% | 1% | 3% |
| Number of engineers | 30 | 100 | 800 |
| Number of sales people | 2 | 5 | 30 |
| Percent of sales people outside India | 0% | 20% | 90% |
| Eng as percent of total headcount | 80% | 78% | 75% |
| Sales as percent of total headcount | 5% | 5% | 3% |
| Average revenue per employee | $ 25K | $ 60K | $ 110K |
| Average sales per sales person | $ 400K | $ 1.5M | $ 3M |
| Percentage of product revenue in total revenue | 7% | 25% | 75% |
| Percent of total sales in India | 80% | 40% | 4% |
| Percent of total sales in US | 0% | 5% | 25% |
| Percent of total sales in rest | 20% | 55% | 71% |

Subex has complex and highly technical products, which are being continually innovated to stay ahead of the competition. They reduced engineering cost by consolidating it in Bangalore in 2007. Even with 800 engineers comprising 75% of total staff, engineering spending as a percentage of revenue declined from 55% in early days to just 21% now.

With most of the sales being outside India, and Subex's belief that support must be proximate to clients, they have sales and support offices in several countries including UK, Canada, USA, UAE, Australia and India. Sales happens mostly through a direct sales team of 30 reps. In tandem with steadily increasing sales outside India (from 20% at $1M revenue, to 60% at $10M revenue, and 96% at $100M), the revenue per sales rep has risen to a very creditable $3 million. Of course, the sales team is now almost completely outside India (90% versus

20% at the $10M mark), and hence, though just 3% of headcount, sales related expense is 17% of revenue.

## Future Optimization

Subex's future looks bright, but it must cross some difficult hurdles.

The major external challenge relates to the changing nature of the global communications industry. Telecom companies are experiencing dramatic changes in the past few years as the voice and connectivity providers of yesterday, re-invent themselves as the content providers and aggregators of tomorrow. From the wholesale replacement of networks to the transformation of OSS and BSS systems, the service providers are making huge investments to offer mass-market content, and applications along with traditional data and voice services. They are facing competition from unexpected and formidable quarters such as Google and Microsoft, who also bring applications and content to subscribers globally over the Internet. Other threats include DVD rental shops, Internet-based video distribution networks, and voice-over-IP providers, all seeking to win a share of consumer spend on entertainment and communications.

For communications providers, future success depends not only on offering new, must-have services, but also on profitably delivering these services to subscribers. The economic slowdown of 2009 has further emphasized the need for optimal operations. This requires investments in new software infrastructure, which provides automation of mission critical processes, ensures proper revenue collection, and helps contain costs. Subex's pioneering Revenue Operations Center (ROC) has come at the right moment, and is gaining significant traction with customers. The ROC can be described as 'mission control' for clients. It is a collection of systems that monitor and analyze the impact of operations on revenues, costs and, ultimately, profits. ROC helps the operator to understand the health of the enterprise, virtually any level—from an executive standpoint, to an operational view, to a marketing and planning perspective.

Subex must continue to transform itself internally too. They are already a highly global organization. But they need to keep evolving their organization structure and internal processes to match their spread. Acquisitions will continue to be one of the growth engines, but there are lessons to be learnt from recent M&A experience. Business and HR practices must be streamlined to quickly absorb the new company's products and people into the parent organization. Subash feels that people are the biggest challenge. Everything can be done, if you have the best people in key positions.

Branding is critical if they aim to become a billion dollar company. Already, their stature has elevated considerably after gaining entry into the list of top 10 players in their space.

What is Subash's eventual ambition for Subex? He says, "We aim to be in the top three players in the telecom software space. There is a huge gap between the

number one player ($3 billion revenue) and Subex, which is number ten ($100 million). We aim to grow to at least 10 times our current size."

He wants to achieve this with only a three-fold expansion in employee strength to about 2500–3000 employees. This will mean that revenue per person will have to rise from $110K to $350K-400K.

In response to a question about becoming an acquisition target themselves, Subash says, "These conjectures keep coming up. At this time, we are focused on successful execution of our growth strategy." Even after 17 years, Subash is still very passionate about Subex. For him, every day is a new day, with bigger objectives than before, and he is as charged up as ever to achieve them and overcome any challenges.

In addition to being CEO, MD and Chairman of Subex, Subash is active in India's IT community. He was Chairman of the NASSCOM Product Forum in 2008.

## Persistent Systems: Leadership in Outsourced Product Development Services

Persistent Systems is one of the pioneers of outsourced product development (OPD) services during a decade (1990s), when Indian companies were mostly into IT projects and onsite placements. With revenue exceeding Rs. 594 crores in 2009, Persistent was ranked 40$^{th}$ by annual income in Dun and Bradstreet's list of India's Top IT companies in 2008. It also won the NASSCOM Innovation award that year and 'Red Herring 100 Global' award in 2007.

Anand Deshpande has been the founder, CEO and MD since inception. His journey highlights, how one can create a lasting legacy through a combination of excellence, resourcefulness, patience and single-minded commitment.

### Persistence Pays

It was June 1990. Anand was sharing a ride to his office, HP Labs in Palo Alto, California, with his colleague and friend, François Bancilhon. François was the founder of a French IT company called O2 Technologies, and doing a short sabbatical at Hewlett-Packard Laboratories (HP). Being away from home, both would often reminisce about their home countries. During this commute, Francois mentioned that he found it difficult to get even a decent loaf of French bread in the US. Anand talked about missing home and wanting to go back. He described his dream of starting a company in India, and hoped that O2 would be amongst his first customers. François did not believe him, saying that he knew many Indians who said the same thing, but never returned home. Still he promised to give Anand some work, on the off chance that, he meant what he said.

Both kept their promise. Returning to India in October 1990 after 18 months at HP, Anand contacted Francois, and the project was on.

Eighteen years later, Anand's Persistent Systems crossed $100 million in annual revenue. With an investment of just $100, how did they get to become one of India's leading OPD specialists and Pune's most recognized software enterprise?

Creating a hundred million dollar business from scratch, and aspiring to take it to a billion dollars, is akin to climbing Mount Everest. It is attempted in stages, with intermediate camps to regroup and re-strategize, followed by a final push to the summit.

Persistent's climb has a number of distinct landmarks: getting the first office (1991), Microsoft as client (1992), reaching the 100 employee mark (1999), funding by Intel (2000) and later by Norwest and Gabriel Ventures (2005), accelerating past 1500 employees (2005), and joining the $100M club (2008).

As they ready themselves for the ascent to the billion dollar summit, we look at their past achievements, and the principles and philosophies that are at the heart of Persistent's persistence.

## Base Camp—Getting Ready (1990-92)

Anand grew up in Bhopal and completed his B.Tech in Computer Science from IIT, Kharagpur in 1984. Like most IITians then, he went to the US for his Master's and subsequently PhD degrees in Computer Science from Indiana University. In May 1989, he joined HP as a Member of Technical Staff in Palo Alto, California.

Though he took up a job with HP, Anand first thought of becoming an entrepreneur in India towards the end of his PhD. His return was driven by a desire to live in India, rather than to leave the US. Anand feels that he learnt a lot by working in the crucible of the software industry—the famed 'Silicon Valley'. Starting a new company did not seem like a risk, because it was early in his career and he could afford to experiment. He had low expectations regarding money, and salaries in India were low anyway.

His family was very supportive. Anand's father, affectionately called 'Dada' by all, was a pillar of strength. He is a Founder-Director and works in the company even at the age of 70+. Even before Anand returned, Dada had incorporated the company in March 1990.

How did the name 'Persistent Systems' come about? 'Persistent' is a technical term denoting systems that are persistent on the computer disk. Databases are a typical example, and that happened to be their area of initial expertise. As the company expanded beyond databases, the name has come to symbolize their grit and determination to build a successful institution, which will leave a positive impact for a long time.

### Persistent Gets an Office

Anand was back in India with projects in hand, but no office to execute them. In March 1990, the Department of Electronics (DoE) set up Software Technology Parks (STP), with Pune as the first location. Through 100% tax exemptions and simplified import / export processes, STPs soon became a catalyst for the growth of India's software industry.

Pune STP had acquired office space in Bhosari for leasing to software export companies. Persistent applied but it took agonizingly long to actually get the office. They also filed for a bank loan. In early 90s, there was political uncertainty, and the Indian economy was going through difficult times. So that approval also took six months.

But it was not all gloom. Desperate from the long wait for STP space, Anand wrote a letter to Mr. N. Vittal, then Secretary of the Department of Electronics (DoE). He vividly remembers the sequence of events—the letter was written and couriered on March 11, 1991. Following a flurry of internal meetings over next five days, the STP Pune Director vacated his own 300 square feet office, to accommodate Persistent Systems. That day was Gudi Padwa, an auspicious New Year day for those from Maharashtra. It became a tradition to inaugurate most of their key future initiatives on Gudi Padwa.

Reflecting on those times of struggle, Anand says, "You will always find people, who will go the extra mile to help. You need to be persistent and keep reaching out. Once you are successful, be willing to help others, who are struggling to build their business."

### Baby Steps: Early Projects, then Microsoft!

Persistent's first project for O2 Technologies was building object databases. In about six months, however, things slowed, and eventually the project shut down. The second client was Data Parallel Systems, Inc. (DPSI), founded by a fellow graduate from Indiana University. Tim Bridges and Anand, while still studying, had applied for a grant, which later formed the basis of DPSI. Persistent helped them build a database system for a massively parallel computer.

A major breakthrough was a project from Microsoft in 1992. Anand's graduate school friend was working at Microsoft and she thought of an opportunity, where Persistent could contribute. Though they barely had 10 employees, Microsoft went ahead and sent their contract. It had tough penalty clauses, for example, if Persistent failed to deliver, they would have to pay someone else to get it done. Anand blindly signed it, and his team then rolled up their sleeves and got to work. The 2-month project involved migration of graphics libraries from 16-bit assembly to 32 bits.

Though Persistent delivered the code on schedule, Microsoft was not ready for integration. There was no response for couple of months. On his next US trip, Anand was told that the code was not working, and hence Microsoft had

decided not to use it. On more questioning, he realized that they had neither followed integration instructions, nor understood the code. He sorted matters out during his visit, and asked them for more work. They agreed! Since then, they have kept doing a stream of projects for Microsoft. However, that first project gave Persistent much-needed credibility. Thereafter, if anybody asked for proof of their offshore capabilities, all they had to do was show Microsoft's letter commending them for a job well done.

## Camp I—Initial Challenges and Slow Climb (1993-1999)

Persistent System's objective from the beginning was to do offshore work for US product companies. Operating as an exclusive boutique firm, they were small for quite a while.

As a nascent industry, outsourced product development faced major challenges on multiple fronts in early 90s. Anand describes some of the challenges. "Communication was difficult and expensive. Internet as we know it today did not exist anywhere in India. There was just one node in Mumbai. Every morning, one of our engineers would connect to this node, and download all mails from Compuserve. At the end of the day, responses and updates would be uploaded. Speeds were really slow; initially 2400 bps, and later 9600 bps. Messages had to be chunked into multiple 30 KB files, each of which took 5-6 minutes. Phone calls were expensive, costing Rs. 60 to check mails for an hour. It was cheaper to travel to Mumbai and check emails there, since a second-class Deccan Queen pass cost only Rs. 180 per month. So, until Pune got its own node, I would go to Mumbai every Thursday, which was our weekly off, to process emails in bulk. In 1993, Pune finally got its own node at IUCCA (University of Pune). Around that time, we switched to a 5-day week, which I suppose showed that we had now become a real software company!"

Importing computers was a nightmare. The US Government had stringent export control laws, and even their first 486 PC required US export clearance. Combined with India's complicated customs process, this took three months.

Responsibilities were split between Anand and Dada. While Anand concentrated on technology, execution and sales, Dada looked after all operational issues—Admin, HR, Finance, IT and everything else. This arrangement continues even today. While both are aware of what goes on in the other's domain, each owns decision-making in their respective work areas, and don't intrude into the other's.

Anand always liked working in cutting-edge technologies and being hands-on. Until 1996, he actively wrote code that went to clients. Even today, he keeps himself abreast with latest technology and is aware at a high-level of what his engineering teams are doing.

The company grew slowly, and at the end of the fourth year (1995), they only had about 25 employees. Unlike other companies, which did onsite and

offshore IT projects, Persistent was finicky about doing only technically challenging product development work. Back then, India was not known as a software destination, and persuading a US product company to outsource core IP development was possible, only if you were a trusted contact. Persistent Systems sent an engineer to client site on H1-B visa for the first time only in 2003.

### Sales through Personal Networking

Though Persistent now has a full-fledged sales and marketing team, Anand did all of the selling until 2003.

Anand's initial business network was built around those whom he had met as a student, or referred by his PhD advisor. He travelled frequently to US to keep in touch with existing clients, and look for new work. He has been good at expanding his web of contacts and staying in touch with people. As he explains, "Work may follow, often weeks, months, sometimes years after working with people, or meeting them by chance".

Most of his prospects were by reference. However, he recalls an interesting exception, "Red Bricks happened because of one of the few absolutely cold calls that I made. Having heard about them, I looked them up in the phone book, and just walked into their office. The receptionist took me to meet someone, who in turn led to me to another person. At the end of an hour, and several intermediates, I met with the VP of Engineering, and gave him a business pitch and a proposal on how we could work together. Though the meeting went well, it was six months, before we got a call from him offering us a project."

Anand has learnt how to optimize his sales efforts. He observes that, "Sales happen because of NBA—Need, Budget and Authority. To make a deal happen, one needs to find or create a need for one's product or solution. The customer must have a budget, otherwise the order won't happen. Finally, the person you talk to must have the authority to approve the purchase. Without these three elements on your side, you are wasting your time."

### Teaming to Win

Every company arrives at its own unique way of achieving growth. Anand's networking skills have resulted in steady induction of high calibre talent at the top, through what can be termed as a 'teaming strategy'.

Anand describes this in detail: "Most start-ups don't succeed beyond a certain stage. As per Geoffrey Moore, there is a chasm, a huge discontinuity between companies with less than 100 employees, and more than that. Such discontinuities recur at different levels. At each hurdle, an exponentially large percentage of companies fail to reach the next stage. The thresholds may be people-based, say, 100 employees, 1000 or 5000 employees. Or it may be linked to revenue, say $1M, 10M or 100M. A company can cross one or more humps, and then get stuck.

In a typical services start-up, the first circle comprises of people, who can be managed by the founder alone. Let's assume this is about 25 people, after which a structural change is required with the addition of an equally competent leader. Responsibilities have to be divided between them, which creates some turbulence for a while. Once settled, and with two capable people at the helm, it is possible to scale to 80-100 employees (since the power of two is greater than just their sum), without having to break the rhythm. Continuing growth requires similar injection of capable talent, with consequent adjustments and internal changes.

A founder creates the right structure for further growth by adding 2-3 intermediate levels of capable leadership. That learning can be extended to lift the organization to successively higher levels of size and revenue.

In an organization with 60-80 employees, the degree of separation between the founder and an individual employee is two or less. As the company scales, a few people get stuck at a level, due to lack of aptitude or effort. They may not appreciate the necessity of having additional layers above them. Managing these expectations, and sometimes easing out non-performers, is a difficult management challenge."

His unique collaboration model resulted in a major turning point in 1995, when Dr. Sridhar Shukla joined Persistent. Anand had met him in the US, when he was contemplating returning to India. They built a good rapport, and Anand convinced Sridhar to join forces with him, rather than start another company. Sridhar already had a few prospective customers and other ideas in mind. He brought this business into Persistent, and in turn, was provided infrastructure and resources to execute it. While being part of Persistent, he was able to operate with a great deal of independence.

Like Sridhar, Persistent has consistently inducted many senior people, including many who returned from US with post-graduate degrees and experience at top companies. They all got some equity, and a few brought in clients through their network. Those who left Persistent later sold their stock back to the company.

By the end of the millennium, Persistent crossed 100 employees.

## Camp 2—Becoming an OPD Leader (2000–2008)

In 2000, the dotcom boom was in full swing. Companies were building applications that were hosted on the internet (similar to the Web 2.0 companies today). They were all in a rush to get their products developed quickly. Time to market was critical with so much competition. Hiring people in the US was very difficult. It was the beginning of a good period for India, since people were forced to look at outsourcing seriously.

Many Indians in the US had also risen to being founders or in senior positions, where they had the power to decide about working with Indian companies.

With Anand's US contacts and Persistent's proven product expertise, they signed many clients during this period.

Back then, Persistent had no sales and marketing team. As in most small companies, they would get a new client, and begin executing the work. Anand would then go sell and sign up yet another customer, and so on. New clients automatically meant sustained growth, because product companies always have ongoing work (provided they don't face any downturn). Besides sales, Anand continued to be actively involved in technical aspects of delivery.

Employee count nearly tripled to 280 by March 2001. Despite two slow years after the dotcom bust in 2001, they still managed to cross 500 employees in March 2003. While the meltdown had reduced the number of companies, the others were under pressure to reduce cost, and India outsourcing offered a way out. The 2003–08 years were a boom period for OPD players. Persistent tripled yet again to 1700 by July 2005. Since then, they have maintained steady 40–50% growth to cross 4000 employees by late 2008.

The table below highlights Persistent's impressive growth, especially since year 2000.

**Persistent Systems: Operating metrics at $1M, $10M, $100M revenue mark**

| Statistic / Annual Revenue | $1M | $10M | $100M |
|---|---|---|---|
| Fiscal Year ending | Mar 31, 98 | Mar 31, 03 | Mar 31, 08 |
| Time in years to this milestone | 8 | 5 | 5 |
| Total sales | $ 1.28M | $ 10.32M | $ 105.80 M |
| Percentage of net profit | 35.4% | 24.9% | 18.4% |
| Head count at the end of the year | 68 | 550 | 3867 |
| Average head count for the year | 54 | 446 | 3442 |
| Revenue per employee ($) | 23.7K | 23.1K | 30.7K |
| Percentage of total sales in US | 83% | 88% | 88% |

This dizzy climb was accompanied by significant structural changes—Persistent Systems matured from a mostly single-founder mode, into an organization ready for prime-time. Let's look at a few key areas.

### Strong Leadership

Persistent added several key individuals to its management team. Dr. Srikanth Sundararajan joined as COO in 2007. Dr. Srikanth had 20 years of innovative international experience with Hewlett-Packard (HP), his own successful start-up, HCL Technologies and Cognizant Tech Solutions.

Joining as President of Persistent Systems Inc., Hari Haran took on the responsibility for Global Sales, Marketing, and Business Development. During this period, Persistent also added a CTO (T M Vijayraman), CFO (Rajesh Ghonasgi), Sales VPs for EMEA (Dr. Jorg Turnhoff) and US (Mike Kerr).

In 2008, Persistent launched a program called 'Arjuna', under the guidance of Dr. Ashok Korwar. An IIT Mumbai alumnus, Ashok has taught at IIM Ahmedabad, and has extensive industry experience at organizations like EDS and Polaris, helping them grow to $200 million and up. Starting with 40 senior employees, the program's objective is to identify and groom the next generation of leaders, each capable of handling and growing a $10 million business.

### Geographic Expansion

Headquartered in Pune, Persistent Systems added development centres in Nagpur, Goa, Hyderabad and Bangalore. They also set up several US and Europe sales offices, some of which, serve as development hubs as well.

Multiple development centres enable Persistent to tap into local talent. Smaller centres in India have led to lower costs and improved employee retention. Global centres facilitate proximity to clients during requirements and support phases, and provide fast response to critical customer needs.

While clients would earlier express preference for a certain location, that trend is on the decline. Clients increasingly entrust Persistent with end to end delivery responsibilities, leaving them to figure out the details.

### Sales

The basic fundamentals for selling outsourcing services have not changed, since the 1990s. However, expectations from offshore partner have grown exponentially. In the past, the sales pitch was simply about doing a small project, and the risk involved was small. Today, OPD vendors like Persistent often manage the entire product lifecycle. The stakes are much higher. Vendor selection has become more stringent, and track record, experience and size count in winning deals.

The continuous nature of product development guarantees that work for existing clients persists for several years, provided there are no financial or quality issues. If the client is successful, they in turn grow their team size at the OPD vendor. Thanks to Persistent's quality of service, about 85-90% of revenue comes from recurring contracts. The other growth dimension is acquisition of new customers. Unlike the highly personalized selling by Anand, they now have a full-fledged sales team to ensure this.

Their high-level sales pitch has always been very direct: Persistent is an OPD services company, and they are very good at it. This provides internal clarity, and the prospects also know, exactly what they do. However, today's sales process has to go beyond projecting their capabilities and business model. Sales reps must be able to determine and communicate what transformational value Persistent can provide to the prospect's business. That requires a capable sales team that can understand the client's environment and challenges. Once the client appreciates the impact resulting from a partnership with Persistent, then its track record and references serve as positive reinforcement.

Persistent's domestic clients are also increasing, contributing nearly 8% of revenue in 2008.

### Business Model

OPD providers set up product engineering teams that act as an extension and work in closely inter-linked relationship, with customer teams. Assigned engineers tend to work for extended periods with the same client. OPD team adds more value with time as engineers become more knowledgeable about the client's product and domain.

Unlike well-defined IT projects, it is difficult to precisely measure an OPD team's contributions. Therefore, while projects based services companies often work on fixed price basis, the standard OPD pricing model is of T&M. The unit of billing is the rate per person-month, which may vary depending on experience category. Invoicing is monthly and is based on the number of hours put in, and the rates for engineers at different levels.

Changing from T&M to a value-based model will require maturity from both clients and vendors. Some OPD providers have experimented with lower rates and equity in the client's company, especially with start-ups for whom, cash is a problem. Anand does not favour this approach, commenting "I would rather bet on my company, than somebody else's."

Though clients pay on T&M basis, they are increasingly demanding more value from each contributor. Anand wants to adapt the 'Flextronics' model, to move up the value chain. He notes that "Flextronics keeps improving the quality of manufacturing processes. We want to do the same for software processes. They have been very good at smart sourcing of components. We are also striving to provide similar capability. A customer building a product, should use ready components from Persistent, thereby accelerating his time to market and lowering cost of development. We own some IP and have filed for a few patents."

Another route to driving more value is through domain expertise. Persistent has set up competency centres in eight areas ranging from established verticals like telecom and storage, to new ones such as virtualization and cloud computing. They are also investing in niche product engineering areas such as Usability Engineering, Performance Engineering, and Independent Validation and Verification.

### Funding

In early years, Persistent borrowed money from friends, relatives and banks. Since the services model is not very capital-intensive, these were repaid almost immediately. Reserves created through growing profits right from year one, were invested for future expansion. The biggest spike in expenditure occurs, when purchasing real estate for offices. That has required occasional borrowings from banks.

Persistent has received two rounds of external investment–both for strategic reasons. The first was by Intel Technology Fund in 2000. Though the amount was small, the deal enabled them to get projects related to Intel's new 64-bit chip, I-64. As a small Indian company, Persistent was also struggling then, to establish themselves as a thought-leader and capable OPD vendor. Having a technology pioneer and successful giant like Intel on the board created enormous impact with prospects. It also brought some sanctity to their Employee Stock Options Plan (ESOP) in the employees' eyes. Until Intel invested, there was a concern about the company's genuine interest in IPO or buyout.

In 2005, Norwest and Gabriel Ventures invested in Persistent. At that time, the company was looking to re-energize its business. Anand had realized that their contacts were predominantly technical, mostly CTOs and VPs of Engineering. But strategic decision-making happens in the boardroom and at CEO level. Persistent was not plugged into that network. The newly nominated VC Directors on Persistent's Board have helped them network with key decision-makers.

Corporate governance improved with the new Directors' rich experience at board level. They asked many questions, and this enhanced the standard of corporate disclosures, audits, and internal processes. The management team became accountable to the Board by having to plan and achieve specific targets.

## Camp 3—Surviving an Avalanche (2008-09)

Post October 2008, Persistent's customers began to conserve cash by cutting development budgets. Anand believes that this was a reflex action, largely in response to market cues. FY 09 revenue still rose by a healthy 39.8% to Rs 593 crores compared to Rs 424 crores for FY 08. However, the downturn in the second half caused a 20% decline in profits from Rs. 83 crores in the previous year to Rs. 66 crores.

Persistent has weathered such crisis before. Anand learnt a crucial lesson during the previous dotcom meltdown in 2002. Their first impulse then had been to try and get more customers. That was a wasted effort, since nobody was willing to initiate new projects. So they reverted back to existing customers and asked how they expected Persistent to help. They offered continuing services to clients at discounted rates, or sometimes even free, with the rider that clients would pay higher rates, once they recovered. Persistent made sure that everyone in the client's management chain was aware that they were acting like a true partner. Though some companies did not survive, their bonds with others became even stronger.

In early 2009, as the initial shock of recession wore off, customers started working on plans to first maintain, and later grow the business. Anand met with every single client and offered Persistent's help, on working out a joint strategy to survive in this changed environment.

A second learning in 2002 was about using the disruption to re-invent the business. In response to customer demands at that time, Persistent expanded their offering beyond just development and QA work. They began providing value across the entire product lifecycle, including maintenance and support. This expanded their touch points with clients and put the company into high growth mode.

Anand expects that a similar transformation will be required this time and has a few ideas. Though the picture is still blurred, he is confident that Persistent will emerge from today's troubled times as a more diversified and stronger enterprise.

## Camp 4 – Aiming for the Summit (Beyond 2009)

The $1 billion mark is the Holy Grail for software companies. Persistent went from $1M to $10M and then to $100M in 5 year bursts. Can they repeat this and touch $1 billion by 2013?

Persistent's immediate sights are on reaching $500M in revenue. Anand says that they are still figuring out the exact strategy. The 2009 recession is a dampener, but inorganic growth through M&A may be one way to get over the hump. Persistent has not done many acquisitions, and big ones need cash. With a public issue in March 2010, Persistent is better placed to acquire companies as part of its growth strategy.

Even prior to IPO, Persistent is one of those rare private companies, who have been disclosing quarterly and annual financials on their website since 2005. Anand comments, "I was advised by many people not to do this, since it is not mandatory. However, I have always believed in running my business cleanly. It is important not to have any skeletons in the closet."

In the long term, Anand is confident that the US market alone is large enough to keep Persistent (and its competitors) busy for many years. However, he thinks that the OPD services industry will undergo an overhaul over the coming months. There will be consolidation and only the large or strongly differentiated players will survive. Like Persistent.

# 7

# The Home Stretch: Looking into the Crystal Ball

*"Tomorrow belongs to the people who prepare for it today."*

*— African proverb*

## Imagining India's Billion Dollar Product Company

On February 20, 2015, at a press meeting called by Intelligent Translations Pvt. Ltd. in Mumbai, the CEO, Bharat Vishwanath, announced that the company had crossed $1 billion in annual revenue. It became the first Indian product company, to reach this milestone. Reminiscing on the company's past, he described how the company was founded in 2009 by him, Rima Kapoor, and Neha Abraham. Bharat had just come back from the US after an MBA and 10+ years of business development experience at Google, Rima had a PhD in Literature and was India's leading linguist from JNU, Delhi, and Neha too was a PhD with 7 years of strong technical experience in speech recognition solutions.

During her doctorate, Rima had analyzed linguistic constructs and its mapping between English and different Indian languages. By incorporating this into a software program along with a look-up directory between English and Hindi words, Neha and team constructed a sentence based translation engine. Until then, existing software only did transliteration, or word for word translation. The company provided a downloadable browser plug-in, which enabled any English website to be read in Hindi. In the next few months, they added directories for most Indian languages. Free downloads of the plug-in was available. The entire development was supported through personal funds.

The word spread rapidly and within 18 months, there were over 10 million downloads. Plug-ins for European languages, Chinese, Japanese, Korean and others were added. These were available for a $10 annual fee (or $20 one-time

fee), which built a strong revenue stream and global visibility. There were acquisition offers, which the company declined.

During this time, the team worked on speech translation. They built unique text-to-speech and speech-to-text technology, which was subsequently patented. The software also comprised of a downloadable application on cell phones. A user could select his/her preferred language, Marathi for example. If both the phones had the application, then incoming calls in any language could be heard in Marathi, while the words spoken would be converted into the caller's language. Released in late 2010, the response was poor. The converted speech sounded robotic. Usage was low since cell users typically communicated with people they knew and who spoke at least one common language. Further, both needed to have the application on their cell.

A senior engineer at Apple happened to download the iPhone version of the application. A meeting at Apple headquarters followed, and led to a partnership agreement. Apple was developing its new vPhone. It was very compact and, amongst other novel features, included a special built-in language processor. Combining Intelligent Translation's software with the new hardware, it enabled high quality inter-language phone communication. The converted speech retained the modulation, and tone of the original speaker. More compellingly, instead of language translation being restricted only to phone calls, it worked even in face to face meetings. People speaking different languages had to use vPhone and a specially designed headset, which blocked outside noise. Similar agreements with other cell phone vendors followed. Released in late October 2011, it was an instant hit in countries like India, China and amongst international travellers. Available at a $25 annual fee, downloads crossed 40 million in 2014, catapulting Intelligent Translations past the billion dollar revenue mark!

## India's Billion Dollar Product Company—How Can it Really Happen?

In 2008, there were 27 global software product companies with sales exceeding US $1 billion. India's software industry had 6 names in the billion dollar club, but all of them were in services. The race to be the first one billion dollar Indian product company is still open.

We began the first chapter with an observation about how Indian software industry has ascended to the next level in the value chain every decade. The other coincidence we spotted is that in terms of maturity and revenue, the product business lags services by ten years. Therefore, if the previous decade (2000-09) represented Indian IT's ascent to global leadership in software services, then the current one (2010-19) is likely to herald its arrival in the front leagues of software product nations.

Furthermore, with six services 'billionaires' in 2009, the same trend leads to the expectation of a few Indian billion dollar product enterprises by 2019.

However, it may not be that simple. Software services received a big boost in late 90s because of Y2K fears (Y2K referred to the threat of malfunctioning software because of rollover from 1999 to 2000, if the implementation had considered only last 2 digits of the year). Huge numbers of Indian software programmers worked on tons of applications to fix this single defect. The 2002 dotcom meltdown further accelerated off-shoring of R&D and IT enabled services to India.

Are there similar economic triggers waiting to happen for products? The answer is yes. India is the second fastest growing economy amongst big nations. The largest population of youth under 25, some 600 million of them, live here. There are an estimated 35 million Small and Medium Businesses (SMB) already, and their contribution to the economy is expected to climb from 38% to over 50%.

SMBs and young individual consumers are displaying an exponentially rising appetite for technology and software. Their needs are very Indian in subtle ways, which foreign product vendors may not understand. A comparison can be drawn with services. IBM, Capgemini and Accenture established large centres in India. However, Indian owned companies like Infosys and TCS, with their instinctive awareness of local ethos, were able to leverage Indian talent more effectively. They continue to grow much faster than their global competitors, and some day in the not so distant future, one or more of them may well acquire one of the international big names and catapult to the pole position.

The first Indian product vendor to go past the billion dollar revenue gate could be an up-start coming out of nowhere like the fictitious one described above. More likely, it will be one of the current players, and they will make it, using one of two paths described earlier in the book. One is the VERITAS Software model. Their CEO, Mark Leslie, has described how organic growth coupled with two mergers between equal sized entities, one at the $36M mark (OpenVision—1997) and other at $200M (Seagate—1999) fast-tracked their ascent to billion dollars. The second approach could be like that of i-flex which made good headway through a combination of organic growth and multiple acquisitions to touch nearly $600M, before being acquired by Oracle.

If we are to see a few $1B product companies in 2019, it is reasonable to expect a pyramid below them consisting of 30+ companies with $100M revenue, 300+ at $10M, and several thousand early stage companies. In 2008, there were only around 5-8 companies with more than $100M revenue and 350 start-ups. Further, none of the top 10 product vendors in India are local. The list should have at least 2 Indian names in the next ten years. Clearly, there is still a long way to go.

Some indication that the industry is headed in the right direction will be the increasing number of product IPOs and extensive M&A activity. Product

businesses have had IPOs in the past, some as far back as 1999. Amongst our case studies, Compulink, Kale Consultants, i-flex and Subex have gone public. However, such examples are still isolated, and a few of them perhaps managed it only because revenue requirements for public listing have been quite low on local exchanges. A few Indian product companies have done acquisitions outside India. For example, Subex, has done five deals of between $2-6 million and two of $140M and higher in the past decade. In comparison, hardly any Indian product players have been acquired. A few deals in India will create excitement and motivate entrepreneurs to work towards such exits.

The green shoots of the nascent product industry will mature into a forest only through a combination of supportive ecosystem and enabling factors.

## Supporting Ecosystem

The accompanying diagram illustrates the typical environment surrounding product enterprises. The shading illustrates, whether that factor is well-developed (cross-hatched), somewhat developed (lined) or under-developed (white) in India.

The inner core shows the key functions inside a product organization—Engineering, Sales and Finance. The first ring lists the entities that provide direct sustenance, such as buyers, talent pool, channel partners, VCs, mentors and advisors, and senior executive talent. The outer ring comprises important components for the industry to mature, but which have more of an indirect influence.

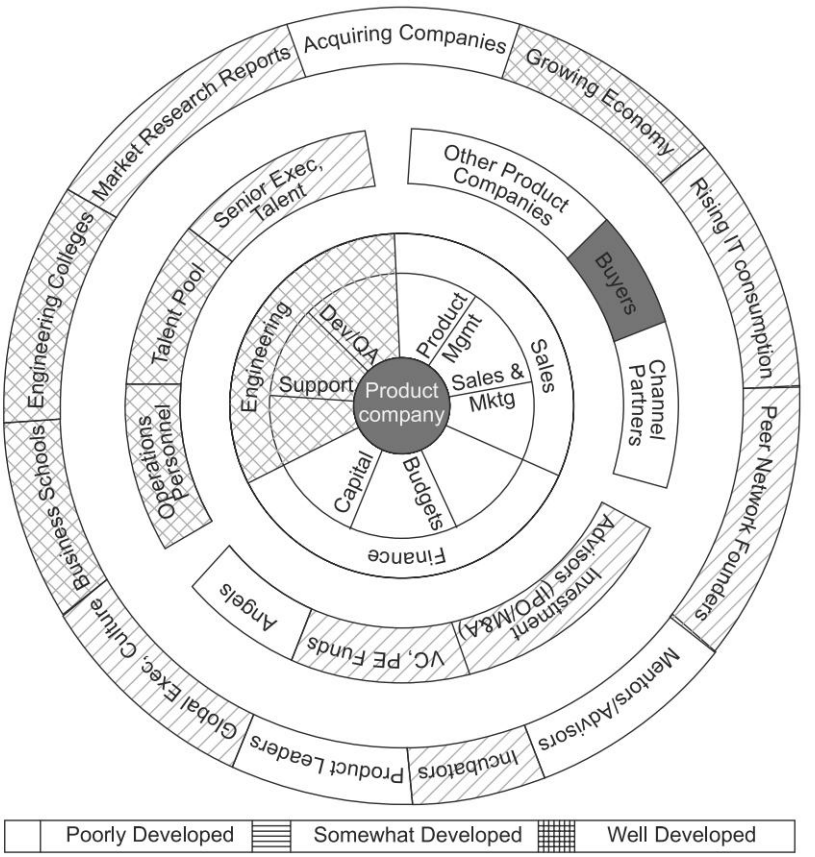
A growing economy generates demand. Domestic IT spending is increasing by about 18% annually and will reach $65 billion by 2015. Software is growing even faster at 44% for the last 3 years, and is expected to reach $9-12 billion by FY2015. PCs sold are increasing by 37%, internet subscriber base at 23%. Nearly 10 million mobile subscribers are being added each month, which is the highest in the world[14]. These are the second best numbers after China.

The presence of MNC R&D centers (captives) and OPD companies has resulted in a pool of nearly 280,000 product engineers by 2008, which is the second highest after the US.

NASSCOM estimates that VCs invested around $150M in Indian product companies in 2007[3]. Assuming $5M per company, this translates to around 30 investments. This is low in comparison with an estimated 1000+ US companies that probably got funded (based on similar VC data for that country). But this is just the start, and investment is showing a rising graph in India with 250+ VCs active. This is expected to be level or even decline for US software businesses.

Though many of the ecosystem factors have been considered directly or indirectly in previous chapters, a few more are briefly reviewed next.

**Ecosystem for product companies**




## Angels

Funding by angels (wealthy professionals and businessmen investing between $50K-500K) is well-established in the US. In 2007, 250,000 angels funnelled $26 billion to start-ups, almost the same amount as VCs did. In comparison, Indian entrepreneurs have access to very limited money, mostly from friends and families.

Some organizations have emerged where a group of individual investors, collectively select companies to invest in.

One such group, the Mumbai Angels, was founded in December 2006. They have around 30 members, from diverse backgrounds (IT, Real Estate, Business, Finance, Legal). In 2008, they screened around 20 business plans each month (compared to 10 in 2007). Four short-listed entrepreneurs are invited to pitch

to the angels every two months. The decision on whether to invest is taken immediately after the presentations, based on collective feedback rather than any exhaustive research and analysis.

Mumbai Angels funds start-ups that are pre-revenue or with sales of up to couple of crores. Average investment has been Rs. 80 lacs, collected from 10-15 individuals putting in between Rs. 5-15 lacs each. Valuations range between 2-5 crores, so the angels get 15-30% of equity. One contributor joins the company's Board of Directors to represent the collective team.

In two years, Mumbai Angels has funded twelve companies, five being Web 2.0 based businesses. Of these, mKhoj and Myntra have already raised VC funding, and Madhouse merged with Seventymm.

A similar group is the Indian Angel Network based in New Delhi. NASSCOM has also recently entered into an MOU with ICICI Knowledge Park to set up the India Innovation Fund.

## Mentors and Advisors

A look at the website of most start-ups shows one or two senior advisors. These may be individuals who have a full-time job, and advise in an informal capacity, or have retired and are more actively engaged with the company. Some of them may also be investors.

Besides individual advisors, there are a few companies that are mentoring start-ups. nFactorial Software is one such Pune-based organization. Founded by three of us, it provides early stage ventures with sustained strategic and business guidance. Our own entrepreneurial background and experience at product companies like VERITAS help us relate completely to the challenges that product start-ups face.

Hemant Joshi, co-founder, explains the model: "We act like part-time extensions of the management team. Through regular meetings, nFactorial (n!) provides 360° guidance on all aspects related to the company, including:

- **Product:** product idea validation, guidance on product strategy and roadmap, revenue and sales model, licensing strategy, product related services
- **Finance:** various funding models (internal accruals, angel, VC), product versioning and pricing, contract negotiations
- **Sales & Marketing:** product positioning, brand building, sales channels, networking, key prospect meetings
- **Operations:** best practices to build a successful product company, effective governance, efficient operations, hiring top talent.

Though we prefer to work at a strategic level, our partners often turn to us for practical guidance on operational issues. With cash being at a premium, n! takes a small equity stake. In that sense, we are like a VC, except that we invest our time and experience rather than money."

Second Avenue, based in Bangalore, offers a broader range of engagements. They cover business and corporate strategy, product and technology related advisory services, project and program consulting, HR strategy and talent management, change management and even executive selection.

Yet another organization is Mentor Partners, which was started in 2002 and is also located in Bangalore. In addition to mentoring, they appear to provide seed capital under their Fellowship program. They are not limited to software products and cover other industries such as hardware, telecom, electronics, and technology services.

## Incubators at Academic Institutes

Writing in Sandhill.com[14], Pravin Bhadada has estimated that there are about 40 incubation centers across India. 28 software companies were incubated in 2008 from some of these university supported incubators.

IIT Bombay started the Society for Innovation and Entrepreneurship (SINE) in 2004, after a successful earlier experiment at its Kanwal Rekhi School of Information and Technology. SINE is a business incubator, which facilitates the conversion of research activity into entrepreneurial ventures. It identifies innovations that have good commercial potential, offers physical infrastructure and support systems for building the product, and facilitates networking with mentors and experts for companies being incubated. The SINE incubator spans 10,000 sq. ft. and can accommodate 15 start-ups.

SINE takes equity in its partner companies. The program has met with early success. Companies like Voyager2 Infotech ($250K), Myzus Technologies ($600K) and eInfinitus (Rs. 1.2 crores) received VC funding. Voyager2 Infotech, which built a creative ideas portal, was acquired by Purple Yogi in an all-stock deal.

IIM Ahmedabad has a similar program called Centre for Innovation, Incubation and Entrepreneurship (CIIE). In 2009, a new program called iAccelerator was launched. Modelled on Ycombinator.com, a US company started by Paul Graham, it assists first time entrepreneurs. CIIE invests up to 5 lacs in each selected venture. Participants are required to live and work from Ahmedabad for four months during the summer break. They get introduced to industry veterans, learn new technologies, meet investors and generally have a very supportive environment with the presence of advisors and other entrepreneurs. With this launching pad, the entrepreneur will hopefully end up with a demonstrable product, ready to move to the next level with prospective customers and/or angel funding.

## Institutions and Communities

A number of institutions and online communities are actively engaged in raising awareness of entrepreneurship.

One of the oldest and world's largest non-profit organization supporting entrepreneurship is The Indus Entrepreneurs (TiE). Founded in 1992 by several Silicon Valley entrepreneurs and professionals with South Asian background, TiE today has 42 chapters across 9 countries. TiE articulates its mission as "fostering and advancing entrepreneurship across the globe". Its "endeavour is to cultivate and nurture the ecosystems of entrepreneurship and free-market economics everywhere, as it sees this to be the single most powerful instrument of prosperity". Though it does not make any investments, investors and companies get to know each other at various events and platforms organized by TiE.

TiE has many innovative programs and initiatives, some at chapter level. TiE Mumbai, for example, has taken the mentoring program to a new level through its Entrepreneur Nurturing Program (ENP). This is a continuous, collaborative and inclusive mentoring initiative. TiE member companies can request for structured mentoring engagement for advice on raising funds, finance management, marketing and sales strategy, HR and legal issues etc.

TiE, in association with Indian School of Business (ISB), has recently started an annual day-long program called 'JumpStart your Enterprise'. Meant for young entrepreneurs, it has a series of workshops, each focused on a specific area of entrepreneurial learning.

Another India-specific non-profit organization called National Entrepreneurship Network (NEN) was founded in 2002 by the Wadhwani Foundation. Its co-founders include five of India's premier academic institutions: IIT Bombay, IIM Ahmedabad, SP Jain Institute, Institute of Bioinformatics and Applied Biotechnology, and BITS Pilani. NEN's stated goal is to launch 2,500 entrepreneurs who will create a minimum of 500,000 jobs by 2014. They say that this will create as much value for the Indian economy over the next 10 years as the IT industry has over the past 15.

Primarily focused on promoting entrepreneurship through academic institutes, NEN's on-campus programs raise students' awareness of entrepreneurship and develop the skills, knowledge and confidence, which they require to pursue entrepreneurial careers. As of March 2009, NEN had more than 460 academic institutes across 30 cities as members, and had grown the number of faculty in India teaching high-growth entrepreneurship to more than 1000. NEN has established almost 400 student entrepreneurship clubs on its member campuses, with more than 70,000 individual members.

NEN's institutional capacity building programs include: a consulting practice, 6 different faculty development courses including one in partnership with Stanford's Technology Venture Program and IIM Bangalore, peer-reviewed teaching materials, a resource bank of more than 1000 volunteers (entrepreneurs, investors and professionals), and the NEN E-Leader program, which networks leaders of student entrepreneurship clubs.

NEN also directly supports first-time entrepreneurs with on-ground events such as "Meet the experts", and a knowledge bank, that assists those looking for

angel or VC funding. Their site is a great place to look for start-up jobs. The Tata-NEN contest in 2008 had almost 600 early stage companies competing for 'Hottest Start-Up of the Year' award.

Proto.in is another organization that has been conducting events every six months in various cities. It enables start-ups to showcase its products to a selected gathering, which includes investors. Proto.in screens and selects companies, whose products are most likely to have a significant impact on market trends in the coming year. The event comprises of live, on-stage demos, in-depth product reviews and presentations by industry experts.

Other professional and industry organizations are also becoming active in promoting entrepreneurship. This includes NASSCOM, Computer Society of India, Alumni Associations of IITs and IIMs.

There are less formal communities, which provide entrepreneurs with mutual support and learning. The OpenCoffee Club (OCC), started in 2007 in London, is now present in 83 cities across the world. It is designed to encourage entrepreneurs, developers and investors to have informal meet-ups to chat, network and grow. OCCs are present in several major Indian cities, and some of them are very active.

The HeadStart Network is a similar not-for-profit organization, run by volunteers and full time professionals. It organizes monthly StartUp Saturdays, where entrepreneurs, prospective employees and investors can meet. They host an annual conference where start-ups demonstrate their products, and get to meet angels and VCs. Originally started in Bangalore, they are expanding to other cities.

StartupCentral and Startup Duniya are two online web/blog sites, providing valuable information for early stage companies.

## Software Product Innovation Centres (SPICs)

While these organizations are assisting entrepreneurs in different ways, there is room for a one-stop and comprehensive centre offering the following:

- Incubation offices with shared space, networking, support staff (admin, finance, HR)
- Angel investment
- Strategic mentoring
- Operational consulting
- Access to community of development/QA service providers, resellers, distributors
- Network of industry contacts to validate ideas and lead to potential sales opportunities
- Events to present to potential investors

Such Software Product Innovation Centres (SPICs) should be established in two or three existing Indian software hot spots, to tap experienced talent.

Proximity to premier educational institutes and markets (finance, industry, consumers), ensures access to mentors and potential clients.

SPICs can charge for expenses and take equity in these companies. The initial investment in infrastructure can be funded through a combination of government and private sector grants, but a more interesting alternative may exist.

## Software Product Innovation Fund (SPIF)

Like with all start-ups, the companies being mentored by nFactorial Software required funding. We reached out to a small network of successful IT professionals based in USA and India. Collectively referred to as $I^3$ (India Innovation Investors), they do not represent an institutionalized fund, but invest directly as individuals into selected companies. Investment decisions, including company valuation, are based on inputs from two $I^3$ members who have a VC background.

Madhukar Bhatia, co-founder of nFactorial, explains that "This is a sort of micro-investment, in which each angel puts in $50-100K. The investor spreads his risk by putting in chunks of $25K across 2-4 start-ups, while each company gets a total of $100K-200K from 4-8 investors. $I^3$ has funded two companies, Product Dossier and Vsoft, in early 2009".

The $I^3$ model is scalable. It is reasonable to assume that there are around 5000 individuals of Indian origin in US alone, and maybe another 1000 in India, who have been very successful in IT and are willing to invest $50K. This adds up to nearly $300M. Think of it as a micro-finance model for venture capital. Such a fund—let's call it Software Product Innovation Fund (SPIF)—can either invest directly as a standalone fund or be a vehicle to finance SPICs.

Assuming that start-ups need around $200-400K to get off the ground, this money can benefit hundreds of ventures each year. There may not be those many deserving early stage companies. A better approach is to use 80% of the money to form a corpus, which can be invested in public stocks or other instruments. Balance 20% and future investment returns can be used as seed money for start-ups.

SPIF investors will have goals that are very different from limited partners (LPs) who fund VCs. LPs typically invest large amounts into VC and P/E funds, and let them manage the funding. It is just one more type of investment for them. In comparison, $50K is a paltry amount, relative to a SPIF investor's net worth. Their objective is not ROI alone, but for helping entrepreneurship, giving back to India, being able to mentor companies, having something worthwhile to do when they come to India (for NRIs) or after retirement (local Indians) etc.

However, they will put this cash only if they get some confidence that the end goals will be met. This requires an organized effort, because of the large number of micro-investors, and their desire to select and perhaps mentor a few companies (unlike the LPs of a VC). If SPIF is set up under the umbrella of a reputed

organization like NASSCOM or TiE, and backed by the central government, it can help unlock this micro-investment potential.

Similar discussions have happened in the US media and blog sites. In response to the 2009 recession, Thomas Friedman proposed that instead of investing $20 billion in car companies to revive them, the US government should instead give $1 billion each to twenty VCs. He predicted that the 5,000+ funded early stage companies (at $400K each) will result in bigger breakthroughs and greater employment, than by salvaging automobile dinosaurs. Don Dodge, in his popular blog, agreed on the principle of funding the future (start-ups) rather than the past (bailouts). He pointed out that small businesses created 70% of new jobs in 2007, and accounted for 50% of all US employment. However, he is against giving the money to VCs. He thinks that $1 billion should be spent directly on 50,000 start-ups ($20K each) to generate an estimated 250,000 jobs. He argues that a billion spent this way, can help recreate Silicon Valley (provided some other factors such as educational institutions, basic infrastructure, local economy drivers etc. are present). Paul Graham, founder of yCombinator, which pioneered the $20K per start-up business model, feels that start-ups need more money to be really successful ($1 million average). His vision is to create a smaller version of Silicon Valley by funding 1,000 deserving early stage companies for $1 million each.

SPICs and SPIF can bring about a structural change in India's approach towards innovation. Funding can extend beyond IT to green technologies, and other priority sectors most relevant to India.

## Leveraging the India Advantage

When we assess companies that approach nFactorial for mentoring, our preference is for those who are focused on the Indian market. Building the right product requires deep knowledge of customer requirements and market dynamics. Entrepreneurs need to keep meeting a large number of prospects on a continuous basis—first to identify their needs, and later to sell the product. The cost of doing this for global customers is easily five to ten times that for local clients.

The India advantage is best exemplified by Tata Motors' Nano, which is remarkable in its leveraging of local market dynamics. Nano has:

- **Simple India-centric vision:** 'Give Indian families an affordable transport—a small car, which is very low in cost.'
- **Perfect positioning:** At Rs. 1 lac, Nano targets the gap between the 2-wheeler segment (priced at Rs. 50K) and the entry level cars (Rs. 2 lacs). They stuck to this vision during six years of R&D, despite ridicule from competitors.
- **Innovative engineering:** The car uses a combination of novel design, cutting edge technologies, neat integration and advanced production processes.

- **Complete car:** Despite the cost, Nano provides all basic features. Though small on the outside, it has enough inside room for 5 people.
- **Domain expertise:** It comes from a company that has been in the vehicle business for long. It is relatively new to the car market, but Tata Motors' Indica line has been moderately successful.
- **Market focus:** Exclusive focus on India ensured precise alignment to local needs. Apart from cost, its fuel economy, small turning radius, and high clearance make it ideal for Indian roads. The fact that recession and green awareness is making Europe and other countries interested is a bonus.
- **Unique delivery model:** The initial plan to sell the cars as knocked-down kits, to be assembled at the dealers by local mechanics trained by the company, has been deferred till production stabilizes. It will hold down costs in future.

Nano's real success is in being perceived as a marvel of engineering and business strategy, and not as a cheap car. One can argue that this is not an entrepreneurial effort, since it came from a large industrial house. However, Tata Motors is facing huge challenges just like any start-up, with the Singur plan pull-out, accumulated debt from Jaguar and Land Rover acquisition, and recession. Entrepreneurism is not about size. It is about a mindset that leads to brilliant products, which in turn results in successful companies. Can anyone dispute that Steve Jobs is entrepreneurial, even if iPod and iPhone were engineered at his large company (Apple)?

## Nano-style Economics for Software Products

The Nano success has lessons for IT industry. Similar economics and unconventional strategies can be made to work for software products.

In services, India became the undisputed leader on the strength of its low cost, abundant and English speaking software talent. The same cost arbitrage always existed in products, but could not be leveraged so far. As per NASSCOM, there were 350 product start-ups in India between 1985 and 1990—a number comparable to today's count. Most of them failed or morphed into services companies, because the domestic market did not exist. However, that is not the case today, with increasing IT usage across the spectrum (large businesses, SMEs, government, consumers). The presence of captives and OPD companies has created mature product development capabilities locally.

Like Infosys in software services, and Tata Nano in automobiles, product companies are in a position today, to exploit cost arbitrage and their knowledge of the Indian psyche. By building innovative solutions, they can become leaders in domestic market first and global players in future.

It takes a typical Indian start-up around $200K (Rs. 100 lacs) to engineer and start selling the product over a 12-18 month period. This is one-third of the cost

in US—a similar ratio as in services. The differential is higher if the product is relatively complex and requires more months to develop. Spending rises by 25% in the second year, as sales and marketing expenses kick in. Cost of sales in India is also one-third, as compared to US or Europe.

Indian companies can compete effectively on pricing within India due to lower cost of development, sales and support. They do not have the baggage of standard US pricing and high overheads that global organizations have.

The timing is right for Indian product companies to offer the software equivalent of Nano—well engineered solutions, fitting local needs, at competitive prices. The 2009 negative economic trends, have also forced buyers to evaluate products on value and not reputation.

## Nano Exits

In a high growth economy and one that is transforming rapidly, the shelf life for ideas and products is limited. There are many first time entrepreneurs with no previous business experience. Good products are being built, they gain limited traction, but thereafter the business often tapers off. Founders do not know how to transition from a small to a large company. There are many companies stuck at few crores in revenue. Many older companies have had IPOs, but are floundering at Rs. 20-30 crores.

New entrepreneurs should seriously consider a 'shooting star' model. Build a great product, ramp up quickly to a few crores in revenue, and exit while the going is good. With founders owning most of the company, they will earn $0.5–2 million through an acquisition. Some of it will be available upfront, and rest will be linked to future earnings. Such a deal may be considered as poor returns in the US. But given the relative spending and local standard of living, this is good money for 2–3 years of effort by Indian standards.

Many will advise you that such an exit is too early and is unlikely anyway. It is true that an acquisition is more difficult, when revenues are small. But it can happen at that price point, if you have a strong technology and team.

Why would anyone want to acquire a small firm? The buyer's reasons could be one or more of the following: gain entry into a new market, incrementally expand existing client base, and create synergies between existing and acquired products. Global companies often find it hard to sell in India because customer expectations are different, cost is a major issue, local support is required, and sales channel network (resellers, VARs) is poorly developed. It makes sense to buy a company that understands the market, and build on its existing client base and sales/support infrastructure. The acquiring company also gets immediate access to a low cost engineering talent pool, with expertise in the required domain and technologies.

## Game-changing Technologies

Besides improvements in Indian environment, recent software trends also level the playing field for Indian product firms.

Writing in a blog on Sandhill.com, Treb Ryan (CEO of OpSource) refers to SaaS as the 4th generation in information technology after the mainframe, PC and internet. He points out that "Today's generation of technology users grew up on the Web, e-mail and MySpace. Their expectations are dramatically different, than that of previous generations of workers—they want their business applications to match the way they work rather than changing their behaviour to match the way an application works". He refers to today's workforce as 'Generation SaaS'.

This is a trenchant observation, but the 4th generation is more than just SaaS. In the mainframe era, computing power was in a powerful system, sitting in the corporate lab while users ran applications from a dumb terminal. The PC brought this power to a standalone or networked desktop to users at home or office. The internet era provided global connectivity and access to more information than ever before.

Today, computing power and users' ability to wield this power are being pushed to two extremities. At one end, handheld devices have the equivalent power of old mainframes, and provide increasingly novel ways of interacting with information and the environment. They are ubiquitous, with almost one in two adults on the planet, owning one. At the other extreme, applications and information are increasingly being delivered, not from the PC or corporate server, but some distant 'cloud'.

I categorize these trends as 'I-computing' and 'Sky-computing'. Eventually each 'I' will use his/her individual mobile as a powerful accessory, to interact with the world through services available in the electronic 'sky'.

### I-computing

Mobiles are no longer just for making calls, or for e-mail and internet connectivity when on the move. They already offer camera, GPS, and tens of thousands of downloadable applications (everything from games and content creation to financial and business programs) that run on the phone and extend its capabilities. Portable media players sold 200 million units in 2008, and navigation devices are increasingly common. Kindle's e-book allows a personal repository of titles, which you can pick and read on demand.

In a few years, all these capabilities and sundry others like compass, motion sensor, and multiple remotes at home and in office, plus many more, will be integrated into what can be referred to as I-device.

A Google blog[15] anticipates an always connected, sensor-rich device, that everyone carries 24x7. The instrument will use context (position, identity, time and activity) to deliver relevant alerts and information.

Billions of people will use their I-device to upload photos, video clips, comments, blogs and twitter to the web, for every topic under the sun. This content will get sorted, archived and delivered for myriad uses. With video camera and microphone, each I-device can potentially become 'eyes and ears' that can beam data ranging from weather to security information about suspicious behaviour.

Contextual information and aggregation will further enhance accuracy. Thus, traffic conditions can be tracked precisely using density, speed, and direction of thousands of I-devices on the roads. For example, if you are headed for dinner to a new restaurant in a car, your I-device will alert you about traffic congestion and highlight the best route. It will detect from the GPS that you are close by, show you the exact view of the street, how the restaurant looks, and guide you to the nearest parking lot. If it is daylight, the contrast on the screen will be higher to improve the screen visibility. Since you are driving, it will also speak aloud the instructions.

Personalization provides another dimension. I-device app can remember and update your music preferences, when alone and depending on time of day, or when accompanied by family members in the car. Music will be delivered automatically to your I-device and played on the car system through its FM transmitter.

I-device won't be just for personal convenience. In an innovative use several years ago, a Kerala mobile provider ensured signal availability some distance into the ocean. Fishermen while still out at sea, relay their catch to multiple wholesale agents on the coast. Their boat then heads directly to whichever agent offers the best price. Future extensions will allow the entire supply-chain for commodities and services to be similarly optimized—from availability, selection, negotiation, payment, and electronic or physical delivery.

Businesses are recognizing that smart handhelds and laptops make employees always available, and are therefore more open to their use for mixed home and office use. In US, there is a new trend of giving a one-time payment to a new hire for buying his/her own laptop and mobile, rather than supplying an office-owned dedicated workstation. The boundary between business and consumer applications will soon blur—signaled for example by the recent partnership between Facebook and Salesforce.com.

### I-computing Challenges = New Product Opportunities

Desktop applications cannot migrate directly to mobile devices for a number of reasons:

- Screen size is small and with varying resolutions
- Input and interaction are cumbersome, especially for text data
- Restrictions due to less powerful processors, limited memory and storage
- Need to charge every few hours, thereby requiring well-designed applications that limit power consumption

- Slower and unreliable network connections
- Usage in variable ambient lighting

Applications can source contextual data from the mobile and use it to improve usability. It will determine who is the user (personal preferences and usage patterns), at which location (GPS, camera), what time (day/evening) and for what purpose (motion sensor, previous selections, other I-devices). Accordingly, the app can show only pertinent data on limited screen area, and limit input choices to appropriate ones for easy selection.

The other challenge today is the wide variety of phones (from simple ones to smart phones loaded with features and sensors) and platforms (Windows Mobile, Blackberry, iPhone and others). Applications either have to be specific to one vendor and class of mobiles, which limits the market, or different versions have to be written and maintained, which means higher cost.

Non-trivial apps require reasonable storage and processing power, and are therefore written for smart phones. That could change if apps are moved to the cloud (discussed further in the next section on Sky-computing). The premise is that the app's business logic will reside on a remote server in the cloud, and the mobile will be used mostly for input/output. This will mean that even relatively low-end phones will be able to run the base version of most apps. Since the main app is web-based, it is independent of the phone's operating system. Only the UI needs to detect and run correctly on the mobile's environment.

It may not be that simple though. Network connectivity can be flaky, and app developers will have to be creative about keeping basic functionality alive if the signal is lost.

The rapid adoption of a new user interaction platform opens up avenues for emerging players to overtake existing products. Visi-Calc was the earliest electronic spreadsheet program released in 1979. It became a 'killer app' that made Apple II the first successful PC. When the Microsoft DOS-powered PC came along, Lotus 1-2-3 emerged in 1983. With its improved graphics and speed, it replaced Visi-Calc as the leader, and IBM PC overtook Apple. In early 1990s, Microsoft's Excel released on the UI-rich Windows OS in turn replaced Lotus 1-2-3 and continues to dominate the market. Google spreadsheets (now part of Google Docs) and other online web products like Lotus Symphony are attempting to challenge Excel's supremacy by offering multi-user collaboration, real time updates and rich internet interface look.

The differences between mobiles and desktops (UI, compute power, connectivity, portability) offer similar opportunities for re-engineering, and even re-invention, of different layers in the software stack and user apps. System components, middleware, security, networking, application platforms, installation, remote configuration and management and apps have to be tailored for smart phones.

## Sky-computing

Smart phones are delivering information access and processing directly to one end of the producer-consumer chain - human beings. At the other extreme, all content and applications will eventually appear to be coming from out of the blue. Technologies like virtualization, web and cloud computing, are all part of what I refer to as 'Sky-computing'.

Virtual machines (VMs) and virtualization are old concepts, first introduced on IBM/370 in 1972. In recent years, they have become prevalent on desktops and servers with products from VMware, Microsoft and the open source community (example, Xen).

They enable multiple operating systems (OS) to run on one physical platform (multi-tenancy). Instead of distributing multiple business apps across many dedicated servers, they can be run on fewer higher performance servers. Each application gets the required OS, and technical environment. Load balancing is possible by moving an app that requires more resources to a server that is under-utilized.

Hence, virtualization enables data centre administrators to drastically reduce server count, thereby saving on costs related to management, maintenance, power and space. Global warming and the consequent focus on green tech is accelerating its adoption. Enterprise data centres double in capacity every 5 years in US. In developing countries like China and India, this growth will be even faster. VMware estimates that server consolidation through virtualization at energy guzzling server farms can reduce hardware and operating costs by as much as 50%, and energy costs by 80%.

There are other significant benefits. Disaster recovery becomes easier because virtual images of apps can be moved instantly to a new server if one machine fails.

Yet another capability arising from virtualization is the Virtual Desktop Infrastructure (VDI). It lets employees access their 'desktop' by connecting to the corporate server through a remote client on any machine at work or home. Administrators can now host and centrally manage these Hosted Virtual Desktops (HVDs) in the data centre. Research firm Gartner's estimate is that nearly 15 percent of office PCs will migrate to HVDs by 2014.

### Private Cloud

Virtualization sounds very much like creating a small 'cloud' in the data centre, where multiple applications are co-hosted on a server, and can be moved around easily without users being aware. HVDs are also akin to getting your own 'desktop' from the corporate private cloud.

In April 2009, VMware unveiled its next generation virtualization platform, vSphere 4, which it positioned as the first private cloud OS platform. Extending beyond virtualized servers, data centers now operate like a cloud, in which the

users can provision services and capacity on self-service basis. Features like automated up-down scaling in capacity based on load, usage based chargeback, and cloud management, are still evolving and planned for future releases.

### Public Cloud

Cloud computing generally refers to the public cloud, or in other words, centralized computing services delivered over the internet. It also represents the next generation of internet (Web 2.0).

Cloud computing has three dimensions to it:

- Infrastructure as a service (IaaS)
- Platform as a service (PaaS)
- Software as a service (SaaS)

IaaS refers to providers like Amazon, which offer processing power and storage space on demand.

PaaS includes the capacity for developing an enterprise application directly in the cloud, and then deploying it there. Force.com from Salesforce.com, for example, lets corporations write their own cloud-based proprietary apps. These can potentially integrate with their customer database that is already stored with their subscriptions to Salesforce.com.

SaaS has been discussed in the book earlier, and refers to apps available to end-users. Strictly speaking, not all SaaS apps can be termed as cloud services. This is the case with several existing SaaS offerings that are not designed for multi-tenancy or automatic scaling on multiple servers.

The iconic social app is Facebook, with 2008 revenue estimated at between $260-300 million. SalesForce.com is the standard bearer of business SaaS, becoming a $1 billion company in 2009 in just ten years.

Unlike a private cloud in its data centre, cloud computing for a business implies outsourcing of infrastructure and applications to a services provider. Data is stored on a remote virtual platform, rather than a local server. Most of the application logic runs remotely, while user interface and processed data is made available on employee screens via internet.

Businesses, especially small ones, benefit by not having to invest upfront in expensive servers, software licenses, maintenance fees and salaries for IT staff. They can stop worrying about software upgrades, data backups and hardware failures, and save on space and cost of power. All they need to do is pay a monthly fee to cloud services app providers, and ensure reliable internet access at required bandwidth to their employees.

Another big advantage of the cloud is its elasticity, and scalability on demand. Organizations can provision infrastructure or services on just-in-time basis, and release them when not required. Monthly payments mean that customers can optimize spending based on actual needs, quickly cut costs in case of business downturn, and switch anytime to a superior provider.

Despite these compelling advantages, it initially appeared that large companies would not be comfortable storing their confidential data in the cloud on somebody else's servers. However, even Fortune 500 companies have begun using cloud services.

IDC[16] has noted that enterprise IT cloud services revenue in 2008 was $16 billion, representing only 4% of their total spending on software. Their prediction is that it will climb to $42 billion and 9% of spending in 2012. Though this may appear negligible, cloud services growth will be at 27% CAGR, which is over five times more than the traditional on-premise sales.

Another interesting comparison is Gartner's report[17] showing that cloud-based advertising alone generated $28 billion in 2008. In India, *Economic Times*[4] has estimated local SaaS market in 2008 at about $70 million, and has projected growth to $1-billion-mark soon.

### Cloudy Sky

The ultimate promise for enterprise IT is to have a private cloud, which has the ability to 'burst up' to a public cloud provider[18]. This lets administrators scale up the organization's data center, whenever extra compute power is required, such as during key sales meets or end-of-quarter times. A few early adopter data centers are able to do this today, with some manual effort. They can tap into Amazon's EC2 cloud services, for instance. However, the key is vendor-independent and automated capacity addition, which is a long way off. If history is any indication, vendor-independence may never happen.

Any new computing paradigm brings in a number of players, old and new, jockeying for market share. IT administrators have to choose between diverse operating systems, databases, ERP solutions and other applications. Inter-operability is limited and organizations get locked into proprietary platforms and technologies. Many large companies, after a series of M&A, end up with a mixture of platforms and applications. They then end up buying cross-platform management tools to efficiently monitor and optimize their infrastructure.

There is a sense of déjà-vu with cloud computing. From definition of the cloud, to the architecture and implementation of their solutions, vendors are working on independent tracks. If an application or data is resident in one provider's cloud, there is no easy way to move it to another supplier.

VMware triggered the adoption of virtualization and has targeted the private cloud, with the release of vSphere. They claim to eventually offer compatibility with public cloud providers, but that is not yet a reality. Google made its intentions about wanting to own the public cloud apparent through its July 2009 announcement of Chrome OS. It is expected that the centrepiece of the OS will be the Web browser that leads users to online applications and data sitting in the cloud. An announcement from Microsoft is only a matter of time. Open source Linux will surely have extensions related to cloud computing.

Developers should be able to write cloud apps that can be deployed, operate seamlessly, and move automatically across public and private clouds from different vendors. For this to happen, reliable standards are required. VMware and others have defined the Open Virtualization Format (OVF), which is a platform independent, extensible, and open packaging and distribution format for VMs. VMware claims that standards like OVF will make burst-up with 'federated' public-cloud providers more practical. However, if the past is any guide, there will soon be multiple standards competing for leadership.

We should therefore be prepared for a cloudy sky and not just one big cloud where everything is possible.

### Sky-computing Challenges = New Product Opportunities

Cloud computing is still in its infancy and must overcome a number of technical difficulties and reservations from the user community. Besides lack of standards, here are a few more[19]:

- **Security**—With information moving into the cloud, service providers need to assure enterprises and individuals, that their data is secure. Proper framework for access control, protection, monitoring, backup and audit of data is required.
- **Management**—Enterprises will demand the ability to manage their apps and users in the cloud. They will also want vendors to deliver on the fundamental cloud promise which is the ability for an app to automatically scale its usage of processing and storage resources at will. Doing this today is a manual process.
- **Performance Monitoring**—Organizations should have the ability to monitor the performance of their app in the cloud, especially parameters such as how long transactions are taking and what is the latency. This can have a huge impact on users and your SaaS business. HighScalability[20] reports that Goldman Sachs is making record profits by having a 500 millisecond lower latency on their trading platform. Similarly, Google found that traffic dropped by 20% for every 0.5 seconds extra that it takes to generate the search page.
- **Reliability and Availability**—Enterprises will never agree to host mission-critical apps unless cloud availability and access is guaranteed. Water-tight SLAs will be demanded and at this point it is hard to see vendors being able to meet them. In his article[19], Jian Zhen mentions an interesting thought about cloud insurance!
- **Total cost of ownership**—It is not yet proven that total cost of ownership (TCO) for cloud infrastructure and services is less than with an in-house data centre. The argument is that the cloud providers will have much lower costs with their huge scale and will pass on the value to customers. Case studies and ROI data are required to back this claim.

These challenges are not new. Whenever there is a shift in application deployment architecture, it creates a need for all-round re-engineering of components in the software stack. For example, the initial mainframe apps and data were centralized with local terminals being used only for simple text based user interface. Later, with the emergence of minicomputers and terminals with graphics capabilities, the UI improved but the apps still ran on the central host. These apps were proprietary and came from the mini and mainframe vendors.

The advent of PC led to a flood of standalone desktop applications for business and home. The open platform led to a flood of software vendors. Incorporation of Local Area Networking (LAN) in offices resulted in a major shift towards distributed data and applications. The operating system, databases, networking layer, middleware, security—all underwent significant changes. A new breed of apps was created.

Then broadband came along, accompanied by laptops, and software now had to work seamlessly across the globe. The internet was the logical extreme, wherein the network was both global and public. In each case (distributed apps and internet apps), earlier application architecture and underlying components had to morph. This phenomenon is being repeated with cloud computing.

Existing vendors have begun to adapt. They will extend their offerings designed for on-premise equipment and apps, to include support for the cloud. For example, systems management players like IBM/Tivoli, Computer Associates, Symantec, Microsoft, and HP will incorporate cloud resource management into their solutions.

Still, as pointed out in the section on I-computing, such paradigm shifts make it easier for entrepreneurs to innovate solutions that are tailor made for the new environment. It is hard for existing players to react quickly. They have tons of legacy code, roadmap of features and defect fixes to work on, and existing customers to service. They struggle to map their products to support new trends, while maintaining compatibility with years of previous releases and diverse platforms. It is like an elephant in full stride trying to switch tracks.

During similar inflexion periods, even large companies have become shadows of their former selves or disappeared. Think Digital Equipment, Unisys, Wang Labs, Novell, Lotus, Corel, Netscape/AOL, Informix, Intergraph etc.

New ventures are not burdened with any legacy. They can use the most current platforms and development tools, 4G languages, re-usable open source components, and agile programming methodologies to build just-right products. Cloud computing will favour simple apps that do one thing brilliantly instead of older style bundled apps with huge functionality.

These trends pave the way for small organizations to come up with the next set of killer apps that fully exploit the new infrastructure of I-computing and Sky-computing. In particular, Indian entrepreneurs can leverage the intersection of game-changing technologies, India's rise in software capabilities, and potential for Nano-style India-centric apps, to surge forward and join the top ranks of product companies in the next decade.

## Opportunity Beckons—Are You Ready?

In the 1980s and 90s, when Indian IT was not even a blip on the radar of India's economy, let alone the global one, a large number of people were industriously at work. In an economy that stifled enterprise and an environment starved of resources, they created a world class industry. More important than the companies they built and billions of dollars that they earned, is the fact that they put India on the global map. After many centuries of colonization, India was again seen as being an undisputed leader in one key area. It changed perceptions about the country.

In 1980, when I first went to US for studies, I found that the image of India was that of a poor, backward nation. Today, Indians are often asked how most of them are either software experts or doctors. Though the reality is more complex, India is respected as a large, successful economy and an emerging global power.

In terms of overall numbers, Indian IT's contribution to exports and GDP is modest. But it has become the cutting edge for Indian industry to flourish on the global stage. Success in IT inspired tremendous self-confidence amongst Indian professionals in all sectors. The economic liberalization, which began in 1991, fortunately coincided with the early stirrings of Indian IT. Together they are slowly but surely giving India and Indians a place in the sun.

This leadership must not be lost. The next step in the value chain has to be taken. The present generation, standing on the shoulders of the previous one, must seek out more distant horizons. It is not sufficient to keep expanding in services. India must become equally strong in product space.

The book has shown that the future of Indian product companies is bright. The jigsaw pieces of the success map are falling into place. It is for Indian IT to seize the opportunity.

Today's entrepreneurs must carry the torch forward, and become tomorrow's leaders. Tomorrow's giants may be from today's early and mid stage companies, or originate out of great ideas brewing in budding entrepreneurs' minds. Perhaps one of them is you. If yes, your time has come. Are you ready?

### Postscript

*Though my writing for the book ended with this chapter, readers have something more to look forward to. In the Epilogue that follows, one of the most intrepid entrepreneurs in India's IT history writes a motivational note addressed to software product entrepreneurs and leaders. This book has been all about building billion dollar companies, but he shares his unique vision about a different kind of billion.*

# Epilogue
# A Different Kind of Billion

*"Nobody can go back and start a new beginning,*
*but anyone can start today and make a new ending."*

*— Maria Robinson*

## Introducing Nandan Nilekani, Co-Founder and Former CEO, Infosys Technologies

Sitting in a small apartment in Pune in the early 1980s, he along with six other exceptional people, dared to dream of building a company that would put India on the global map. His technical and organizational skills, and leadership qualities, were crucial in no small measure in helping to convert that dream into a reality that we all see today, almost 30 years later. He is considered as a global thought leader, inspirational role model, remarkable industry captain and an undisputed icon for a whole generation of Indians, and indeed for people all over the world. His unstinting commitment, determination to overcome all odds, and integrity, are just some of the many qualities that we all look up to and hope to emulate in our own lives.

He is Nandan Nilekani, Co-Founder and erstwhile CEO and Co-Chairman of Infosys, and now Chairman of the newly formed Unique Identification Authority of India. In this epilogue he writes not about making a billion dollars, but about touching a billion lives. I can think of no one better suited for this than someone who has already been there and done that - both, and who, in his new role, will touch a billion lives once more.

## Profile

Nandan Nilekani co-founded Infosys Technologies, one of India's most successful IT companies in 1981, and was CEO from 2002-2007 and Co-Chairman from 2007-2009.

Nandan became one of the youngest entrepreneurs to join 20 global leaders on the prestigious World Economic Forum Foundation Board. He is listed as

one of the 100 most influential people in the world by Time magazine in 2006 and 2009. His numerous awards include Fortune's 'Asia Businessman of the Year 2003' and the Joseph Schumpeter prize for innovative services in field of economy, economic sciences and politics in 2005.

Nandan was the Vice-Chairman of The Conference Board, a member of ASPEN Institute's Business and Society Advisory Board and served on the London Business School's Asia Pacific Regional Advisory Board. He has recently written a book "Imagining India—Ideas for the New Century".

In 2006, Nandan was conferred the Padma Bhushan, one of the highest civilian honors awarded by the Government of India.

In 2009, Nandan was appointed the Chairperson of Unique Identification Authority of India, with the rank of a Cabinet Minister, by the Government of India.

## The Power of a Billion

*— Nandan Nilekani*

Whether it is a billion dollars or a billion people, the word billion has a strange kind of power. Sure, it represents a huge number—one followed by nine zeroes—which is hard to even imagine. But even more than that, the word conjures up a vision of unlimited something. It is strange how a mere number, can mean so much more in terms of its power to motivate and inspire.

As a child growing up in the sixties, there was a word that we used quite often to describe something that was beyond any known large number—countless. There were countless stars in the universe, countless grains of sand on a beach, countless Beatles fans. While a billion is not technically countless, it evokes the same kind of awe. So far, this book has been all about building billion dollar product companies from India. Shirish has covered this rather well in the preceding chapters. Therefore, my note instead, tries to imagine a company that touches a different kind of billion—a billion Indian people, their lives, dreams, hopes and aspirations. What would it be like? What would it do? What could it do? There are no easy answers, but surely someday, not just one, but many such companies will be built. And it will happen sooner than anyone thinks.

Looking back, the evolution of mankind has never been linear, but is more like an accelerating curve. From the time that humans first discovered fire to the invention of the wheel, from the printing press, the steam engine and the industrial revolution to the computer, from the first dedicated monolithic enterprise systems to the current glut of social media applications, the time taken for every subsequent breakthrough invention seems to be reducing exponentially. Given the pace of change, what was science fiction for our grandparents, is everyday technology for this generation (mobile phones, microwaves, video-conferencing, long-haul flights and many more that we take for granted). The frontiers of science and technology are expanding rapidly as envelopes get pushed almost beyond recognition, and even the sky is no longer considered a limit. These are exciting times and it is up to us to make the most of it. The decisions we make today, and the paths we choose to follow, will shape tomorrow's world – for better or for worse.

So what choices can be made, and paths taken, today that will help future generations live in a better world? Should India adopt a more inclusive growth path? How can the digital divide be bridged? What steps can accelerate the transition of have-nots into the middle-class demographic? What is the right balance between sustainable development and preservation of the environment? The reality is that these are no longer options, or the questions that can be ignored. They are today's compulsions for India's very survival and growth. In fact, most of these issues are global, transcending communities and nations. India cannot afford to choose a less inclusive path, or let the digital divide widen any further, or ignore the less privileged. Similarly, environmental impact has to be factored into its growth policies. India, like the rest of the world, is increasingly becoming inter-connected and inter-dependent. It is not possible for any of us, to be insulated and isolated from the rest of the billion.

What would it take at a ground level to have a company that touches the lives of India's billion? For one, it is fast becoming obvious that, while the government has a large role to play in shaping India's future, it cannot be expected to do everything. There must be active participation from the private sector from established corporates to budding entrepreneurs looking for the next great opportunity. Secondly, it is equally clear that technology must be the facilitator, indeed in some cases even the driver, for change. Lastly, each of these individual components—government, corporate, entrepreneurs, and technology—must work together in mutually beneficial and complementary partnerships. What this means in real terms is that, while there may or may never be a single company that touches a billion people, there can exist a network of interdependent businesses, that offer products and services built using the latest technologies, which will collectively appear to do so.

Today's world is full of opportunity, and Indians are uniquely positioned to take full advantage of it. India has demographics on its side – while the world population greys, it will have the largest young working force in the next twenty to thirty years. This country has experience and expertise – the success of software services companies over the last couple of decades, has created a vast pool of outstanding technical and organizational talent that is ready to take the next step. India's attitude to its population has undergone a sea change – from thinking of it as a burden a few decades back, to almost an unlimited source of human capital. This generation is more confident of its place in the world order. It was born after independence, and did not face the privations of the pre-liberalization decades. And last, but perhaps most important, there is strong motivation and drive – more Indians than ever before, want to make good the tryst with destiny that Prime Minister Nehru spoke about at the moment, when India gained independence. The country has come a long way since then, but, to paraphrase Robert Frost, India has many more miles to go before it can sleep.

Of course, India is not just a pool of talent or simply a young workforce, but it is also an enormous market opportunity. The 50-million strong middle class

is already a huge market in itself. A McKinsey Global Institute study conducted in 2007 estimates that it will grow further by over ten times to more than 500 million by 2025, if the GDP growth is sustained at current levels. The study also indicates that Indian spending patterns will change, with food and apparel declining in relative importance, and services like communication and healthcare growing rapidly, as the daily struggle for survival is gradually replaced by the quest for an improved lifestyle. The higher savings rate will also lead to availability of capital for both public and private investments. There are, of course, significant challenges as well in terms of infrastructure, access and affordability of healthcare and education, and the sub-standard quality of life for a large number of Indians, to name a few. But these challenges also contain within them the seeds of great opportunity.

Indian companies seeking to move up the value chain and create their own products and services, need not look beyond the requirements of the new Indian consumer, be it the newly-married, urban, working housewife looking for efficient home-quality meal services, or the traditional rural farmer seeking real-time weather information and forecasts that will help him decide the right time to plant his crop, or market data to sell his produce at the best price. Indian entrepreneurs start with the twin benefits of being in close contact with these market opportunities, and of understanding the unique sensibilities that drive them, because they are also part of the same market ecosystem. Given this head start, it is only a matter of time before Indian companies start leveraging these benefits to make a difference in the lives of this large number of captive consumers. In doing so, they will also take care of their own bottom-lines.

The sixties and seventies were about centrally planned industrial production and the so-called Hindu rate of growth, while the eighties marked the beginning of the computer revolution, and the nineties heralded the birth of a free-market economy. The new millennium promises the economy's growth into adolescence, and eventual maturity of a balanced capitalist/socialist regime, where the rampant forces of the free market are tempered by government regulation that protects consumers, even as it enables and empowers enterprise and entrepreneurship. It is up to all Indians to make the most of now to quote the new Vodafone commercial!

Software and IT is taken for granted today, but it was not always so. When I was growing up, for example, there were no computers and no digitization of information. Learning was limited to schools and colleges, and knowledge was at a premium. The birth of the internet and consequent democratization of information brought about with it, a quantum change in the way knowledge is viewed. Today, it does not really matter if you know the value of PI to the 14$^{th}$ decimal by heart; you can always google it. What does matter, however, is how you can apply and use it to solve a problem. Today, more than ever, there is a growing need for IT products and solutions to be designed for the unique challenges facing India, and Indian consumers.

There are already examples of this in other sectors and fields, where innovative minds are creating products that not only impact the lives of its users directly, but can lead to a financially viable and successful business. For example, Appropriate Rural Technology Institute (ARTI) won the Ashden prize for sustainable energy in 2002 for their charcoaling technology and Sarai Cooking System—charcoal briquettes made from the waste leafage of sugarcane, a large yield cash crop in Western Maharashtra that generates four million tonnes of this waste leafage every year. Their technology's impact is in multiple dimensions: the briquettes provide fuel for cooking at a fraction of the cost of fossil fuels, they were made from a material that was considered as trash, and manufacturing was possible in small-scale home-based rural industries, thereby providing additional source of income for rural families. ARTI again won the prize in 2006 for their compact biogas plant, the only organization to have won this prestigious award twice. These are the kind of innovative solutions required, which solve basic problems, and fit within the context of local market conditions.

The other renowned example is that of Dr. Muhammad Yunus and Grameen Bank in Bangladesh who addressed a local need, scaled it up and made it self-sustaining; a model that can be replicated in other geographies and contexts. India too has its share of such initiatives as well, for example Chaitanya, an organization that is working in the field of micro-credit and micro-finance for rural women in Maharashtra. Green energy, biogas and bio-diesel, solar and wind, and other alternative forms of renewable energy are all being explored aggressively, and the next breakthrough invention may very well be in these fields.

The explosion of telecom in India is yet another illustration of the impact that a simple service can make to the lives of people. Communication and connectivity are two key advantages those in the developed world have had all these years, and their benefits are fast accruing in developing economies as well. People who were traditionally cut off from access are now reachable, making it that much easier for them to deliver required goods and services to their customers. Most people have the mobile numbers of their plumbers and electricians on speed dial now, so they can get any problem fixed the same day! Of course, communication and connectivity is only the tip of the telecom services iceberg. While value-added services like Astrology, Bollywood, and Cricket (or ABC, as they are called) are growing at a healthy rate, the real benefit will come from innovative applications, built on top of the basic services—solutions that solve real problems for real people for a relatively small and affordable price. Economy of scale will play a large part in how such solutions are developed, and deployed, and on the impact they have on the top-line of companies offering them.

The creative use of IT solutions can have equally significant impact on everyday lives of people. Huge segments of society have benefited already from applications like computerization of land and birth records, ITC's E-Choupal (village internet kiosks for weather inputs and efficient crop supply chain), online train and bus reservations and mobile-based stock trading. Software entrepreneurs

can leverage the inherent advantages of scale and local presence to create viable products and businesses, while simultaneously effecting improvements to everyday lives. The state also has an important role to play in supporting the changing business paradigm, which is more about leveraging innovations and ideas, rather than just cost arbitrage.

I began this chapter by envisioning a company or collection of companies that can have a transformational impact on a billion lives, and have outlined some thoughts on how that can be achieved. Many of you will have your own ideas as well, and I encourage you to actively explore them further. No idea is too small, to avoid taking that first step. All it requires is the conviction and belief that it can make a difference to at least a few lives in India's billion!

Finally, I want to leave you with some words that I had once seen on a T-shirt while walking down Brigade Street in Bangalore. It sums up the confidence and hope that this nation's people have in their future, '*Each Indian—One in a Billion.*'

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