Online Positioning Roundtables for Entrepreneurs

In addition to the Entrepreneur Journeys series of books, Sramana Mitra offers a series of free online positioning roundtables to mentor and help entrepreneurs further develop their business ideas. In these roundtables, she also addresses financing strategy for each business.

During each 60-minute online session, entrepreneurs are invited to pitch Sramana their ideas in a three-minute presentation. She reviews the material in real time and provides feedback on each pitch, as well as addresses specific questions from the entrepreneur. Afterward, she takes questions from other participants. Each session is open to 1,000 people but only the first five to sign up have the opportunity to pitch Sramana and discuss their business in an interactive mode.

You can find more information about these webinars, recordings of past roundtables and registration links to upcoming sessions at:

www.sramanamitra.com/entrepreneurship-strategy-roundtables/

We hope you will join us!

Praise for *Entrepreneur Journeys, Volume One*
by Sramana Mitra

Inspiration awaits readers in this volume of interviews with entrepreneurs. *Entrepreneur Journeys* will provide great insight into the questions and answers behind a start-up business. It succeeds in sharing the enthusiasm and sense of adventure of these technological pioneers.

-Kirkus Discoveries

Entrepreneurship is not a career. It is a way of life. And what better way to learn about it than to listen to people who have done it, successfully, and to learn about their lives in that fast lane? In a carefully structured set of interviews, Sramana Mitra gives the readers an opportunity to discover their paths, their successes, their setbacks sometimes, and the joys of meeting the immense challenges that have been theirs in a dizzying world where technical competence and management skills have allowed them to leave a deep and lasting mark.

-Professor Elisabeth Paté-Cornell
Chair, Department of Management Science and Engineering, Stanford University

Enjoyed *Entrepreneur Journeys* and found it worthwhile. The stories are inspiring and could have a significant influence on a student of entrepreneurship or an aspiring entrepreneur. To paraphrase a trite phrase; Yes, you can! The stories are more than inspiration though. The insightful questions and the thoughtful answers give much guidance, and general wisdom. The book occupies a nearly empty niche between lightweight collections of anecdotes and ponderous but often irrelevant academic research. A great opportunity to come close to sitting with masters and learning directly.

-Barrett Hazeltine, Professor of Engineering Emeritus, Brown University

Sramana Mitra is herself a symbol of everything that is great about America: a geek, an entrepreneur, an immigrant, a leader. In *Entrepreneur Journeys* she has taken on the task of modeling how entrepreneurs transform economies into resilient, growing systems that provide a future for our children.

-Stewart Alsop, General Partner, Alsop Louie Partners

Sramana Mitra has gifted us with the first hand stories of industry legends who have succeeded with a combination of fierce resolve, self-reliance, and a willingness to buck conventional wisdom. The next generation of entrepreneurs has an invaluable reference guide on how their predecessors have succeeded.

-Rick Rommel, Senior Vice President Emerging Business, Best Buy

Entrepreneur Journeys

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Visit www.amazon.com to order additional copies.

Entrepreneur Journeys

Volume One

Sramana Mitra

To my father,
and his relentless faith in human potential.

Contents

Prologue

Entrepreneurship is not a career. It is a way of life.

For me, this journey began as a graduate student at MIT in 1994. The world watched Netscape go public a year later, and the Internet swept over us like a virus. As I wrote my Masters thesis, I also wrote my first business plan. We were, as a generation, shaping the Internet during those early years, and, my degree in hand, I was ready to jump into the unknown from then on really, I have been jumping into unknowns at every turn.

Fortunately I ve had great mentors people who took an interest in my destiny, stopped along the way, and taught me a thing or two.

In turn, I have tried to stop along the way to pass on certain nuggets of my own learning. In the summer of 2006, as the technology industry resurfaced from the nuclear winter that followed the dotcom meltdown, I was invited to speak at a startup workshop. My session was supposed to focus on *Positioning*. At a Silicon Valley law firm, some sixty entrepreneurs packed a conference room to listen to me. I asked each to pitch his business idea in one minute, following which I gave feedback for another minute or two. My 90-minute rapid-fire session, alas, was not enough to accommodate all the pitches. In the lobby, even as we spilled onto the front steps, I tried to respond to some more, but it was hardly satisfactory. In fact, it has always frustrated me to realize that I did not have enough time in my day to stop for each entrepreneur who asked for guidance. Friends seasoned entrepreneurs have expressed the same frustration.

Entrepreneur Journeys is my attempt to capture that tribalknowledge accumulated in the private lives of great entrepreneurs and give it shape, form, color, and a broad reach.

Imagine.

As you curl up in bed with this book of short stories, you are effectively transported across the table from each of the entrepreneurs, listening to their stories. You ll learn, as I have learned, from their real-time experiences. All those dinners, lunches, coffees, teas, and glasses of wine from which so many stories have flowed I invite you to experience them with me. Seated in the living room with Sridhar Vembu; lounging at Coupa Café in Palo Alto with Philippe Courtot; on the patio of Woodside Bakery, perhaps, your lunch companion is Russ Fradin.

Listen to their stories. Watch how they formulate ideas, navigate turbulent waters, create strategies, change directions, and make choices.

Listen. Learn. Empathize. Agree. Disagree. Develop your own point of view.

Most of all, I hope you find inspiration in these conversations enough to help you become great entrepreneurs yourselves. For in entrepreneurship, I believe, lie solutions to many of the problems facing our modern world.

Bootstrapping

Bootstrapping to Billions

Gone are the effervescent days when Silicon Valley entrepreneurs bragged at cocktail parties about the millions they raised from venture capitalists. Gone are Super bowl ads and glitzy launch parties. That was so 1990s.

Now, entrepreneurs boast of funding their start-ups all by themselves, without help or hassle, from venture capitalists. I encounter more and more entrepreneurs who are perfectly happy bootstrapping their startups. They say it gives them more control over their companies, while cutting the dominant pressure to repay investors.

Gerry Langler, a general partner at OVP Venture Partners, puts it bluntly: Venture capitalists have only one goal: they want to make money for their investors and themselves. But entrepreneurs motivations are more complex.

There s also a lot of proof that bootstrapping works. Just look at Craig Newmark, founder of the famous Craigslist classifieds. Newmark s bootstrapped company has grown like a weed, generating revenues of $55 million in 2007.

Another solid example of the bootstrapping trend is Sridhar Vembu, CEO of Adventnet and proud parent of the Zoho software suite. Vembu self-funded his company, which in 2008 generates $40 million in annual revenues and sends $1 million in profits to the bank each month.

Other entrepreneurs have turned to bootstrapping after getting burned by venture capitalists. The founders of Software-as-a-Service start-up, Apttus, for instance, raised $60 million from VCs for their previous company, Nextance, then watched their shares dilute to less than 1%. This time around, they are trying to steer clear of VC money.

It may be common belief that bootstrapping can work for small businesses, but to build large public companies, you need venture capital, right? Not necessarily.

Twenty years ago, Frank Levinson used his own money to start optical components maker Finisar and he s never regretted his decision. I founded Finisar 20 years ago on February 22, 1988, Levinson recalls. We had revenue of $6,000 in March of that same year and had revenue from that point forward.

Jerry Rawls, who a few months later joined Finisar as CEO, shared Levinson s philosophy of building the company without venture capital. They both say the decision to bootstrap the company allowed them to be market and technology patient .

Finisar went public in 2000, 12 years after it was founded, with $67 million in sales, and almost no outside financing. It was a really successful IPO, Rawls says. We went public at $19. The stock traded as high as $106 on the opening day and closed at $89. We were the seventh-largest increase on the first day of trading in the history of all the US stock exchanges. Our market cap was well over a billion dollars. I think our peak market cap in those days was as much as $5 billion. Today Finisar makes over $400 million in annual revenues.

So you see, dear entrepreneurs, patience pays. And it pays to be patient on your own dime. VCs are not known for such patience. Their fund structures don t allow them to invest with 12- to 15-year horizons in mind. They need to return their funds within 7 to 10 years.

Thus, if you do want VCs on board, try to involve them at later stages. Give them a small percentage of equity while maintaining as much control of your destiny as possible. But if you must take money in the early stages, work with the smart Angel investors who don t hoist a ticking seven-year clock overhead.

This is not to say that bootstrapping is easy   it s not   or that it s the best strategy for all types of ventures. In fact, if an exploding market opportunity is staring you in the face and you want the fastest vehicle to play in that market, venture capital may well be your best path forward.

Good VCs can also be useful mentors if you re an inexperienced entrepreneur looking for guidance. In addition to providing funding, VCs poke holes in strategies and business plans and hold entrepreneurs accountable for their decisions. Today s Valley is chock-full of second-, third- and fourth-generation entrepreneurs who have benefited greatly from wise VCs.

But successful entrepreneurs spend a lot of time experimenting with new technologies, markets and business models to figure out what sticks. Involving VCs in the early phases of building is expensive, demanding, and could prove detrimental to the survival of a fledgling venture.

Jerry Rawls, Finisar

I had the opportunity to talk with Jerry Rawls, the CEO and co-founder of Finisar, about his experiences during the past two decades. While technology companies are accustomed to volatile market places and constant change, Jerry guided Finisar through arguably the most volatile market environment in history.

In this interview he takes us from the overheated days of the late 90 s, through the dotcom bubble burst where companies in the same market segment saw sales plummet by 98% in under a year, to today where Finisar stands as a global leader in optical components.

SM: Where I would like to begin the interview is to ask a bit about your background, before you started Finisar. Take us back to where you come from, where you grew up, your family, did you have entrepreneurial roots? JR: I am a Texan. I was born in Houston and I grew up in Texas. I went to the University of Texas Tech. I can t trace entrepreneurial roots back very far other than that when I was a kid I always had jobs. I had a newspaper route when I was 10 and I always had jobs doing something, but I don t remember starting much of anything.

I was in a junior achievement organization where we actually made soap and sold it to supermarkets and that was fun, we did that for a year. I went to college and studied mechanical engineering. Texas Tech was a great experience for me, the social and educational parts of it, and I also had some great summer jobs. I worked for IBM, Shell Oil, and US Steel during the summers.

I learned in that process that I did not want to be a design engineer, and though I was majoring in mechanical engineering it seemed the kinds of activities I would enjoy were more involved with people. I had been a bit of a student politician, a student body officer and a member of the student senate. I was a fraternity officer. I was a member of a lot of organizations, and, I don t know, somehow maybe that steered me along that way.

At the time the Vietnam War was running hot and heavy, and Linden Johnson had just abolished what used to be known as the II-S (two S) scholastic deferment for education from the draft, but he had grandfathered everybody that was in school, and essentially what it said was you have four years to complete your degree, and after that you are subject to the draft, which at the end meant you were subject to going to Vietnam.

I did not want to go to war. And I decided that what I wanted to do was go to business school as opposed to more education in engineering, or moving into a job as a mechanical engineer somewhere. I went to business school at Purdue.

Anyway, it was a very quantitative MBA; everybody in the program was either an engineer or a scientist.

One of the companies that had interviewed at the school the year I finished was Raychem. I ended up joining Raychem and I actually moved to Menlo Park, California for a few months as part of a technical training program before my first job as a sales engineer in Chicago.

So, I went off to Chicago to be a sales engineer, and I did well at it and my customers grew and I sold a lot of Raychem materials. Then I moved to Dallas and became a Sales Manager, and then I moved to California and became a Marketing Manager. I progressed through the marketing management roles and became national sales manager and head of product marketing for our division, and eventually the division manager of a couple divisions of the company.

SM: What year does that bring us to, when you left Raychem? JR: About 1986 I would guess. In 1986 I was the general manager of a division called Interconnections System Division, in California, and in our division I started a fiber optics product development group because most of our customers were either computer companies or defense companies. Most of the wiring in their systems was electrical, it was copper wire, and they were expressing preferences to change some of their high speed signal connections to fiber and fiber optics, and at Raychem we had no fiber optics products.

So, we started a product development effort trying to understand how to serve our customers in the area of Fiber Optic transmissions, and as part of that I hired a young scientist from Bell Labs on the east coast and his name was Frank Levinson. Frank was a bright young PhD and he had a lot of patents at Bell Labs, so we moved him to California to be a principle technologist in this area, and he worked in that area for only a few months and then was transferred. Literally the Chairman and CEO of the company came in and said we are going to move this guy to a subsidiary they had just created called Raynet.

The Famous Raynet, and it is famous because it lost more cash than any other startup, I think, in the history of the Bay Area.

SM: The famous Raynet! JR: The Famous Raynet, and it is famous because it lost more cash than any other startup, I think, in the history of the Bay Area. They burned, I don t know, $200 million in not too many years. It was a drain on the whole company, but Frank went over there.

Raynet was having trouble gaining success, and there were some of us around who were skeptical that it could ever be successful. Not only was the technical basis flawed but the whole notion of a company outside of the telephone industry being able to walk in and compete with AT&T was a little& well, ambitious, I might say.

So, anyway, the drain of Raynet on the company and just Frank s experience with Raynet and my experience with Raychem were such that we met one day and talked. Well, Frank wanted to go off and start a company. Actually he and I had talked about starting a company previously in a different area. So, he came back again and said, Hey, I would like to start a company in fiber optics.

So, we talked about it, and he said, I am committed - this environment at Raynet is not positive, they are not going in the right direction. He had become disenchanted with the progress Raynet was making, and thought life would be more fun trying to build our own company.

Well, let s talk about this. There is no business plan. There is no particular product focus, and there are no customers. The only customers who were possible at the time were consulting customers, consulting in fiber optics.

SM: So to support the company initially, Finisar relied on providing consulting services. It s a very common way that companies bootstrap themselves. I have done it myself. What kind of consulting did you provide? Like System Integrators? JR: Well, actually, the first customer would be Raynet themselves, but we would have to get others soon enough. We did not have any outside investors, so it was clear that we did not have enough money to support both of us. So, I stayed at Raychem and he went off and got started. At the end of the year I left Raychem and joined him fulltime.

Now, in the meantime I had worked nights, weekends, vacations. I made calls on customers, I visited several places to try to generate business, and I thought we had some opportunities for success. Anyway, this is getting to be a long story, but off we went, and we had a company and it was two guys, then it was three, and four and five and that was about it for a while. We did a lot of contract design services in those days to keep ourselves afloat. It was our money, we had bootstrapped the company, we had to be profitable, so we had to be able to cover our costs and that meant we could not expand much.

SM: So you were bootstrapping the company by doing consulting for a while how long was that? JR: While we were doing product development we supported ourselves, probably, for four years doing mostly consulting work.

SM: Four years, that s a long time.JR: We were doing product development in high speed fiber optics. Our product goal had become trying to develop high speed fiber optical links for computer networks, not telecommunications networks. At the time Alcatel, Nortel and Lucent in collaboration with Bell Corp, pretty well controlled the Telecom market for optical components and we did not think we could really compete with those guys given the limited investment that we had in this company.

So, we had to find a place where there was a need that was not filled, or need that we could see coming that wasn t filled, and some innovation that we could bring to the opportunity. We targeted high speed networks that is gigabit links for computer networks as opposed to telephony. We spent a fair amount of time with the workstation manufacturers at the time. Daisy, Apollo, IBM, Sun, and they all had very similar outlook, We re going to need more bandwidth for these workstations than we have today.

The fastest connection they had at the time was fast Ethernet. So, we could see that Gigabit per second for connecting networks was a big deal, and our dream at the time was to be able to put an optical device on every PC and we still haven t gotten there.

Along the way, in the early 90 s, IBM was defining a Fiber Optic link for computer networks they called Fiber Channel. These were the days when Akers was the CEO of IBM, and Fiber Channel, their vision, was going to replace Ethernet, Token Ring, SCSI. They would have one protocol and that would be Fiber Channel. Well, Akers got fired, Gerstner came in, and they decided this project wasn t as strategic as they previously thought and they disbanded the project. Fiber Channel persevered, and it evolved into a storage networking standard, and it was the basis of the SAN market.

SM: Were you still working with IBM? Was IBM pushing the SAN market, or did you have to find other customers to do SAN with? JR: IBM was still participating, and they had a midrange computer group in Austin, but actually the company that saved Fiber Channel was Seagate. Seagate invested in the Barracuda Fiber Channel disk drive. It was a serial IO for a disk drive as opposed to wide bus SCSI disk drives that were previously available in the industry, so I would give Seagate the credit.

Our contribution was that we, in the early 90 s, had developed what we called a low cost gigabit optical link. We had introduced it. Actually we got a fair amount of press coverage over this gigabit optical link that was probably one tenth of the cost of a gigabit telephony link. And using that as the basis we drafted and revised the Fiber Channel standard so that a physical pair was defined as optical over multimode fiber, not optical over single mode fiber, and a wavelength was defined as a short wavelength that is typically 780 to 850 nanometers as opposed to 1310.

Now what that meant was that it enabled us to lower the cost of the link literally by a factor of 10. We had a lot of difficulty convincing the standards body to change the standard. I can remember a meeting in Austin that Frank and I went to, where we made a presentation about the work we had done and these high speed links we had built, and we showed slide after slide, and in those days there was no PowerPoint, it was all overheads (this was 92), and we showed the reliability of these links, the data transmission and the fidelity and all these characteristics.

At the time, in the audience, there were 225, maybe 250 people, most of them from Hewlett Packard, IBM, Sun, AT&T, Seagate, wherever, but there were guys in the audience that were knowledgeable in optics, and there were companies there who had presented papers saying what we were trying to do was impossible. I can remember in the meeting, a PhD from one of these big companies stood up and pointed to these slides and said, You may have found one laser in the world that can do that, but you can never do it in production, and we had to explain that we thought we were doing something important for their standard. The physical layer they had defined was so expensive that their standard would never be implemented; nobody could afford to implement it, while what we were proposing was a standard that could be one tenth of the cost and could be affordable.

SM: Did you think the objection he raised about the laser not being production possible was a defensive objection, or was it a real objection? JR: It was an ego objection. There were a number of people in the audience who had presented papers or had made presentations to their management saying that what we were trying to do was impossible. That gigabit data transmission over multimode optical fiber had an inherent bit error rate that was too high for reliable data networks, and therefore what we were doing was folly, it was cold fusion. Our explanation to them was that we thought we had done good technical work, had understood how to make these transmissions, understood where the limits were and how to modulate these lasers, but please buy our products, do your testing, and if we made a mistake tell us because we are not here to deliver cold fusion, we are here to help the standard become economical. We wanted it to be successful for our business and we wanted it to become successful for all of your businesses as well.

So, with that we went home and over the next three months we were visited by almost every major systems company in the world. Guys came from Europe, they came from Japan, all over the US, from every major computer company, and they all came to our little lab in Menlo Park, and they bought products from us and tested them.

The happy ending to the story was exactly nine months later and it is ironic that it was nine months it took to deliver this baby that the Fiber Channel standards group met in Minneapolis and they voted unanimously to change their physical layer standard to adopt our multimode transmission at short wavelengths as the basis of the fiber channel network. From there we took off, and the fiber channel standard was ratified in 1994 as a total standard. Starting in 1994, our sales doubled every year for seven years in a row.

SM: All of this you were still doing without outside money; it was still a bootstrapped company? JR: Still a bootstrapped company.

SM: Wow, that is incredible. JR: We went public in 1999.

SM: With no outside money? JR: Well, not exactly. In the summer of 1998 we actually sold 20% of the company to TA Associates and Summit Partners, Private Equity firms. We sold it because we were doing really well; we had been profitable every year since we were in business, and that was because we had to be profitable. In the summer of 1998 the IPO market shut down, and there were no more IPO s. It wasn t clear when it was going to open up again. The Private Equity guys came to us and worked a deal, said they were willing to buy a piece of the company at a relatively high evaluation.

This would put some money in our bank accounts because we had been in a mode of personal sacrifice now since 1988 trying to run this company. There were long periods of time when Frank and I did not pay ourselves any salary because we had to pay our employees.

I can remember only a few years ago somebody said, Wow, you must be very proud that you built this company that has hundreds of millions of dollars of sales and thousands of employees around the world! I said, You know, the point I am most proud of is that we never missed a payroll.

SM: What was the valuation that TA and Summit gave you at the time? This is the height of the bubble, right? JR: The bubble was still rising.

SM: Yes, 1999 was the height of the bubble. JR: So that was a pretty neat deal, we took money from them and we kept going. A guy from TA, Mike Child, joined our board of directors, and we worked toward an IPO. Our sales were still growing.

SM: What were your sales pre-IPO? JR: I think in the 98 period they were probably $30 million. Our fiscal year 2000, which is when we went public, was $67 million.

It was a really successful IPO: we went public at $19, the stock traded as high as $106 on the opening day and closed at $89.

In January of 1999 the IPO market came back. We did a bake-off with all of the bankers and selected Merrill Lynch to be our lead, and we scheduled and started working toward an IPO in October. It was a really successful IPO: we went public at $19, the stock traded as high as $106 on the opening day and closed at $89. We were the seventh largest increase on the first day of trading in the history of the US stock exchange. Our market cap was well over a billion dollars. I think our peak market cap in those days was as much as $5 billion.

SM: $67 million revenue with a $5 billion market cap? JR: Yeah, it was pretty unbelievable. Our sales in that fiscal year were $67 million, and then our sales in the next fiscal year were $188 million. So, we grew a lot in that year, but the world was booming still.

SM: And then it collapsed. JR: The whole market collapsed in 2000, 2001, and all of a sudden it was a whole new brand of reality. In early 2001, it was an unbelievable time: our sales were growing 30% a quarter; we could not find buildings to rent in Sunnyvale; we could not hire engineers fast enough; and our suppliers could not keep up with us.

Then the collapse happened, our peak quarter was $65 million in sales, that was the third quarter of 2001, which ended in January 2001 for us. In two quarters our sales dropped 47%, and that sounds horrible, but in the same period Nortel s Optic division salesdropped 98%, and Lucent s Optic division dropped more than 98%, and in the end Nortel literally gave their Optical division away.

SM: Did you have an option to buy that? JR: We did, but we decided that the amount of money it would take remember this is an organization that had 1400 people, and it had $1.4 billion in sales in its peak quarter.

Remember the crazy thing is Corning, in 99, had offered Nortel $100 billion in cash to buy this division. They turned it down because they thought it was not enough money. Now, in two quarters, their sales dropped from $1.4 billion to $23 million. It was a crash that nobody could manage their way out of, all you could do was try to unload it, get rid of the division and make somebody else deal with it. Nortel came to us and had chosen Finisar as being in a complementary industry. They said they would like to have us manage this division and have us be a supplier to them, because they knew they had all these sole source products designed into Nortel systems which were built in this division.

SM: Nortel had interest in survival. JR: Yes. We spent two weeks in Ottawa trying to figure out how we could assume this division, and could we operate it and turn it around and make it profitable when it was only going to start with $23 million in sales. We concluded the risk was too high for a little company like us and our shareholders.

There was going to be so much cash required because the business had big fabs in Ottawa, huge manufacturing facilities in the UK, and a cost structure that was so bloated that we did not think there was any chance we could have enough cash or raise enough cash to support it. We could not get Nortel interested in putting enough cash into the deal that we could see with certainty, the other end. They decided to shop it around, and they got Bookham to take it from them.

SM: In hindsight was that the right decision? JR: Absolutely. Bookham is still suffering negative cash flow trying to operate this business and trying to get it to recover. It has been a long, difficult time for them. I think we did exactly the right thing. We knew at the time that as this market had collapsed and revenues had come down, there was enormous capacity in the industry for optics, and I don t know what the typical investment in optics in the 90 s was from venture capitalist, big corporations and from the public markets, but it had to be in the trillions.

SM: It was enormous. JR: It was an unbelievable time, and the Chinese had pushed hundreds and hundreds of bright young men into the optics PhD programs in their universities because the country viewed optics as a strategic technology. So there was a flood of Chinese guys with PhD s in optics now in the world, and it was, I don t know, a joke at that time when I heard that a PhD in optics was a cottage industry. Almost any venture capitalist would invest in optics and the idea that we could do anything.

But it changed overnight; it was the most dramatic collapse I have ever seen in anything. I wasn t there in 1929 during the crash of the market, but even then there were very few companies that lost 98% of their revenue in 6 months.

The first thing we had to decide was if it was a business we were going to stick with long term, not only with our money but our lives.

SM: So what did you do? How did you cope with the situation? JR: It was very sobering. The first thing we had to decide was if it was a business we were going to stick with long term, not only with our money but our lives.

We concluded that in the long term we think optical communications is a growth market. The physics are such that there is really no way to move data any distance at high speeds other than over optical fiber. Our view was that optics is part of the infrastructure of the Western world, or the industrialized world and long term it is going to be a growth market.

There is a correction and there is an overcapacity, and the issue is how do we survive? How do we come out of this?

The answer for us, and maybe it was simple but it did not seem very simple at the time, was we really have to change the way we do business. We have to change our cost structure, we have to change our expense structure, and we have to be a much more cost competitive company, in this era of overcapacity.

Everybody else in the industry was moving as fast as they could to outsource their manufacturing, get rid of their factories, get rid of their fixed costs, and here we were buying a factory.

In 2001 we bought a factory in Malaysia. Everybody else in the industry was moving as fast as they could to outsource their manufacturing, get rid of their factories, get rid of their fixed costs, and here we were buying a factory. Our rationale was that we had outsourced our manufacturing, we were the first optics company to outsource manufacturing in South East Asia, we understood the positives and the negatives, but we believed we could control our costs better if we ran our own factory.

We were sure we could produce better quality, because we had our names on the product and we would be committed to quality. We also knew we could protect our intellectual property. In optics a lot of the intellectual property has to do with the manufacturing process. Not only, how do you take a die, a semiconductor device, and get light out of it, but now how do you steer that light through an optical fiber that is smaller than a human hair? That is part of the trick, being able to do that rapidly and automatically, to run the measurements and the tests and get the confirmation that you had done well. This was all about the things we had to develop proprietary techniques for, and there was no point exposing that IP to competition.

SM: And there were lots of process innovations along the way? JR: Exactly. So sharing all of that with a contract manufacturer meant that you were giving away your intellectual property. We bought a beautiful factory from Seagate. It was a head assembly factory in Malaysia, and Ipoh was the town half way between Penang and Kuala Lumpur.

We got a 640,000 sq ft plant that was less than five years old. We got a 200,000 sq ft clean room, $25 million of scientific equipment, scanning, electron microscopes, optical microscopes, chemical analysis equipment, x-ray, you name it fabulous laboratories and 20 acres of land, and we got it for $10 million. In California it would have cost us $400 million.

So, we bought a factory but we had no people. So, we started hiring people and moving operations. The next thing we did was look at our cost structure, and our variable costs of manufacturing. About 85% of our costs is in materials: lasers, IC s, etc. We started an IC Design

Group in 2001, so instead of buying IC s from the merchant semiconductor companies and paying them 70% gross margin to sell us devices, we could go to foundries, and buy them for a lot less money and we could improve the performance because we knew more about optics than the semiconductor companies did.

SM: You could optimize chips for your products. JR: Exactly, we could optimize the performance.

SM: How much optimization in your cost structure did you get out of the Ipoh factory, and vertically integrating the chip manufacturing, and how much more cost shaving did you still need to do? JR: We focused on the Malaysian assembly operation it was all about assembly and labor and being efficient there. We ve cut our costs of manufacturing, of producing an individual unit, by almost two thirds since that time. We have probably taken 70% of the material cost out of our product since then as well.

SM: How did you do that? Did you change materials? Did you renegotiate your supply contracts? I mean 70% of material costs is a lot of material costs to shave. JR: The way we did it was we bought a laser fab in Fremont to make lasers. And remember, we had started our IC design group, and we are making IC s instead of buying them from semiconductor companies. We went directly to foundries to produce our own ICs. That dramatically reduced the costs of our own ICs.

We were able to integrate multiple IC functions into a single IC, reducing the number of ICs on a board. We bought an edge emitting laser company, and a vertical cavity laser division from Honeywell, so we were able to produce the highest cost elements in our product, which were the lasers, and the photo detectors which were probably second or third in costs.

Then, in 2005, we bought Infineon s Fiber Optic division and we shut it down in Europe in the Czech Republic and Berlin and we moved it to Malaysia, and that gave us no technology, but access to a few European customers.

Even two and a half years ago our gross margins were still in the low 20 s 21%, 22%. The last two and a half years we have taken our margins from that level to our last quarter, when they were 38.8%.

So, the net result of it is when the crash occurred our gross margins went from 50 something percent to less than 20%. Even two and a half years ago our gross margins were still in the low 20 s 21%, 22%. The last two and a half years we have taken our margins from that level to our last quarter, when they were 38.8%. We have virtually doubled our gross margins.

We have, over that time, reduced our operating expenses also. Because we moved a lot of functions to Malaysia - jobs that used to be here in Sunnyvale which was a very painful thing for us to do, but it was part of if you re going to succeed, if you are going to survive, you have to change not only your cost structure but your expense structure.

SM: Were these people you moved fromSilicon Valley, or did you hire in Malaysia? JR: We hired in Malaysia and had major layoffs in the US. We reduced US employment by a third.

SM: That must have been very painful. JR: It was unpleasant, it was painful. There is nothing I can say about it that was positive other than the net result was positive. It was what we had to do to transform the company, but as a result of all of that we have had six profitable quarters in a row. We are on a track of growth and profitability. In our industry, we were the first company to become profitable again and I think we have an enviable track record as a company at this point.

SM: And your stock went from under a dollar to quite a bit higher now? JR: Our stock is quite volatile, and always has been. It went from less than a dollar to, I think the low was .40, .46 maybe, and then it went up to $4 or $5, and it s dropped down and then gone back up and now is in the range of $3. So we have a market cap today of about a billion dollars.

SM: How do you go from where you are today to the next level of growth, shareholder value creation, and all those other achievements you experienced once in your previous incarnation? How do you reinvent that history? JR: Well, it is a little different now, as you can tell from the story I told. In the early days of Finisar we were building a company, and then we were growing at this explosive rate. It was an amazing thing trying to pedal as fast as you could and hire people as fast as you could and maintain your culture and get new suppliers; just trying to grow that fast without exploding.

Then with the downturn it was a totally different job of rebuilding the company. Just changing everything, challenging everything we had done before. Was it optimal? Could we optimize? Now, we have made a lot of changes, and now yes we will continue to challenge every decision we have made and we will try to continue to improve, but we are on a track now where we are growing, increasing our level of profitability, and now it is a matter of trying to do some expansion in terms of the markets and products that we serve. Trying to do R&D in an intelligent and effective way. We are back in a growth mode.

SM: It seems the optics market is coming alive again the acquisitions, IPOs are all returning. Online Video is putting some juice back into the bandwidth demands. JR: Absolutely.

SM: What markets are you entering next? JR: The biggest new thing for us is our exposure in the Telecommunications market. I explained in the early days we did not want to enter that market because it was dominated by AT&T, Lucent, Nortel, but none of those companies make Optical Components anymore. They all went out of business. Some of their facilities are now operated by smaller companies.

Nevertheless, one of the things we have done, is we ve taken the successes we had where we built a business as the number one supplier of optics in computer networking, and are starting to go elsewhere with it. Those networks we powered began to expand across the campus and the city and we started making longer distance Optical Devices to support that. It turns out that we quickly ran into a central office in the phone company, and the next thing you know, we re making devices we can sell to Telecom Equipment companies.

Whereas right after the bubble, maybe 2002, we might have had two Telecom Equipment companies as customers, in our last quarter we had 28 telecommunications companies to whom we shipped more than $100K of product in the quarter, each. The telecommunication equipment area is one in which we now have our nose under the tent. We are supplying products, our business is growing faster than our overall industry, developing new products and new relationships, and we have really high hopes that Telecom is sort of the next market for us.

SM: And the Telecom infrastructure buildup has also resumed. JR: Yes it has. You know internet traffic has started to grow, and grow rapidly the contribution of YouTube and Google that means that the investment in optical infrastructure is now absolutely resumed.

SM: This is a great, great story. Personally, what is your philosophical analysis of this experience? You have gone up and down, hit highs and lows, what is your take away? JR: I think there are a few principles that serve you well as a company. I think, for us it has been sort of the foundation, and it is all about culture.

culture eats strategy for breakfast .

I heard a guy a few years ago give a talk and somewhere in his talk he threw out a line that said, culture eats strategy for breakfast . I thought about that for a little while, and kicked it around in my head over time, and I absolutely agree with that. The answer is we have a culture that we are focused on the customer first. We are focused on delivering value to customers.

We have a culture where we accept nothing, there are no sacred cows. We want to continually improve every part of our operation. We have a culture that says we are going to hire bright people, and we are going to hire bright people who have good interpersonal skills and can work well in small groups. We are going to treat each other really well and we are going to preserve each other s self-esteem and we are going to have a fun and a pleasant experience working together.

I read an article last year, that AT&T had once spent several hundred million dollars in one year on consultants. They were the largest consulting firms, and it was unbelievable, all those guys and their strategies. And what happened to AT&T? They are out of business. They are actually Southwestern Bell Telephone Company in San Antonio, Texas now, and they sold Bell Labs, and they sold Lucent and their manufacturing. Lucent is still there, but it is owned by Alcatel now. There is nothing left of the original AT&T which was such a glorious institution.

SM: Yes, it became a shadow of its previous glory. JR: One of the things is we didn t spend money on consultants, but we had developed a company with culture that I think could see us through difficult times, and our focus on customers led to all the successes that we have had.

SM: Yes, part of the problem with the consulting business model, especially the way Bain, BCG, McKinsey are set up, is that they are incentivized to stay on, rather than solve the problem and get out. Personally, I prefer charging a lot for solving a problem, and then getting out, rather than staying on as a permanent fixture in the office. JR: Somehow if you go through all of what we have gone through, a lot of the focus on customers and our willingness to continually challenge, change and improve everything we do, that is fundamentally what we have done. You can argue that that is strategy, but I think it is our DNA.

SM: Great story congratulations for being able to navigate your ship through all of these storms. I am sure you are tired! JR: Actually, I appreciate your kind words, but it has been interesting and there were parts of it that were very unpleasant. But overall it was a difficult problem and I am an engineer by training, so solving hard problems is fun for engineers.

I didn t get tired during the period, I was invigorated by it. Sure I had some frustrations along the way, but this was all about making long term changes. One of the challenges for me, frankly, was to make sure everyone understood that this is a very long term process.

It took five years to get all this put together. There were clearly demands from a lot of people who said, Tomorrow you have to lay off a lot of people. You have to lay off your engineering department, you have to quit spending operating expenses, and you have to get profitable next quarter.

> ***& this company would not be worth having, this is not a place anybody would want to work, and nobody would want to own our shares if we achieved profitability next quarter because we would have no company in three years.***

My reply was that this company would not be worth having, this is not a place anybody would want to work, and nobody would want to own our shares if we achieved profitability next quarter because we would have no company in three years. So, being able to convince people to stay the course, to convince our board of directors it was a challenge. In the end I was able to drag them along and convince them that yes, we are able to raise enough cash through convertible bond issues, and that we could support ourselves through the period. And we have now been generating cash for several quarters, with profitable operations, and we have $130 million cash in the bank. That part has worked out.

In terms of whether I am tired? No, I don t feel tired at all; I am on to the next front which is, you know, we now have a goal to improve our operating costs and our level of profitability and I think we can do that over the next year.

SM: Congratulations and best wishes for your next level of growth. Thank you for taking the time. JR: I have enjoyed it.

SM: And to conclude, a little story. Jerry Rawls is 6ft 4in tall. Stoops going through some doorways. And, he is worth several hundred million dollars. But because he has made it a company policy that everybody travels Economy, Jerry himself also travels Economy. This may not be something you appreciate the significance of, but if you are a very tall man, and you have to sit through a 14-16 hour flight to Malaysia, Singapore or Shanghai, it is quite unpleasant. But Jerry walks the talk.

Happily Bootstrapping

Entrepreneur Marc Benioff is afraid of him; venture king Mike Moritz wants to invest in him; and you have surely never heard of Sridhar Vembu, founder and CEO of AdventNet, the company behind productivity suite Zoho.

Vembu is a low-profile guy if there ever was one. Dressed simply, and soft-spoken, during my first meeting with him he struck me with both his humility and determination. He is also cheap as hell. Yet among entrepreneurs, such frugality is a virtue. A tremendous virtue.

Vembu has stretched this virtue to extreme limits, adding layer upon layer of creativity. The result? A 100% bootstrapped, $40-million-a-year revenue business that sends $1 million in profits to the bank every month.

Doing what? you might wonder.

Selling network management tools - with a unique twist. Vembu employs some 600 people in Chennai, India, and a mere eight in Silicon Valley. Imagine what that does to his cost structure!

Not only that, in India Vembu s operation steers away from engineers with highflying degrees from the prestigious Indian Institutes of Technology (IIT) campuses. We hire young professionals whom others disregard, Vembu says. We don t look at colleges, degrees or grades. Not everyone in India comes from a socio-economic background to get the opportunity to go to a top-ranking engineering school, but many are really smart regardless.

We even go to poor high schools, and hire those kids who are bright but not going to college due to pressure to start making money right away, Vembu continues. They need to support their families. We train them, and in nine months, they produce at the level of college grads. Their resumes are not as marketable, but I tell you, these kids can code just as well as the rest. Often better.

With that rather unique workforce of 600 engineers, Vembu has not only built an excellent network tools cash-cow, but he recently launched Zoho, which is getting a lot of buzz in the Web 2.0 community.

Why?

Well, Zoho offers everything Microsoft Office does, then goes a step further: a hosted customer relationship management service that remains free for small companies and only costs $10 per user per month for larger ones. A remarkable price point when competing with Salesforce.com s $65 per user per month.

Marc Benioff, chief executive of Salesforce.com, recently offered to buy Zoho for an undisclosed amount. Benioff seems appropriately nervous, since Salesforce.com s sales and administration costs continue to soar, eating up most of his earnings. Can he afford to compete if Zoho undercuts him at such a dramatic scale?

Vembu turned Benioff down.

With venture capitalists lining up to invest, Vembu s situation is one every entrepreneur dreams of: you don t need money; VCs are chasing you; and you are building value by developing a unique talent base in India. Freedom is delicious, and Vembu knows it.

A very exciting opportunity lies ahead. What the Chinese have done in manufacturing, the Indians can now do in software: dramatically undercut US and European software makers. Not in information technology services. Not by body shopping. Instead, Vembu has built something few Indian entrepreneurs have been able to a true product company out of India.

Perhaps a brief primer would help put things in perspective. Product companies market and sell the same thing multiple times to multiple customers. Services companies that do custom software development have to use bodies to repeatedly do customer-specific development, all with limited leverage. Theirs is a headcount-based business model. Recently, popular Software-as-a-Service companies have come up with the model of renting software over the Web, thereby offering products as services while maintaining the scalability advantage of products.

Vembu first established a network management product, then productivity suite Zoho as a Software-as-a-Service. As far as I know, he s one of the very few entrepreneurs who has been able to execute on the premise of building software products and/or Software-as-a-Service out of India. A big vision no doubt, and so far, one he has executed flawlessly.

Sridhar Vembu, AdventNet

I spoke with Sridhar about his rather unorthodox but quite successful entrepreneurial journey. I have always admired fiscal discipline in entrepreneurs. Sridhar exemplifies this quality, which has allowed him to attain a position of tremendous negotiating power at the highest rungs of the venture capital industry.

In one of our conversations, Sridhar posed the question, How much money does one need?

The question itself gives you an idea about this entrepreneur s value system.

SM: I would like to start by tracing your background. SV: I was born in India, went to Madras IIT for my undergraduate and came to Princeton to do my PhD in 1989. In 1994, I joined Qualcomm in San Diego. My PhD is in electrical engineering, so I really do not have a software background. I worked on wireless communication with Qualcomm for two years. On CDMA, power control and some very detailed issues on wireless communications. That is how I got started in the tech industry.

My brother, who was also at Qualcomm as a software engineer, wanted to return home to India. Software is a great business to start in India, so he moved back and I moved to Silicon Valley to drum up interest in our fledgling venture, which later became AdventNet.

We ended up partnering with Tony Thomas, who had some network management software and was experienced in the area. We created a development center in India and started selling our software to customers in the Bay Area. To Cisco and folks like that. It was a great time to be selling that piece of software because there were a lot of networking companies getting started in the Bay Area in the late 90 s.

SM: Tony had written this software already and you got yourself the distribution rights? SV: He had written a very early piece. We set up a development center in India and we started adding more to that core. He had developed some software by himself, but we came together and developed it further.

SM: How did you fund your early initiative? SV: It was all bootstrapped. My wife worked, she is also an engineer, so I was able to stay home and work on the venture. Tony had taken a buyout from his job. At the time Lucent bought out a lot of smart people, meaning they gave them money to leave. That is how it all started.

There was no investment money of any kind, only some family and friends. The software started selling well, we stumbled upon an opportunity and sold a lot to companies here in Silicon Valley. We also had a good market in Japan. Japanese companies would buy the software, customize it, and ship it with their equipment. That was our early phase of growth through 2000. We had grown to 115 engineers in India and we were 7 people here.

SM: What kind of revenue were you doing in 2000? SV: We were doing about $10 million by 2000. Then in 2001 and 2002, the networking business had a huge meltdown. By then, however, we had a huge exposure to the optical communications business. A lot of the networking equipment was moving to optical. We had something like 100 optical startups, and you can imagine what happened to us when the whole optical sector collapsed in the 2001 2002 timeframe.

We had a lot of engineers and now they were idle because the software was not selling anymore, so there was no need to keep investing in what we were doing. We had all of these resources, so we just had to figure out what we were going to start doing next. We looked around and decided to go in two directions. With the first, we took the same network management software and converted it to a more enterprise model, as opposed to the OEM model we originally sold in. We also had an on-demand effort, so we put some engineers on that path. That is how Zoho got started.

The network management engine that we call Manage Engine is now doing well again. Both of these paths were born around the same time, 2003 2004, because the seeds were planted in the downturn. Throughout all of this we had abundant resources which we had built up during the previous bubble. We had a very engineering focused company, and we did not want to let anybody go it was just better to re-focus and re-design ourselves.

SM: Did you have to take a revenue hit between 2000 2003? SV: In 2001 we still experienced growth. In 2002 we took a hit. By 2003, although a lot of the startups were gone, we had successfully transitioned the core of our business to well established companies. By 2004 and 2005 this network management software had really taken off. Of course, we had a head start we already had the technology.

SM: What is Manage Engine? SV: It competes with the likes of HP OpenView and Computer Associates and does network monitoring. The main difference is that it is geared toward the mid-level markets, not the high-end enterprise segment.

SM: How were you selling into the mid-market? SV: This is a very interesting story. By 2004, the Google advertising model had taken off. We found we could reach customers directly. Today we have thousands of new customers per month, most of them through the Internet. Resellers also maybe 50% of our sales are from resellers. That market has also changed. It has become much easier to supply companies directly. The Internet is allowing us to reach all of these customers.

SM: You have Manage Engine on one side and Zoho on the other what is the revenue split? SV: Zoho is new, so it has not yet contributed any revenue. Our OEM model is reviving as well. Interestingly enough, optical networking products, which really struggled in 2002, revived in the 2004 timeframe. Things like wireless, WiMax, have taken over from optical as well to a certain extent.

Plus, our business is built on a stronger foundation because there are not so many shaky startup companies on our customer roster. The players now are business-model focused companies. The market has stronger companies, it has recovered and we are doing good business. Not a hot business, but a good business. Manage Engine is doing really well in its market environment. Zoho is invested in the on-demand future model.

SM: Before we go into the details on the Zoho story, let me make sure we get on the same page. What is the revenue level from the OEM business and what is the revenue level from Manage Engine? SV: I would say OEM accounts for 30% of our revenue, while Manage

Engine, which we started in 2003, is now accounting for 70% of our revenue. Zoho is really small right now, and there are only two products which are even priced.

SM: Can you position Zoho for me? SV: Zoho is an on-demand application offering. We are offering a competitor to Microsoft Office on demand, meaning online. We also have a CRM and an application creator online. We just call it the ability to work online. That is our vision - to provide a comprehensive suite for a mid-sized customer. We want mid-sized customers to be able to have their IT needs met online.

SM: This is a crowded field. On one hand, you have Microsoft Office and on the other you have Google coming out with their competing suite. With CRM you have Salesforce.com and Rightnow. With Project Management you have eProject. With Web Meetings, you have Webex and Citrix all going after the same space. SV: There are obviously going to be a lot of players, and it is obviously going to be a huge market. There are going to be tens of billions of dollars available in the market.

SM: What is your strategy different offerings, different pricing? SV: There are two things we are playing on. The first is to have the most comprehensive offering. If you look at our suite, we have a full comparison to Microsoft Office. All of these differentiate us from each of the other players. SalesForce only offers CRM, which they are trying to combine with an application creation functionality. We already have it. That is one differentiation. Our main strength is that we have an incredible engineering team. SalesForce has maybe a 100-strong engineering team, we have 600 engineers in our office in India.

SM: How can you say SalesForce does not have enough engineers? SV: You can check their R&D and their spending reports. They have 2000 employees, but only 100 are engineers. That in itself is an interesting phenomena. It tells you a lot about their business model. All of these guys have become too marketing-oriented, and not enough engineering-focused.

SM: So, Zoho has more engineers than any other type of employee, while SalesForce has more...well, sales force? SV: Exactly.

SM: I will push back on that and say that the mid-market is a place where the channel is the big differentiator rather than engineering. That has historically been a market which is very difficult to reach, though as you ve pointed out it is becoming easier. SV: With Manage Engine we have already seen some of this we faced companies 10 or 50 times our size, but we built our profitability around capability. An online oriented strategy lets us compete.

SM: Yes, but Manage Engine is an IT product. You are now moving to an Office suite that is hard-core consumer capability. It is a prosumer product. This is not the same game. SV: There are different sides to this. The prosumer side is that people are savvy and are spending their money and time online. The second is that we are already reaching the IT departments of the mid-sized marketplace through Manage Engine. We know we are reaching IT directors in those mid-market companies. On the consumer front, we will reach the ones who are savvy. Zoho CRM is a good example. We have signed up 50,000 subscribers with no advertising at all.

SM: What do you price that at? SV: It is $12 per month per user. SalesForce s is $65 per month per user. We get most of our customers because the first users are free, so most of our 50,000 are free users, but it is gaining momentum at an extremely rapid pace. We have a lot of SalesForce conversions as well. People are converting because of the price. They sign up for the free account, try it for 6 months, and feel confident migrating over.

SM: How many customers does 50,000 users translate into? SV: About 3,000 businesses.

SM: In terms of selling into these accounts, is it the IT personnel making the decisions? SV: It is mainly the sales management who are really coming in now. Initially they come over for price reasons.

I am really not ashamed to compete on price, that is our main strategy.

SM: They are already sold into the on-demand concept? SV: Exactly. I am really not ashamed to compete on price, that is our main strategy. We are going to compete on price.

SM: On the CRM side that will work. I think the office suite is a lot more difficult. SV: Yes, I would agree. We have about 300,000 users signed up already. But you are right that today I cannot persuade a large customer to adopt the suite. A lot of their employees are doing it one at a time, and there are a lot of university students and professors coming on board, and those types of adoptions spread widely.

We can also break up the portfolio. It may not be the office software you want, but you would like a really good meeting software. We provide an online meeting capability which is affordable. We are never going to charge for the personal edition of our software.

SM: The meeting software, which will compete with WebEx and Citrix what are you charging for that? SV: It is free right now.

SM: The only product you are pulling in revenues on right now is the CRM suite? SV: Correct.

SM: What type of numbers do you have on the whole project? SV: The free is huge. I am completely comfortable with the open source model for 90% of the users. Keep marketing costs low. That is really the strategy. If you do the SalesForce economics, 75% of their revenue is spent on acquiring customers. There should be a better way of doing business than charging the customer for acquiring him. Why not give it away for free, if all the money will be spent on acquiring the customer elsewhere?

SM: I like your model. I think many Indian companies could replicate this model in other domains or on other applications. It s the low-cost manufacturing model that China has perfected. Once upon a time, flat panel monitors were expensive. But today, we buy purely on price. I have a no-name monitor by a company called SOYO sitting on my desk, looking just as slick as an HP or an Apple. The functionality is standard. I care only about the price. Software will likely also go there, and if Indian entrepreneurs can play their cards

right, they will be able to build businesses using the exact same model as what you have just described. SV: Exactly right. We are in a very different phase of market maturity today, and how you build companies will be very different.

SM: So Sridhar, you have done a remarkably good job of building your company without any external financing. For the next phase of growth, now that you are taking on more ambitious goals, do you intend to raise capital? SV: Absolutely not. We plan to keep doing this with our own money. Our OEM and Manage Engine businesses generate enough cash to allow us to bootstrap the Zoho piece.

I believe, most attrition happens from boredom related issues.

SM: You have 600 engineers in Chennai. Do you face attrition problems? SV: We don t. I believe, most attrition happens from boredom related issues. We try to keep our team motivated and challenged with interesting work, and as a result, they don t leave. Of course, we have good compensation, a strong bonus plan, etc. You see, we don t intend to sell the company, so there is no stock option plan, because it is meaningless. However, we have a great bonus plan, and people learn and grow with us. It works.

SM: Boy, you really are a contrarian, Sridhar! Good luck to you. I will watch your company with great interest. SV: Thanks, Sramana.

SM: To conclude, a little side note when I subsequently wrote his story for Forbes, Sridhar called to say his father would be very uncomfortable with the feature. He has always taught me modesty, humility asserted the son, as I d tried to showcase him as a role model, especially for young entrepreneurs in India.

Taking On Giants

Connecting With
Your Intimate Bot

We ve all had this thought: When will technology slow down enough for me to catch up? Just managed to get a grip on Web 2.0 (or did I?), and already there are rumblings about Web 3.0.

But the Web s evolution slows for no one. Here s how to get ahead of the next wave.

There are numerous definitions of Web 3.0 floating around. Tim Berners-Lee, a father of the World Wide Web, talks about the Semantic Web, a way that computers employ the meaning of words not just pattern matching along with logical rules to connect independent nuggets of data and so create more context for information. The formula that makes the most sense to me is this: Web 3.0 results from combining content, commerce, community and context, with personalization and vertical search. Or, to put it in a handy phrase: Web 3.0 = (4C + P + VS).

Here s what it means.

Web 1.0 was all about driving online commerce and trying to find anything in the tangled jungle of the Web. It produced companies like Yahoo!, Amazon.com, eBay, Netflix and Blue Nile. The rush for dollars also resulted in the dot-com meltdown. Even so, people s habits of searching, buying and selling genuinely changed.

Web 2.0 has been a relatively niche phenomenon, with hundreds and thousands of tiny companies primarily focused on social networking through online communities. MySpace, Facebook and Digg, have been the most notable companies to emerge. But there are a plethora of others where you can meet, connect and make friends online these days habits no longer considered weird.

At the same time, we ve seen a great deal of investment in vertical search companies. If you are looking for a job, you can go to a site like Indeed.com and search across various job portals and career sites. Or go to Kayak if you ve got travel questions, or TheFind if you re seeking shopping advice. In each case, the sites have carefully customized search parameters (job seekers, for instance, can search on salary ranges, locations, job levels and so on). Therein lies the big difference with Google, a generic horizontal search engine.

Finally, Web 2.0 has brought an onslaught of user-generated content in the form of blogs, podcasts, appending comments at the bottom of articles, posting reviews of restaurants, movies, stores, and hotels. Media has become truly interactive, as opposed to the one-way world we were used to. Many more voices are being raised, and heard. The media industry, as we have known it, has been shaken to its roots.

The next wave Web 3.0 will organize itself around two different elements: context and the user.

By context, I mean the intent that brings you to the Web, your reason for surfing. Looking for a job is context, as is planning a trip or shopping for clothes. Fundamental to context is the user. And when you fuse a specific user with genuine context, you wind up with truly personalized service.

Imagine this: You are planning a trip to Rome. You are looking for a hotel around Piazza di Spagna, but not something large and impersonal which rules out the Hassler Villa Medici. You like smaller bed-and-breakfasts, with charm, warmth, character. You want an online travel agent who can understand your needs and preferences, and find you not only the right hotel but really interesting restaurants, boutiques and shows all aligned with your taste. Normally, you use *Guide* *du Routard* as your travel guide, but today there is still a gulf between travel guides and online travel-booking sites in other words, content and commerce are fragmented. In Web 3.0, you will see content and commerce finally come together in a big way, no longer forcing you to hop from site to site to get one job done.

On this same trip, you would love to meet local people who share your interests say, cooking, jazz, opera. In Web 3.0, you will see the community elements of Web 2.0 pulled into context, making it as easy to find new friends with common interests, even in a distant city, as it is to book a hotel room.

Some user-generated content is already evolving into an integral part of travel planning today. At TripAdviser, for instance, travelers report back on their experiences at hotels around the world. The missing element, however, is the notion of the individual user and his or her personal needs. You don t want to read reviews from anyone. You want to read reviews by people whose taste and judgment you trust.

In a Web 3.0 world, then, a personalized travel agent will help you find and book a highly customized itinerary, leveraging all the power of previous generations of Web technology searching (both generic and vertical), community building, content and commerce. That s how I get Web 3.0 = (4C+P+VS) the sum of content, commerce, community and context, with personalization and vertical search.

This is complex technology, requiring sophisticated artificial-intelligence algorithms. After all, your Web 3.0 travel agent will not be a person but a bot , or intelligent agent.

But I suspect you will like your travel bot. And your career bot. And your shopping bot.

So be patient with the technology entrepreneurs around the world, who are working through these generations of the evolving Web, trying to bring about a dramatically better user experience. After all, they - and their bots - are working for you.

The Gap In Google s Defenses

Google is powerful. According to Hitwise, it accounted for 64.5% of all US searches during the four weeks ending October 27, 2007. RimmKaufman reports that Google controls 79% of the pay-per-click ad market.

But is Google invincible? No more than Microsoft was until the Internet came and shook it to the core.

On the weaknesses side of Google s ledger, I see Vertical Search Engines as the most potent long-term threat. Let s go back to the example earlier. Imagine you are looking for a hotel near Piazza di Spagna in Rome in the price range of $250 to $500. Formulate the query in Google and you ll get pages of results, but the Hassler Villa Medici   voted Rome s No. 1 luxury hotel by readers of *Travel+Leisure*   won t be among the top.

Now try the same exercise in the vertical search engine Kayak.com. The Hassler is right there.

Kayak.com delivers more precise results because it is customized to search for hotels. Such customization is only possible when the user s context is already known by the search engine.

While Google has stubbornly defended its admirably simple one-bar user interface, a host of significant Internet brands have developed context-sensitive search engines in major vertical categories.

Kayak is one of them. It helps users comparison shop across travel portals and airline sites to find the best deals on tickets, hotels and car rentals. Started in January 2004, Kayak now receives more than 6 million unique visitors a month. It makes money mainly through advertisements and referral fees. Kayak also enables travel search for AOL, Comcast, CNN, About.com and USAToday.com.

In January 2008, Kayak raised $196 million in financing to complete a merger with SideStep, its top competitor. The combined company will rank as the fifth-largest online travel operator, managing transactions estimated to be worth $3.5 billion with revenues nearing $85 million.

Kayak has an opportunity to use its search engine expertise and growing community of users to knit together fragmented content about travel such as reviews, ratings and travelogues, whether professionally produced or developed by users, to enrich travel planning. Kayak also plans to launch a vertical advertising network customized for travel, which it hopes will power sites like Expedia, Travelocity and others.

I expect an initial public offering for Kayak, and a chance to roll up smaller companies to stitch together a large Web 3.0 venture focused on online travel.

Opportunities for acquisitions will grow as the industry heads into what many believe will be the crash of Web 2.0 companies around late 2008, early 2009.

Kayak s enormous opportunity is underscored by the investment dollars being bet on it.   We can build a $500 million to $1 billion company focused on travel search alone in the next few years,   says Chief Executive Steve Hafner.

Google has left untouched not just the travel vertical, but other big areas including jobs, automobiles, real estate and health. If the roll-up I expect in travel also happens in these areas, Google will likely maintain its business and stock market performance momentum through 2009, but five to seven years out, the company may not look so invincible.

And why should it be Kayak and not any of the older online travel brands, such as Expedia, Travelocity, Priceline or Orbitz? We have come to rely on them for much of the same advantages that Kayak offers: a customized user experience that focuses on travel.

The answer: conflict of interest.

Expedia and the others will continue to be major players, but Expedia cannot take you to Priceline if a better deal is offered there. Nor will Orbitz hand you over to Travelocity. What consumers need, and will shortly demand, is a neutral vertical search engine as their entry point to travel on the Web.

By 2010, Online Travel Advertising will be an industry worth between $5 billion to $7 billion annually   nothing to sneeze at, even for the mighty Google, which today gets 15% of its revenue, over $1 billion, from travel advertising.

Money that the currently near unknown start-up, Kayak, has a shot at taking away.

Steve Hafner, Kayak

One of the hardest things to pull off in the world of venture capital funded companies is a private-to-private merger, otherwise known as a roll-up. Steve Hafner not only managed to seduce his largest competitor to the negotiating table, but completed the transaction.

I spoke with Steve soon after.

SM: Steve, I would like to start with some details about where you grew up, and how you got into all of this? SH: I m originally from Austin, Texas although I ve lived all over. I was born in Lima, Peru. My mother is Swedish and we moved around a lot. I have lived in Peru, Guatemala, Costa Rica, Texas, Sweden and ultimately went to college in New Hampshire. I got my MBA at Northwestern. I went down the consulting path and worked for a couple of consulting companies. I then helped start Orbitz.

SM: How did you end up starting Orbitz? What was going on in the market that captured your interest? SH: It was an interesting time. It was post-bust and I had been working for BCG for 4 years. I was being billed as an e-commerce expert yet I did not know much about e-commerce at the time, which did not stop us from overcharging for my services. We had a couple of clients in Delta Airlines and United Airlines who wanted to create a competitor to Expedia. They retained BCG for an initial 60 day period to help them think through the strategy and the business case. I was sufficiently impressed by the strategy that I left BCG to help start it.

SM: How many years did you spend at Orbitz, and what were the nuggets from those years? SH: I was there from inception in 1999 until two weeks after the IPO in September 2003. While I was there I led business development, advertising, marketing and product development. Basically everything that had to do with the consumer website except for customer service and the engineering of the code.

I saw a company start from a few PowerPoint pages and grow to the point that when I left it was booking $4 billion a year in tickets and hotel rooms.

I saw a company start from a few PowerPoint pages and grow to the point that when I left it was booking $4 billion a year in tickets and hotel rooms. It was a great experience. It was a wild ride

SM: What gave you the idea for Kayak? SH: Orbitz was a great company, but it never fulfilled its original mission which was to help consumers find great airline and hotel deals. The reason it did not fulfill its original mission is because we could not convince every airline, hotel, and rental car company to list their products and services on Orbitz. Half of all the consumers who came to Orbitz were just doing a search and then booking directly because they did not want to pay an additional fee to Orbitz.

I thought it was odd that we were really a search service which did not do search very well, and we were definitely not giving consumers what they wanted which was the ability to book direct.

That was the genesis of the concept of Kayak. I bounced my ideas off of the former CEOs of Travelocity and Expedia. They all agreed that none of the companies fulfilled the vision of a one-stop shop. So, we all decided to start a new company. Just two weeks after I left Orbitz we incorporated Kayak.

SM: Tell me the story of Kayak. How long did it take you to assemble a team and get your service launched? SH: It is a bit funny how things change the second time around. I had the benefit of doing Orbitz first. I knew how to build a team and structure contracts. I knew how to build an organization. As a result Kayak built a whole lot faster than Orbitz did. We incorporated within three days of the initial PowerPoint presentation. We had twelve employees on staff within 10 days. We had our first distribution agreement with AOL within two and a half months. We did not have business cards or a company name yet! We launched the Alpha site five months after we started. The public launch was about 10 months after we started.

Contrast that with Orbitz. We started in 1999 and we did not launch to the public until June 2001.

SM: You said your observation coming out of Orbitz was that consumers did not have a one-stop shop, so what exactly did you do at Kayak that addressed that issue? SH: Kayak is not a booking site, it is a search site. We help users find deals from all of the other travel websites. There are thousands of travel websites out there, so depending on when you ask the question and how you ask the question, you are going to get different answers. We thought by doing a bit of what Google does, which is build a very simple and sleek interface which goes out and searches on behalf of consumers and brings the results back in a comprehensive display, we would give consumers a choice of where to buy. We felt that would enable us to give the consumer great service, and so far that seems to be working.

SM: When did you launch the service? SH: It was October 2004.

SM: Can you give us an idea as to what kind of ramp you saw in terms of traffic building and adoption? The vertical search concept was still new in 2004. SH: There had been folks who tried to do it in the past but they did not have the scale or traction needed. They were not ambitious enough, did not have the right capitalization, and did not have the engineering talent to do it right. It is very hard to do, if you want to do it right. When we launched, everyone was aware of the deficiencies at Expedia, Travelocity and Orbitz. Everyone saw the value of the consumer proposition but the big question was how to commercialize it. How do you get paid for those referrals? How do you get consumers to become aware of your website and visit it?

The big online agencies spend hundreds of millions of dollars a year getting people to their websites and they already enjoy 90% brand awareness. In the first year or two of Kayak we focused on building a great product. We felt if we built a great product consumers would stumble on it, like it, and tell their friends. When Orbitz launched we spent $20 million in the first month on TV adds. As a result it was the biggest internet launch ever. When we flipped the switch on day one at Kayak we did 15,000 searches. In the first month we did about 500,000. Contrast that with this month where we will do 14 million searches. We are half the size of Orbitz in terms of search volume yet we spend next to nothing in marketing.

We are of the mentality that for every dollar which could be placed into marketing we would *rather place it into engineering and make the product better.*

SM: You didn t buy any traffic from Google? SH: The problem with a traffic arbitrage based approach is that it gets competed away. Traffic becomes expensive. We are of the mentality that for every dollar which could be placed into marketing we would rather place it into engineering and make the product better. If you do that then you will always have the best product. That means your audience will be more loyal than the next guy. You won t have to spend money on Google, Yahoo! or offline TV advertising. One of the things that struck us about Expedia is that they will spend about $1 billion on marketing this year but their website, which is essentially their company, has not fundamentally changed in 4 or 5 years. We would much rather invest in the website than marketing.

SM: So you have built traction with organic word of mouth? SH: It is a page out of Google s playbook. Build a great technology, syndicate that out to other affiliates like AOL who already have audience and then keep innovating on the product to make folks come back to you directly.

SM: What other affiliate deals have you done besides AOL? SH: We have over 10,000 affiliates. Our biggest are AOL, Comcast, and USA Today.

SM: Do they drive a lot of traffic to your site? SH: Not really. They used to. Affiliates are great at building a significant piece of business, but affiliates never grow. Once you plug in AOL they do not grow their traffic channel for you although your organic traffic does grow. If you were to go back over the past four years and plot the affiliate share of Google s total volume you will see that the Google traffic is growing much faster than the affiliate component.

SM: Let s discuss the competitive landscape. What was it like when you started, and what is it like now? SH: The market has evolved quite a bit but not as much as we expected it to. Initially, the only competition came from two companies. One was called FareChase and they did not have a consumer facing application. It was mainly used by travel agents to find Southwest Airline s fares. There was another company called SideStep which did not have a website. Instead they had a downloadable toolbar that would launch automatically when you visited an airline or agency website and it would show you fares on the side. Neither company was well capitalized and neither company had more than 30 employees. The competitive landscape was pretty insignificant and the product offerings were not that great either.

When we launched it attracted a lot of attention because of our top tier talent. We had a lot of financial backing and a big distribution deal with AOL. As a result we grew much faster than they did. To their credit there was a lot of cross-pollination of ideas once we launched. We borrowed things from them, they borrowed things from us, and ultimately consumers saw a lot of improvements in a very short period of time among all three companies. Yahoo! ended up buying FareChase in late 2004. We recently ended up buying SideStep at the end of 2007.

SM: More competition has emerged in the past three years. SH: On the Internet there is always going to be a lot of competition because it is easy to build a website. The hard part is making that website scale. There are a lot of international travel search engines that have tried to emulate the Kayak model. They do not have good brand awareness, they are not well capitalized, they do not have good supplier relationships, and ultimately their technology platform won t support 50 million queries a month. We built our architecture to support a billion searches a month. A lot of these other companies are just scraping websites in real time.

You are right though that the competitive landscape continues to evolve. Just this week Microsoft bought FareCast which was founded two years ago. We refer to them internally as the Kayak JV, but they actually have a really good tech team. They were acquired for $100 million. Kayak is 20 times their size in terms of search volume.

SM: You have mentioned capitalization a few times as being a vital part of your strategy. What was your capitalization and financing strategy? SH: It was to take a lot of money from various smart investors by selling them on the goal of becoming the number one travel site. The top travel sites at the time we launched were Expedia, Travelocity, and Orbitz. They made money by charging both consumers and airlines booking fees. They also collected a booking fee from a technology vendor called a GDS. As a result they were only paid when someone booked travel through their website. They biased their displays to show providers who paid them more. Their functionality was not terribly inspiring.

Our goal was to create a company that did search better than these major players and we knew it would require a lot of capital. At Orbitz we raised $205 million before we turned profitable. At Kayak we have raised $230 million to date although we turned profitable after burning just $15million.

SM: What was your source of financing? Can you break it down by rounds? SH: Our first round raised $6.5 million, which was a pretty large Series A, especially since it was on a PowerPoint presentation.

SM: Did you put in any of your own money? SH: Paul English and I put in $1.5 million each. Paul co-founded Kayak with me.

SM: Who where your first round investors? SH: General Catalyst Partners. They really knew Online Travel. Our second round was done by Sequoia Capital which brought our total raised capital to $15.5 million.

SM: How far did you get with the A and B round of funding? SH: We had already launched the product by the time we did our Series B, and shortly after closing the deal with Sequoia we turned cash flow positive. We have built the base of our business with this funding.

SM: Obviously you made a big departure from established business models in the travel industry. SH: Our business model is very similar to Google s. We get paid for the referral. We are unbiased which is great for consumers because when you have an advertising driven model the incentive is to have more comprehensive search results.

Another key aspect of our business model is that we are very lean. Today we only have 56 people. We can charge very little to our advertisers. Since we charge little and have a large volume of queries we can make a decent living and provide tremendous value to those marketing on our website. Our ratios are much better than traditional OTAs like Expedia or Orbitz. The difference is where Expedia will do $12 billion in gross bookings we will only do $150 million in gross revenue. However we will have a much higher profitability than they have.

SM: Is your business model in competition with Google, or is it a complimentary model? Expedia is obviously one of the biggest advertisers on Google and they are probably big - advertisers on your site as well. SH: In the Internet everyone competes for consumer attention. In some ways Google is the biggest travel site on earth. People go there for their entry into travel research. Expedia is certainly the biggest travel site in terms of bookings. We would like to do a little bit of both. We want to be the best place to find travel information and we want to be the best place to find the supplier of your travel needs. I think we compete with Expedia and Google for audience, but ultimately we are not taking share from either because the transaction has to happen somewhere.

SM: By raising two rounds of funding you were already cash flow positive. Why did you have a Series C? SH: That series was led by Accel Partner s London office. At that time we only operated in the US and we wanted to export Kayak abroad. The Series C was designed to help fund the international expansion. The US was the least expensive, most efficient market to get started in. In Europe the marketing channels and the language requirements make it much more capital intensive.

SM: How big was the Series C, and what did it provide in terms of international presence? SH: We raised $18 million. We are in seven markets now. We launch a new market every 2 months. International is still less than 10% of total sales, however that is primarily because the US business is just so big. This month the US will bring in north of $12 million in revenues, which is up 15% month over month.

I approached their CEO in October of last year with a simple email that said, Do you want to get married? and he wrote back Let s talk.

SM: What was the reasoning for your recent purchase of SideStep, and have you benefited from the acquisition? SH: At Kayak we are an engineering driven company. We did not have a sales force, a display ad business, or an email business. SideStep did. It is a bit like Google buying Yahoo!. The one thing we knew at Kayak is that our systems scaled better, our algorithms monetized the website better, and we fundamentally had a better product which provided a better user experience. SideStep had an audience albeit one that was a third of the size of Kayak. They also had a commercialization aspect we did not have. I approached their CEO in October of last year with a simple email that said, Do you want to get married? and he wrote back Let s talk. In the course of three weeks we hammered out a deal and signed an agreement in mid-December [2007]. We raised money and closed the deal within two weeks, which is unheard of.

SM: Can you talk some about the negotiation of a private to private merger? Those deals are always tough in terms of valuation. SH: There are two ways to approach it. The first is on a relative valuation side. If you can agree on relative valuation then sometimes you can just issue your paper for their paper. We could not agree on relative valuation.

We then looked at how much money is invested in their company and the expectations of their VCs around valuation. We were able to get clarity in terms of cash expectations, and get comfort in terms of the metrics to validate those expectations. We then agreed to give them cash and subsequently went out and raised cash based on Kayak s trajectory. We raised cash at a high enough valuation that we were able to get over the relative issues. So, ultimately, it was an all cash acquisition.

SM: What did that mean for the SideStep team? Did you want to retain that team or not? SH: We wanted to retain their sales and marketing teams. At the time Kayak had 46 people and SideStep had 83 people. When all the dust cleared we had 7 or 8 of their people left.

SM: The major gains from purchasing SideStep were adding their display advertising business and their email marketing platforms? SH: That is right.

SM: How big was that business for them? SH: It was half of their revenues. At Kayak we are much less commercialization focused. I am personally not a big fan of display ads. We are very careful how we take SideStep s commercialization approach and apply them to Kayak. You will see some changes on the Kayak website based on insights we picked up and assets we gained from SideStep, however these changes are done in a very measured and controlled way.

SM: Their revenue was approaching $35 million when you bought them? SH: It was at $30 million.

SM: Is that revenue stream continuing for you? SH: That revenue stream is much higher now.

SM: What kind of ramp did you see in the first six months after purchasing them? SH: It was a very impressive ramp. Going back to the analogy of Google buying Yahoo!, just imagine Google powering the ads on Yahoo!. The user experience does not change all that much but Google is able to monetize 30% better than Yahoo! because their targeting capability is so much better. That is not a bad analogy when applied to how much better we can monetize the SideStep traffic.

SM: Let s talk about applying a Vertical Ad Network within Kayak. SH: One of the items in the secret sauce of Kayak is our ads along the right hand side of our search results pages. These ads look very similar to the search result ads that Google or Yahoo! provide. They are three lines of text and a hyperlink. The difference is that our ads are based on the actual search parameter. We know that Google doesn t know the city pair and the travel dates. When American Airlines buys ads on Google they are buying out the keyword pairs. They buy phrases like cheap Chicago flight . The person might be searching for a flight from Omaha and American may not fly that city pair. American has wasted their money and the consumer has wasted their time. If the consumer does click the ad they get to a page on American Airlines which does not have that much information on it because American Airlines didn t know they were starting in Omaha.

With the Kayak model American Airlines ads will only show up on the routes they fly. When someone clicks on that ad we pass the search parameters on to American. The result is you get a search results page on American that contains the actual city pairs. The ads are targeted, which means they are more useful for the consumer and the results page is more useful as well. The net impact of that is a much higher ROI for American Airlines as well as for all of the other advertisers. It is also a much better consumer value proposition and it monetizes much better than Google does.

There are three things you need to do to have a viable Vertical Ad Network. You need to get a set of publishers, you need to get an audience, and you need to match them with technology.

SM: What is your read on some of the other travel Ad Network players out there? There are some Vertical Ad Networks which have been reasonably successful so far. SH: There are three things you need to do to have a viable Vertical Ad Network. You need to get a set of publishers, you need to get an audience, and you need to match them with technology. It is my observation that Travel Ad Network has a network of publishers and they are distributing display ads. They do not have the technology yet. It is primarily an outsourced sales effort for display ads. I don t think that approach works long term.

SM: Most of the Vertical Ad Networks out there work like that right now. SH: Which is not sustainable unless you have a technology that scales. The difference with our approach is we are building the platform and the technology to allow our advertisers to manage their own campaign and determine where their search results show up.

SM: So far what you have talked about is specific to flights and hotels. There is a lot of publisher inventory out there that is not transaction focused such as travel guides. SH: Absolutely. It is a less targeted business and as a result the CPMs are much lower. I believe the most valuable consumers are the ones at the point of purchase. If we get that piece right it is much easier for us to go up the food chain into the consumer s research cycle than it is for a publisher to come down into our space.

SM: What do you think of Mobissimo? SH: Not much. I think Beatrice is a great person and a pretty good CEO but they are undercapitalized, their technology does not scale, and they have not gotten any traction over the past three years. I would say Mobissimo is an example of a travel search company which built a product with a small team, got it out there, and received a little bit of press coverage. They don t have the capability to turn that into a mass market product.

SM: What else do you see out there in terms of travel related sites? SH: There is still a lot of innovation going on. The social networking sites are interesting but they do not monetize well in the travel space. There is room for someone to tell consumers where the best rooms are in hotels. There is a lot to be done on reducing friction in the check-in and check-out process. There is plenty of room for better utilization of mash-ups.

SM: My main problem with the travel category is that it is still a fragmented experience. I have to hop from site to site. You don t solve that problem. SH: We don t even solve cross-shopping on rates yet. What Kayak has been able to do is reduce the number of sites you have to visit when shopping for fares.

SM: Are you going to try to get content in context eventually? SH: We will have to do that to become the number one travel site world-wide and fill consumers comprehensive needs. Those are our goals. It is a question of prioritization and time.

SM: The next big thing for Kayak is the Vertical Ad Network and getting international business to ramp. Is that going to be mostly organic? I don t think there is a lot to acquire outside of Mobissimo. SH: They do not have an audience. Their audience is really limited to cheap international flights. There are very few companies that have an audience. We are going to have to build our solutions from scratch.

SM: I don t think there is a Vertical Ad Network available to acquire. SH: The beauty of a Vertical Ad Network is if you get the right launch partners and you have 8-10 of the largest advertisers to buy coming out of the gates you have a very vibrant ecosystem within a month of launching.

SM: Is there anything else I should have asked you that I didn t? SH: No, this has been a fun interview. I really did enjoy the article you wrote on Forbes. I thought it was very insightful and spot on with what we are trying to do.

Google s Achilles Heel

Does Google, unlike everyone else, not have an Achilles heel?

Before I attempt to answer that question, let me admit right up front that when it comes to this topic, I am highly biased. I want Google to have competition.

Biased or not, however, I have unearthed a few vulnerabilities in Google s relentless march to industry dominance. The most significant of those is the increasing verticalization of the web. Or, more specifically, the rise of Vertical Search Engines.

Here s an example: You are looking for a software engineer job in Palo Alto, California. If you insert this query into Google, you will mostly turn up offers to take you to job boards and job search engines like SimplyHired, Dice, and others matched on keywords.

Google, however, doesn t know that you would consider jobs within a 25-mile radius that nearby Menlo Park, Redwood City and Mountain View fall within your realm of possibilities as well.

Now try this query on Indeed.com, a job search engine that collects listings from all over the web. You can specify the radius of your search. You can filter by company, city, job type, etc. And your return: a richer, more precise job search.

Within the Jobs category alone, more than $70 million has been funneled into Indeed (a modest $5 million from Union Square Ventures & the New York Times), SimpyHired (a healthy $17.7 million from Foundation Capital and News Corp.), and Jobster (a ridiculous $48 million from Trinity, Mayfield, Ignition, Reed Elsevier). And the Online Jobs market is expected to be worth $10 billion by 2011.

Indeed.com garners over five million unique users, indicating the changing dynamics of the entry point to the web. A previously discussed roll-up deal led by Kayak in the Travel vertical highlights the ambitions of newer players to build large independent companies.

So how is Google likely to respond? Build? Buy? Abstain?

According to VC Gus Tai of Trinity Ventures, Google will fail if they try to do separate vertical brands. It s like Wal-Mart vs. Tiffany. It s about a deeper brand experience that Google can never offer. Gus knows. He was on the board of Blue Nile, an online diamond jewelry brand that took on Amazon and eBay and built a business worth more than $300 million a year.

Conceivably, the verticalization we saw in e-commerce will now get repeated in search. Google will, of course, remain a very large search engine company with a huge market cap. But other $500 million-$1 billion businesses will get built in each of the large verticals and will, within just five to seven years, give Google a run for its money.

I explored the deeper brand experience with Gautam Godhwani, CEO of SimplyHired. We are focused on enriching the entire lifecycle of the user experience, Godhwani said. We not only want to help candidates search for jobs, but do an outstanding job in understanding the content of the resume and be able to match it with the right opportunities.

Imagine a day when you have your resume posted on SimplyHired, and even when you are not looking for a job, highly relevant opportunities are presented to you by your career bot. We are only 10-to-15 percent along the way to our vision, Godhwani said. And already, SimplyHired powers job search for over 3,000 sites, including MySpace and GigaOM.

Indeed s CEO Paul Forster likes the idea of a roll-up in the jobs category, but said no concrete discussions have yet taken place. I offered both Gautam and Forster the idea of LinkedIn as an interesting possibility around which to roll up the category. (LinkedIn has already built critical mass with a 2008 projected annual revenue of $100 million.)

At the back of my mind is a vision much bigger than vertical search. It is Web 3.0 = (4C+P+VS).

In the end, new brands capable of building deep, rich, highly personalized Web 3.0 user experiences would become Google s real competition.

Gautam Godhwani, SimplyHired

Gautam Godhwani is a serial entrepreneur. As he told me the story of his journey, he shared intimate details of his personal quest to reacquaint himself with India, the country he d left at a young age.

The curiosity to understand new worlds, the desire to refresh oneself with new experiences these are the hallmarks of great entrepreneurs.

SM: Let s begin by discussing your pre-SimplyHired story. What can you share to inspire potential entrepreneurs? GG: I am not sure what others will consider inspirational! I have been in the Bay area for 26 years. I grew up in Delhi and spent the first nine years of my life there. My dad worked for the government so he moved around a lot. I went to various places in north and south India and spent a year in Kabul, Afghanistan. I spent a year in Houston when I first came to the US in 1981, and I have been in California since then. I was schooled here in the Bay area. I went to college at Berkeley. Originally I thought I would be a doctor, or get a business degree, but I ended up graduating in computer science mainly because it was easier to get into those classes. The business classes were very crowded. I think it is interesting to see the direction I went, it seems like fate has taken me that way.

I spent my summers walking around the halls of large companies such as IBM and Microsoft, and I started my career at HP. About two years into my HP career, in 1996, the Internet really began to take off. There were four or five of my friends from school, and we sat around talking about it. You may recall Internet World, the big conference they held in the Bay area. This particular year they held it at the San Jose Convention Center, and it got full so they rented out all of the surrounding hotel spaces, and that got full. They then had to rent out space at City Hall and that got full. They then had to pitch a tent because they got so desperate for space. Eventually they had to turn away exhibitors.

You could feel the energy.

After school this was the first full week I had taken off. I walked into the conference thinking, How can I quit my job? I walked out of that conference on Friday afternoon, and I sat outside the main convention center and asked myself how I could not quit my job. That Monday morning, I and three of my colleagues walked in and quit our jobs. Two of us were from HP, one was a friend from Berkeley, and my brother joined us as the non-technical guy. We started a company called AtWeb which was building a series of utilities to help website owners make their websites better. That included looking at the quality of the site, examining how it was built and how it could be made better. It was like a Norton utilities of websites. Over the next two and a half years we really experienced the energy of the web.

SM: Who were your customers? GG: They were all sorts of small businesses and individual website owners. By the end of the company we had over 1 million paid subscribers.

SM: Did you raise money to start this venture? GG: We did, but we did it backwards. We poured in our life savings to start the company. We worked out of our house for 9 or 10 months and got the company to be profitable while taking minimal or no salaries.

SM: Between the time you started and the first time you raised institutional money, how did you get profitable? GG: We started out with literally less than $100,000 of funding and we built that to a few hundred thousand dollars based on revenues and profit. We did not take any salary. We then raised a $500,000 round of funding from our chairman, which we never ended up using. We then raised $3 million from Sequoia Capital, but six months after we raised it, Netscape and America Online came in and bought the company. We never used two-thirds of the money. We never used most of the money we raised because the company was profitable when we took in funding and we were about to break even when we were acquired.

SM: What kind of revenue level did you get to? GG: I think we were going to be in the $7-$10 million range. It was still relatively early for the company.

SM: Where did you get all of these customers? GG: At that time, believe it or not, it was all mainly word of mouth and guerilla activity. The company did not have a big marketing department so we did not have big customer acquisition costs, nor did we have big fulfillment costs.

SM: Would people just download the software from your site? GG: The software was used directly on the web. We used to get word of mouth and PR at a disproportionate level which fueled our growth. For example, we had launched a product line called Website Garage. It was a product where you typed in your website address into our online assessment tool and it would visibly tune it up for you. It was a mechanic s garage type theme. We launched this product and within 30 days we had 1 million tune-ups done, and within 90 days we had 10 million tune-ups done.

SM: What did the tune-up do? GG: It gave you back a report that told you the quality of your code, if you had dead links, and how optimized your site was. At that time you did not have those types of services available and it was a neat business model because we basically found problems with people s websites for free, then sold them the solutions.

SM: So the assessment itself was free? GG: That was free, but a percentage of those folks upgraded to a premium service. We had 10 million people try the service and over 1 million of those people turned into paying customers. The growth of the company was phenomenal.

SM: How much did Netscape acquire it for? GG: About $100 million, but the value of the deal rose substantially afterwards because after the acquisition by AOL there was quite a run-up in the stock. It multiplied by 5-7, so we were able to deliver a nice return to the employees and investors.

SM: How many years did you work on that project? GG: About three years prior to the acquisition. After the acquisition we were there for a year and some change.

SM: Your work at AtWeb concluded in 2000. What came next? GG: At that time I really had a sense that I wanted to do something else. For me personally, and for a lot of the folks who had experienced the run-up of the internet, there was confusion about what to do at that time. It was great that I had a lot more flexibility with my time, so I took a year off.

SM: What did you do during the year off? GG: I spent some of it in town but I realized very quickly that being in the Valley while not being engaged in a startup felt strange. It felt like I was in the game, but I wasn t. I decided to start traveling. I spent about half the year traveling, and most of that travel was done in India where I went through a dozen states in India, 15 or 17 cities, and several villages. I gained a better sense of the country because I had not spent a lot of time there.

SM: What did you see? GG: I am not big on sightseeing per-se. I care much more about getting a true sense of what is going on in city. Typically I would arrive in a city and spend the first three or four hours getting the sightseeing over with, then I would spend the rest of the time chatting with people I met in cafes and other ad-hoc places. If the opportunity existed I would touch base with some distant connections. Sometimes the people I talked with were involved in areas I was interested in so we had good exchanges. I spent a lot of time walking through the city. Every day I would walk several miles.

I was basically getting to know the country I had left at a very young age. It was more about connecting to the people.

I was basically getting to know the country I had left at a very young age. It was more about connecting to the people. I took a subsequent trip as well. Between the two trips I talked with hundreds of people, individually as well as in groups. I learned about their lives. I learned a lot about the development sector. I visited six to ten of the top NGOs around India and got a sense of what they were doing.

SM: When did you return to the US? GG: I returned in the middle of 2001. My brother and I wanted to take on another project, but there was a distinct sense that we did not want to do another Internet startup or anything technology related. We started looking into all kinds of other projects. It did not matter if they were businesses or non-profits as long as it was something we could be passionate about. We wanted something we could look back on and feel good about being involved with.

One of the ideas we always had was to be able to have a hand in doing something within the community. We talked about creating a small space to bring together the Indian community. The more we looked into that project the more compelled we were by it. After a lot of research my brother and I decided we could really help bring our community closer together. We were compelled by the fact that there were other communities such as the Jewish, Chinese, and Latino communities that had put up similar infrastructures.

SM: This all took place in 2001? GG: We started doing our research in the middle of 2001. We got a small office and we signed up some volunteers; we were fulltime volunteers ourselves. Over the next six months we talked to over 100 advisors from other communities. We visited the leaders who built the Chinese community as well as the key figures in the Latino and Jewish communities.

We concluded that there was a huge need for an Indian community building project. As is often the case with community building the need is not evident on the surface but you see the impact of a project like ours within the households. In our community, when parents of a family visit they are often confined at the house. The need is evident when you see kids who are out of touch with the country where their parents are from. We saw that outside of the house, families did not have a single place to go where they could be together outside of a religious context. We felt the concept would be particularly important for the émigré population when they first arrive.

SM: What were the observations that really convinced you of the need? GG: In the Indian community 15% of the families are living below the poverty line. That is not well known. Those are the specialized needs that have a real impact on the fabric of the community. They are not evident because they take place on an individual level. But collectively it impacts the community heavily.

SM: What was the end result? What project did you do? GG: After about 17 or 18 months of research and planning we created the India Community Center. We operated it out of a 20,000 square foot facility. It was intended to be a place where kids could learn about their heritage, where seniors could find a home away from home, and the families could come together.

SM: When did you actually open India Community Center? GG: India Community Center opened up in February of 2003. We did not know what to expect. We had a small membership fee which would never cover the cost of the center. We dreamed up various programs which we hoped would resonate. When we opened the center we had 1,000 people walk in and sign up to be members in the first 10 days. We were amazed by that. It was a far cry from what we needed to be fiscally sound and we did need to rely on donations, but it was a great start.

Over the next three years it grew to the point where it was doing anywhere from 500 to 1000 programs a year. It has become the largest non-religious Indian community organization in the United States. We started to teach over 100 classes a quarter to kids and adults. We had daily senior programs that served hundreds of seniors. We actually received a massive donation of books from Syracuse University which made us the largest non-university Indian library in the country.

In the US, businesses account for 60% of the economy, the government accounts for 30%, and non-profits about 10%. It has always been fascinating to me how different each of those worlds are and I have gained tremendous perspective working in them. While it sounds obvious, profit is at the core of every business, but at the core of every non-profit is a cost. It is incredible to see what kind of a difference that nuance makes in the fabric of an organization.

SM: If it is done right. GG: Exactly. For us it was a learning experience. In a startup you can tell in a year or two if you are doing well, in a non-profit it is a decade before you can tell if things are going OK.

SM: It seems that you could almost tell after your first day. GG: In a way, but in another you couldn t. In a startup you can deliver a massive return to an investor in two and a half years and everyone is happy. Making a difference in a child s life takes many years. We don t measure ourselves by membership, but rather if we build ourselves into the fabric of the community and become part of people s lives.

SM: How is the community doing now? GG: In 2007 we went from a rented 20,000 square foot facility to a purchased 40,000 square foot facility, built on a budget of $17 million. We are two-thirds of the way through a fundraising campaign to cover that cost. That facility doubled virtually all programs and now there are well over 1,000 programs a year. It was built with three to four years of operating experience behind us, so we knew what was needed. That facility is going to take us much closer to being able to serve a broader set of people in the community as well as being fiscally balanced. It was an amazing, amazing project.

SM: When did you move away from India Community Center toward SimplyHired, and what was your reasoning? GG: As we were moving toward our one year anniversary in the first facility I knew it was time for my role to change. I had always known the moment my job became more day to day management than one time setup that it would be time for me to move on. I have never intended to move my career in the direction of a non-profit executive.

SM: Are you still involved at some level? GG: My brother continues to be very heavily involved and I am a trustee. India Community Center now has a board of trustees, a board of - directors, a staff of 60 people, and a set of volunteers, donors and members. There is a community around it. It has a life of its own and it is growing.

SM: When did you start playing with SimplyHired? GG: After I left India Community Center I decided to take another trip back to India. I went through another 10 states. I went through 15 cities and a couple dozen villages. It was part of my continued effort to get to know India better. By the end of that trip I had gotten through all but 10 states, and I will get to those in the future, it will just take some time. Exploring India is a passion for me.

When I returned from that trip I knew I was ready to start a business. I came back on a Tuesday and by Friday my partner Peter Weck and I were looking for office spaces. Anil, my brother, was working with us part-time; he is the third co-founder. I think there are probably a lot of stories about folks who saw something that they really did not like and they moved into a business because they were trying to fix some problem. For us this project was very different. It stemmed from a desire to start a company because we loved working together. We loved the process of building a company and the learning that came out of it. I think the process of looking back on something we have created is a real motivator for us. We were not motivated by a problem.

Ultimately we decided to work out of Peter s home. We spent the next six months looking at different ideas. We probably went through more than 100 markets, both inside and outside of technology. We decided on the employment space because it just seemed to have the favorable characteristics we were looking for.

SM: And what were those characteristics? GG: There were a few things. What we saw in the employment space was, first and foremost, an incredibly large market. You are talking about a $100 billion market in the US alone. Almost 1% of the US GDP. At the same time, the market had services that we called *pain killers* versus *vitamins*. If you needed a job, you really needed a job. If you had to hire someone, you really needed to hire someone.

SM: It is basically the classified and recruiting business. GG: Yes, it really is that business.

SM: Is that what adds up to $100 billion in the US? GG: Yes, offline and online it does. The other characteristic we saw was that when we talked to both employers and candidates almost everyone was universally unhappy. It was amazing for us to see that. Candidates hated finding jobs and employers hated finding people to hire. Finally it was clear to us that technology could play a disruptive role in this market. In a nutshell, anytime you have a very big market with critically important services and deeply unhappy customers, and it is a space where technology can make a difference, we get very interested.

SM: In your opinion, from where you sat in the spring of 2004, who were the top technology players serving that market? GG: A natural place to start evaluating that market is to see where the dollars are coming from. What is fascinating about the employment market is that besides employers and job seekers, which is historically how the market is thought of, there are 8 major sub-segments. These segments include job boards, staffing agencies, newspapers, applicant tracking systems, tracking and assessment folks, and people who provide infrastructure and employment. When you go broadly into HR you get a whole new set of folks. It is a very complex space with intricate channel structures, evolved over years.

SM: In the dollar structure you cited did you include the HR software? GG: No, I only included recruitment. From our perspective when we looked at employers, and we looked at candidates, we saw a lot of dollars being spent but we did not see people who were happy or satisfied with the result. We spent three or four months looking at a potential set of solutions for different problems in this market.

SM: What were the problems? What were people dissatisfied with? GG: Employers in this market went from having a very limited set of solutions with just newspapers, to having a very, very broad set of solutions. From too few resumes, to suddenly being overwhelmed by resumes. On the sourcing side it is very difficult to get access to the right set of candidates. From a screening perspective it was very difficult to even find them. Trying to do quality measures in terms of how a candidate performed over time, and getting quality yield over time was near impossible because the tools just did not exist.

Candidates were also facing real problems. They were having difficulty locating the right opportunity. In 1994 and 1995 all of the jobs were literally sitting on two or three major job boards, but candidates now had too many options and boards to deal with. There were direct employers sites, news sites, all the various job boards, and some other places listing jobs. Candidates also had the issue of feeling powerless in this process; they would continue applying for positions but would never hear anything back.

At SimplyHired we saw both sides of the equation. We even gained a more intuitive sense by opening a boutique staffing agency, which we did for two or three months, just to get a sense of what was going on in this market. We really saw that everyone was serving the employer. It made sense because that was where the money was. The interesting thing is, if you go and talk to an employer and ask them what they are looking for, they will spend 100% of their time talking about candidates. But no one was focusing on the candidate. SimplyHired was started as a company which would create the best job search experience on the planet. That is why we exist, but we do it from the perspective of the candidate.

SM: You chose to serve the candidates in your approach, but the money is with the employers. What is the value proposition of your strategy? GG: We recognized that employers would follow. We have tried since the late summer of 2004 to move in that direction. We brought our service to the market in March of 2005. At that time the market had 2.5 million jobs, which was 8 times the size of the largest job boards.

SM: You collected job listings by crawling different websites? GG: We did it by crawling everywhere. Now we have a service that is 20 times the size of the largest job boards. Nearly 80% of the jobs listed now are not crawled; they are fed to us because the sources are eager to get their jobs into SimplyHired.

SM: Is this international or domestic? GG: We now have a presence in the UK, Canada, Australia, and we will have a growing presence in more markets in 2008 and 2009. During the past three years we have tried to come out with services we believe augment the candidate experience.

SM: Can you talk about that in more detail? GG: The first thing we did was define SimplyHired as a site where a candidate can find more opportunities than anywhere else, yet refine their search to find that needle in a haystack.

Second, we created and invested in various technologies for crawling. We do more processing and add more enrichment to the job dataset than any other place bar none. We let users apply specific filters to increase the accuracy of their search. For example, a user can search for a job that is within 10 miles of their house, which requires 5 - 10 years of experience, and has been posted within the past 7 days. It is all about getting the candidate to the perfect job, hence the reason we provide so many search characteristics.

After we launched in March of 2005 the very first partnership we made was with LinkedIn in April 2005. We trademarked a term Who do I know? , and we put it right below every search listing. If you hit that button, it will tell you who you know at that company via the LinkedIn network. LinkedIn has done a wonderful job of creating a meaningful dataset through structured data. Half of all hiring done today is via referrals. Even if SimplyHired does not get anything out of providing that referral, as long as we are providing a better experience for the candidate then it is beneficial for us overall.

SM: I see one disconnect. The job boards typically list jobs which are lower to mid-level. The high-level jobs, executive jobs, are buried inside of recruiter firms. LinkedIn was more successful in attracting higher level candidates and has less of the nurses or professional candidates. GG: You make a great point. The job market has many segments, when you look at the executive segment it is a very fair comment to say that the strength of a network like LinkedIn might be one segment versus the other. We do crawl all jobs, there are simply more of the low and midlevel jobs.

SM: My point is that in many cases the high level jobs are not listed. GG: We know that it is very difficult to create an ideal solution. In our case it is important to just get started and be better than the alternative.

SM: Your goal with SimplyHired is to skip the referral network to the extent it is possible, and replace it with a combination of services available on the web which SimplyHired brings together for the candidate? GG: Exactly. Over time a person s social and professional affiliations will come online. People will use those connections to make decisions, whether it is finding a good place to eat, connecting with colleagues, or using referral hiring on SimplyHired.

SM: What did you have to do from a technology point of view to differentiate your search technology from someone like Google? GG: When you look at a generalized player like Google, it is very important to appreciate how different the use case is for somebody looking for a job versus somebody searching for a website. When you go to Google you are typically looking for a given destination, you type it in, you get there and you are done. A job search is an ongoing process where you are delving deep into a much more complex decision. As a technologist I would tell you that the amount of enrichment that is going into the dataset that we have sets us apart. One of Google s major strengths is the scale of their crawl and how they create inter-connectedness between all of the collected sites as well as how they extract meaning with their algorithms.

SM: They are a pure unstructured data search. In your case it is not a pure unstructured data search? GG: We crawl a structured set of sites, but some of the data we collect such as the job descriptions can be unstructured.

From the beginning I have believed the value of a vertical player, search engine or otherwise, is to be able to participate in a greater lifecycle of the user.

SM: However, you put a level of structure into the data before the candidate interacts with it. GG: Exactly. While we have a crawl and a feed-in infrastructure, that is not the core technology of our company. Our technology lies in the extraction. It is all about the normalization of the data, the de-duplication of data, the meta-data enrichment, and the classification. From the beginning I have believed the value of a vertical player, search engine or otherwise, is to be able to participate in a greater lifecycle of the user. A vertical can help the user from the inception. For us, we are there when the user searches for the job, finds a potential job, and applies for the job.

We are probably only 10-15% of the way toward our overall mission. There are many things we can do that we have not yet done, and that is what makes it so great to be able to come to work every day. It is a challenging problem. In the words of an entrepreneur who I read about some time ago, in order to create a big company you need a really big problem to solve. That is what we are talking about here. We are talking about the fact that this is a really big, important problem.

SM: You have lots of users. How did you get them? GG: SimpylHired now has north of 5 million users across the network. That places us at number 5 in the US market. Three years out that is something we feel pretty good about. We get our traffic primarily through three sources. The first is word of mouth. The second is search engines, typically organic listings. And the third is through our partners. We have numerous job sites that we power. We buy almost none of our traffic today. That is something that I think is very, very important to recognize about the company.

SM: Did you have to buy eyeballs at the beginning? GG: No, we didn t.

SM: Have you been organic all along? GG: We have. We did experiment some with paid traffic, but well over 95% of our traffic comes from free sources.

SM: Go back to 2004 and trace to 2008 - what were the milestones in terms of traction and bringing the solution to market? GG: When we made the LinkedIn partnership in April 2005, analysts covered that as the first time job searching and social networking were blended. In the fall of 2005, on a more lighthearted note, we launched SimplyFired where people could come and tell their stories about being fired. That was a lot of fun and it was a bitter sweet feeling because in three days the traffic of SimplyFired passed the traffic of SimplyHired.

In 2006 we really extended our product set and created a broader set of products and scaled our partner network. We received investment from News Corporation and we launched on MySpace in May of 2006. Toward the end of 2006 we launched services which allowed any publisher to create a job site of their own.

SM: What do the publishers get out of this? GG: They get revenues both from the listings they sell and the listings we have already sold. That was a great milestone for us as well. As we moved into 2007 we saw a dramatic growth in the publisher network. The search engines like Google started to recognize SimplyHired as a much greater authority during this time. As SimplyHired has moved forward as a company it has been great to see growth across a number of different areas. I feel very good about the fact that the company today stays very true to its mission. The fact that you hear the mission articulated in meetings as a way to make decisions is a very healthy sign that the company really knows what it is about.

SM: How many people do you have? GG: About 50, all of them here in the Valley.

SM: You had enough money to do this without external financing. Tell me the history of the funds you raised and why you chose to take external money? GG: When we started this company the founders and an inside group of people affiliated with the company were all at AtWeb before this. We decided to put in an early round of $1.2 million and called that Series A although it was really seed money. At that time we were really using this to explore the concept and launch the initial site, which we did in March of 2005. Once we saw the reaction of the market and we saw early traction we decided we would formally launch the company in the fall of 2005 and decided to raise a round in the same timeframe. Our objective was to cap the round at $3 million to avoid dilution while adding a few strategic investors beyond the initial group. The same group decided to invest further in that round and then complement that with a few strategic Angels.

Following that round of investment, we had enough money to go forward for a significant amount of time. However, one of the advisors of our company became a partner at Foundation Capital. We had an adviser agreement in place prior to him sitting on our board, so we brought in a larger round, even though we clearly did not need it, because we acknowledged there was a very large opportunity.

Additionally, we had been approached by News Corporation in August of 2005, before the company was even formally launched. As we talked to them it was very clear that they saw a big opportunity for a disruptive classifieds company in the United States. They did not have a significant number of classifieds assets but they did have a significant online audience. A lot of the discussions there led to a global agreement with News Corporation and Fox Interactive Media in March of 2006. That combined round was $13.5 million.

SM: And you have significant runway with that money. GG: That is the reason why we are where we are in March of 2008. This is a time where we feel like we have a great opportunity to move ahead, and we are in a position where we can use the investments within the company to build it. We see a big upside looking at potentially creating even larger opportunities, and that is where we will continue to explore our options. For the moment we are very content to grow organically as we have.

SM: Wonderful. A great discussion, I enjoyed it.

Vertical Ad Networks: An Emerging Trend

At the moment, Ad Networks are in the business of amassing huge volumes of fragmented traffic, and offering a channel to advertisers to access the publishers who own this traffic.

Expect, over 2008, these mass Ad Networks to attain higher quality via segmentation and verticalization .

The reality is that old media has started waking up to the fact that Google, Yahoo!, AOL and a bunch of upstarts are feasting on their lunch, even though *they* are the ones with the best advertiser relationships and ad sales forces.

The first of the old media companies to experiment with this phenomenon was Washington Post, through its Blogroll program. Now, if you are a successful blogger with a strong readership, you have most likely been approached by many other burgeoning Ad Networks Reuters, CNet, NYT, Forbes, Dow Jones several are noodling entry paths into this business of aggregating fragmented traffic, and selling it to advertisers for a premium.

I started predicting that this would happen back in April 2007, when I interviewed Russ Fradin of Adify. It is, in fact, surprising to me that the Newspaper and Magazine world has taken so long to grasp the opportunity.

This trend can be the death nail for Google s AdSense, who has really mistreated its small publisher customers.

Google, for example, does not send AdSense payables to publishers unless the payment due crosses a threshold amount of $100. According to an estimate, these withheld AdSense payments had grown to $370 million at the close of fiscal year 2006. Now that is a decent sum of cash about 3.5% of its total 2006 revenue which in all likelihood must have grown more by now. Of course, it still isn t revenue, since it will eventually have to be paid out, but it is a lot of cash cushion that can come in quite handy.

Now, the old media players won t have their act together right away. There is much to be learned through experimentation. However, by 2009, my prediction is that the Vertical Ad Networks coming out of veteran media shops should be able to deliver CPMs at a significantly higher level than that offered by AdSense, Yahoo! Publishers Network, Advertising.com, Blue Lithium, etc.

And that is precisely what publishers are waiting for.

Meanwhile, will Google sit around sucking its thumb? I sure hope not.

At the end of the day, the market is better served when fierce competition drives all players to raise the bar on their offerings. Google, for the longest time, has had an open playing field with nominal competition.

I, for one, can t wait to see that dynamic change.

I, for sure, am rooting for the old media companies to get their acts together!

Russ Fradin, Adify

Russ Fradin is an online advertising industry veteran, and current CEO of Adify, an innovator in the Online Ad Network space. Presumably, they will help numerous media companies build Vertical Ad Networks, offering an alternative to Google AdSense. At the time of this interview, Adify had just raised $20 million. At the time of publication of this book, the company had already been acquired by Cox for $300 million without yet fulfilling my hope that they would cause Google serious trouble.

The moral of this story: with a good, deep understanding of the market, and a solid investment thesis to disrupt the existing world order, you can not only raise a great deal of venture money, but also sell your company without fully executing on your vision. In the latter case, the acquiring company buys into the same investment thesis as your original investor, and now wants you to execute on their clock.

SM: Russ, you were one of the founders of Adify, correct? RF: I founded Adify with the two original founders of Flycast. A few months ago, myself and one of my co-founders realized it was more appropriate for me to take the CEO role and for him to have the chairman roll. It was really an evolution. With this new round of funding we are going to be hiring more people, so we realized it was time to formalize things.

SM: Can you give me a bit of a background? It looks like you all worked together at Flycast, and now Adify seems to be doing quite well. RF: Flycast was phenomenally successful. It was the first online Ad Network. My two co-founders and I started Flycast in 1996, back when DoubleClick was in the rep firm business, before they had even launched Dart.

Flycast was really the first performance based Ad Network. We started years before Advertising.com and ValueClick.com. I was one of the first couple of employees of Flycast, which is how I met Rick Thompson and Larry Braitman, my co-founders. At some point in 1999 Flycast went public and a few months later was bought by CMGI and was rolled into Engage. Flycast was bought for somewhere in the $2-3 billion range, so it was very successful for all of the entrepreneurs, employees, and investors.

Then in 2000, after staying at Engage for a few months as the VP of Business Development, I went to join Comscore before it launched in June of 2000. I ran Business Development and Corporate Development for Comscore for four years and I was involved in starting many of their verticals, such as MediaMetrix. Then I went and spent a year at Wine.com, and we got in George Garrick who had been the CEO of Flycast, and George and I were trying to turn around Wine.com. During that time Rick and Larry and I were talking, and we started Adify in November of 2005.

SM: How do you view the DoubleClick acquisition by Google? RF: It looks like a very smart acquisition, because it can help Google get where they were going anyways, just faster, which is being in the ad serving space and really trying to compete in the display ad portion of the market. I am sure there are folks who find it scary.

SM: Do you see DoubleClick as the leader in the display ad business? RF: DoubleClick is a leader in the tools used to display ads. They are not really the leader in the display ad business. They are an important part of the infrastructure. It has been disputed how big DoubleClick is compared to Atlas and all the others. DoubleClick is certainly a major player in both the publisher side and the agency/advertiser side. I am sure Google could have built their own competing solution and tried to gain market share that way   or make an acquisition, which they now did.

SM: Yes. Strengthening display advertising was a necessary step, and Google clearly realized that the amount of dollars allocated for brand advertising is significantly higher than that allocated for direct response advertising. Hence, they had to work out a fast entry into brand advertising, which meant needing a display advertising infrastructure. Do you think the DoubleClick acquisition brings relationships to the table that would take Google a long time to build? RF: I don t know about that. I don t mean this in a negative way about the acquisition. I am skeptical that there is any relationship which DoubleClick has, which Google does not already have. It may deepen relationships with certain advertisers or publishers. At the end of the day I suspect Google and Yahoo! don t have a problem picking up the phone and getting the decision maker of any major media company or ad agency in the world.

SM: Your view of the acquisition then is Google gains the infrastructure supporting display ads, which is moderately valuable. It could have been built, but it would have taken longer? RF: From my perspective it did not seem surprising because Google is so large and makes so much money that the price probably does not really matter. It seems much more defensive than offensive. I believe Google already had all of the relationships anyways, but maybe Microsoft or Yahoo! does not have those relationships as deeply, so buying DoubleClick is a great move for Google because they get to keep an asset away from other people that might have been able to capitalize on it more.

SM: Interesting. I agree that it is a defensive acquisition, but not only because Google wanted to prevent Microsoft or Yahoo! from getting their hands on the relationships. I think it is a defensive acquisition because Google needs to get into display advertising in a meaningful way, and acquiring DoubleClick is a *fast* way of doing so. Where do you see Federated Media? RF: I really like what they are doing. We don t look at them as a competitor, but we look at them as broadly in a similar space to what we do, and they are very, very smart.

For Google and Yahoo!, it s not that they don t play in the brand advertising world, but clearly most of their money comes from direct response advertisers looking for something that will be measured purely in a cost per conversion basis, regardless of how it is priced.

What I like about FM Publishing is this: content matters, community matters, and relationships matter.

FM and Glam and others like them are really doing an excellent job marrying the reach you can get from an Ad Network with the high quality, high equity brand placement of a real category expert. I am not an FM publisher, and I am sure they have their detractors as well, some will like them and some won t, but we at Adify think what FM is doing is really an important next phase of the Internet.

SM: Yes, FM is tapping into that much larger brand advertising budget inside of top advertisers, and so is Glam. Let s fit Adify into this framework. What is the business

model? RF: When we started Adify, what we saw was Ad Networks trying to aggregate bulk amounts of inventory and apply targeting algorithms to that in order to sell a huge amount of -direct
response advertising. That was a game we did not want to compete in. Whether Google will dominate that, or Advertising.com, ValueClick, or TribalFusion or whether they all grow or shrink is for them to fight it out.

We like FM, Travel Ad Network, and Glam.

SM: That would be a tough market to enter at this stage anyway. RF: Right, so what we did was take a close look at the web, and when we did we realized there were 88 million websites. Obviously fragmentation is a huge problem. Not only are there a huge number of websites, but the percentage of time people spend on the long tail, meaning the amount of time they spend off the top sites, is larger and is continuing to grow. Basically, the relative importance of any given site on the Internet is shrinking in relation to the whole category.

SM: Right. Publishing has become easy, and all those great voices who did not get to publish previously, today, not only publish, but also, fairly rapidly, develop an audience. Often, a fairly captive, high-value audience. So what is the significant opportunity you see in the fragmentation phenomenon? RF: First we realized that brand marketers are going to have a challenge.

Point number one: brand advertisers need to spend more money online.

Ad agencies have less money to work with because we all know agency margins are shrinking. Essentially agencies have to put to work more money with fewer dollars in working capital.

Point number two: Ad agencies have less money to work with because we all know agency margins are shrinking. Essentially agencies have to put to work more money with fewer dollars in working capital. The third point is that as a result of fragmentation, agencies not only have to deploy more money with fewer dollars, but on more sites.

An agency that is really paying attention to brand, and really trying to work intricate brand messaging, is never going to say go ahead and run my ad across whatever 50,000 sites you want. That would be crazy. Just like in other forms of media there is a real role for an aggregator to play.

SM: So you are looking to play the aggregator role? RF: Aggregating the high quality inventory in any given niche is what FM publishing is doing.

What we realized at Adify is that there would be hundreds, if not thousands of these niche Ad Networks around the world, which are specifically run by the experts in any one category. Whether it is skiing, horseback riding, women s health, automotive, conservative politics, or whatever it is going to be, advertisers are going to want to reach that demographic just like in the magazine world, just like in the broadcast cable world.

There will be a need for experts to aggregate the high quality inventory, to bring them something that is highly relevant to their category and large enough to be worth the time to purchase. So not only did we realize that there are going to be thousands of these firms, but we also realized that they are going to need infrastructure.

SM: That s where you come in! You are then providing the Ad Network infrastructure to these aggregators? RF: Yes, we are a technology and services platform that allows any network operator to build and maintain their own highly targeted Ad Network.

If we had existed back in 2004 our pitch to FM would have been that instead of spending millions of dollars hiring engineers, building server farms, your own payment, collections and client management software, sales management software (which is not really your specialty), just let Adify run the back end of your operations. You focus on what you are good at: publisher recruitment, marketing and advertising sales for high quality business bloggers.

SM: Does FM Publishing use your platform, or something similar? RF: We were started many months after FM publishing, so they do not run on our platform, but we are the type of company that would do that for them.

We believe that traditional media companies like NBC, Washington Post, and Comcast will want to build more vertical networks to have more relevant inventory in their expertise area.

We believe that the number of entrepreneurs who build various targeted verticals will increase.

We knew that international markets would be very important, so from day one we have been a global platform. Today we are available in five languages and four currencies; half of our business is outside the US. A very fast growing part of our business is outside the US because they have the same media fragmentation problems and the same need for a middle man between high quality websites and advertisers who want to reach a high quality demographic in their category. Those needs are growing, not shrinking.

SM: What is your business model? RF: It is always based on some metric calculated from ad sales throughput and performance of the networks we power. We have publishers working with us who, although we love them as customers, are very small businesses running only $20,000 a month of Ads. We also have folks with us who are going to sell $10 million a month.

Our business model is generally based on a percentage of the publishers revenue. We don t like charging startup costs or setup costs because we have such a wide array of customers that it doesn t really make sense.

Our business model is a percentage of revenue because not only do we offer all the servicing and technology, but we do customer service and back office. We will pay thousands and thousands of publishers on behalf of their networks this month. Network operators maintain full control over what share of revenue they keep versus their partners.

SM: Do you have technology in your system to be able to deal with multi-tier networks? The Washington Post Blogroll, for example, has a number of blogs which are part of their network, so they are a multi-tier network with revenue sharing. RF: Yes, that is exactly what we do. We manage that network with all of those blogs. They want to bring larger reach to their advertiser base than what you can find on WashingtonPost.com. They want to grow their total available impressions, and that is what they use Adify for.

SM: They do the selling of the ads, and you are the infrastructure provider? RF: Correct, we do everything but sell their ads.

SM: Is the commission percentage of the revenue individually negotiated with your

clients? RF: It ranges anywhere from 20% for entrepreneurial clients, and gets lower from there, based on volume.

SM: So, in effect, you are enabling your publisher clients who have strong ad sales forces, to build up Ad Networks that could become meaningful alternatives in specific verticals to Google AdSense and Yahoo! Publisher Network. You are introducing competition to that duopoly, but instead of competing directly with Google and Yahoo! in the Direct Response Advertising space, where the die is already cast, you go after the brand advertising space, where the field is still quite open. Would you give us some examples of your larger and smaller customers? RF: We work with an education related network called HotChalk; we work with a network of do-it-yourself home improvement types called HouseBlogs; we work with a specialist in the health space named Robert Kadar, who is starting a network called GoodHealthAdvertising; we have a group of newspapers, very local newspapers, called MyAdSource. We also did a press release with the Veterans of Foreign Wars, which has a network they run on our platform of all of the VFW Post websites, a very local offering. We also work with NutrientRich, an entrepreneur in the vitamin space.

SM: What about big media such as the Washington Post? RF: Reed Business, Washington Post, Time Warner &

SM: Which networks within Time Warner are you powering? RF: Within Time Warner we work with Sports Illustrated. We also work with NBC, obviously Time Warner and NBC invested in us.

SM: Do you have any business networks? RF: Computer World is launching a network on our platform for IT professionals, which just happened two days ago.

SM: You do not have a Business Week or a Wall Street Journal yet? RF: No, we do not work with any of them yet.

SM: Looks like, while there are options for technology and travel bloggers to hop on a network that can access brand advertising dollars, for business bloggers, the only option today is FM. Part of my problem is that the Washington Post talked me into signing up, but they have no business ad inventory. RF: Well, start your own! Actually, I would never talk someone into leaving one of our customers networks, but many of the conversations I have inevitably turn into discussions about people starting their own networks.

SM: You mentioned Glam earlier, are they powered by you? RF: No they are not. Glam, FM Publishing and Jump Start are three very nice vertical networks who were started years before Adify, but when we were starting the business we really liked what they were doing. I would not call them competitors, I would call them kindred spirits.

SM: What advertisers are participating in your network today? RF: Other than the ones that have been announced, that is confidential to our clients. Only the ones that the Washington Post has announced are ones that I can talk about. Lufthansa and Marriott. There are many more, but those are really tough to go into.

SM: Yes, I know about the Lufthansa and Marriott ad buys that Washington Post has won. In fact, for travel bloggers, it looks like the number of options is increasing, and they can soon become free of the clutches of Google AdSense. Computer World s technology blog network is likely to free the technology bloggers, and help them access strong ad inventory, higher CPM rates, and all those things that bloggers need for their sites to flourish! What kind of CPM rates are you seeing? I know FM is starting to see very good CPM rates. RF: It really depends on the vertical. I would say on average we are seeing rates in the $10 - $12 range. Some verticals are in the $25 - $35 range, and some are in the $4 - $5 range. These networks, just like FM, are really competing against the portal channels. Our vertical network guys tend to see CPMs in the $8 - $15 range, which is a sweet spot.

SM: When you go out to talk to the larger media companies, what do you experience in their shops? Enthusiasm, fear, caution? RF: I think there is a lot of enthusiasm. A lot of Web 2.0 companies walk in and tell them that what they are doing is bad & they should just give their assets to us and we will do it better online.

I personally, and this is not just a marketing spin, have always had tremendous respect for the access traditional media outlets own and control. Their brand name, their relationship with - customers, their relationships with advertisers and their sales forces. I actually think one of the things the press has gotten wrong in recent years is when they talk about how traditional media companies are failing online, the problem isn t that they are stupid and don t know what they are doing, the problem is that they do not have enough inventory.

They are the leaders in their space, and the leaders in their brand, but they don t have enough quality inventory to sell. Our pitch to traditional media companies is that Adify gives them the tools to further leverage their very strong assets. They have fabulous relationships with advertisers in certain categories and great sales forces. Obviously customers working with us are bullish about their assets or they wouldn t be working to build new businesses on our platform.

Why should old media just concede the battle to Google and Yahoo!, with so many great assets?

We re talking about large media companies and their assets: readership/traffic, brand, channels, advertiser relationships, sales forces, and inventory. Why should old media just concede the battle to Google and Yahoo!, with so many great assets?

SM: Not only do they have great sales forces and good relationships with advertisers, but they also have tremendous traffic. RF: The issue tends to be that they do not have tremendous traffic of the valuable inventory. One of the reasons these traditional guys work with Adify is that they have a lot of traffic, but they could sell a lot more traffic than they already have.

SM: Yes, exactly. They have the channels to access more traffic if they have cost effective content available. The cost structure of producing content in media companies is problematic. RF: Right, and we enable them by introducing them to all these other websites out there who would love to be associated with the media companies. They already have a sales force who knows how to sell their media, so why not work with these other sites?

Time Warner and NBC have invested in us, and we have all of these great customers, and this is why. I am not saying anything against Google or Yahoo!, they are very successful companies, but that does not mean that the rest of traditional media should just pack up their bags and go home.

SM: I would love to partner with a CNN Money, or a Business Week, or a Wall Street Journal or somebody who has the channel to get me exposure to additional business traffic. I would love to be able to leverage the traffic and share revenues with them. I d have no problem with that. RF: Give them a call, tell them to start a network. Just like any other small company, one of the things we are doing with this money is hiring more sales people and marketing people. Every day I think of 10 companies I would like to be working with that we are not talking to yet, just because we are small and we have not gotten to them yet.

SM: Are you getting the visibility at the right level of executive sponsorship at these large media companies? RF: I can tell you there are a lot of very senior folks at Washington Post that I have personally met. Beyond just them, deciding to build a network is a very important decision for a brand. It can be downright scary because if you decide to build an Ad Network, you are vouching for the quality of that content when you go to your advertisers. These are very high level decisions to be made. A vertical network is a great way to build your business, but it can hurt it too.

SM: When I look at Washington Post I am surprised, it seems they are not putting enough weight behind their network. I understand exactly how significant the decision is, I just don t see the same level of significance in their communications. RF: Honestly, I can t speak intelligently about how much they have put behind it. I know that it is a big decision for them to put a new product to the sales force. One of the things we discuss with all of our clients is how quickly they launch and how they deal with it internally.

With Washington Post, while we have received a lot of very senior level support, *you*, as a publisher, have a different perspective. Forgetting the interview for a minute, it is very nice to hear these different kinds of perspectives.

SM: Part of that perspective that I bring to your table, Russ, is that I just got this Washington Post Adify code inserted. I told them a few months ago I would try it out, but I did not put in the Adify code, so I was not actually pulling ads from Adify for a while.

Now that I have inserted the code, the only ad which Washington Post pushes onto my site which is relevant is Marriott. How much Marriott can my audience consume? That is one problem.

The second problem is that the customer support was not that good. There are going to be questions. My web admin had questions about how to do the house ads and the defaults. It was hard to find the answers to those questions. I was given two names within Adify, so I called and left voicemails and nobody called back.

I then called Jeff Burkett with the Washington Post directly and told him that since he got me into this, he better fix it. You know, it still isn t fixed, although I finally found a guy within Adify to help us through Amit Agarwal over at Digital Inspiration, who is also a publisher using Adify and WPNI. RF: From our end, we put a lot of money into our customer service group, and management of it. So, aside from the interview for a minute, I would truly appreciate it if you would send me an email with what happened there, because I really do want to look into it. That is highly embarrassing.

SM: My big question from a non-interview standpoint is, what is going on with the business network side? My next natural step, and I told Jeff, is to move to Federated. I am almost there in terms of traffic, and I have been in conversations with John, and I told him that.

If Washington Post gave me the right CPM level and the right inventory level of advertisers, I would stay with them. But I think I will be forced to move to Federated because there is no other option at the moment. That is why I keep asking you the questions about CNN Money. RF: I can say we are looking at a lot of networks with Time Warner. That would be a very logical thing to do, but it is certainly not something that we will do in the next 30 days. We re not there yet.

SM: Any parting comments? RF: You certainly seem to get the high points about what we are trying to build. I appreciate you taking the time to talk with us.

SM: My pleasure, entirely!

Disrupting Business Models

The Next VMware

Wall Street made no secret that it was salivating over the IPO of VMware, the first in what I believe to be a long line of technology companies who will simplify life by moving complexity away from IT organizations.

First consider the history of VMware, an offering as meat-and-potatoes as they come, glazed in the buzzword virtualization . VMware s software separates computer hardware from the envelope of software that surrounds it. It enables machines to run multiple operating systems and makes it easy to use hardware resources more efficiently.

Virtualization offers a unique advantage for desktop computers a truly secure computing environment. Microsoft has long promised this, but never quite delivered. VMware, by contrast, made it possible for enterprises to manage battalions of desktops and laptops from a centralized control point including ones that come only briefly onto the enterprise network, say from partners or consultants. The software lets an administrator continue to enforce Security and Governance policies, and avoid the security holes caused by individual users whimsically loading or removing software.

Customers have embraced the value proposition, making VMware s stock a sizzler. On its first day of trading in August 2007, it soared from $26 to close at $58. It climbed as high as $125 last year. Revenue for 2007 was $1.3 billion, up 88% from 2006.

Wall Street punished VMware severely in January 2008, however, when the company missed its sales forecasts by $5 million it delivered $412 million in fourth-quarter sales against analysts expectations of $417 million. Now its stock trades at $60.

What s the moral of this story?

Growth is necessary, but not sufficient. Predictability counts.

That made me go looking for a company that one, delivers Software-as-a-Service (SaaS); two, can remotely maintain the critical features of a big IT infrastructure; and three, has a highly predictable business model. I didn t have to look far to find a small company located in Redwood Shores, California, called Qualys.

Qualys, founded in 1999, scans networks of corporations to identify security problems.

According to Chief Executive Philippe Courtot, the journey hasn t been easy. The company encountered significant resistance as IT departments did not like to be *watched* by anybody else but themselves. They also did not like the idea that they were no longer in control of installing and updating software.

After the Internet bubble burst, the venture capital community grew cautious, too. Courtot s lead investor urged him to retreat to the safer grounds of building Enterprise Software not delivering a service. I refused, Courtot recalls, and in 2001 cashed out the venture capitalist with $7.5 million of his own money. Since then, investors have pumped $65 million into Qualys to help it build out its SaaS model. Philippe Courtot is a gutsy guy!

Six years later, 30% of the world s biggest 100 companies have selected Qualys as their vulnerability management solution. Qualys generated $39.5 million in revenue in 2007 entirely through subscription fees, and has been growing revenue at a 40% per year clip. Gross margins stand above 80%. Qualys has been cash-flow positive for the last two years and has established partnerships with most Managed Security providers who sell such services, including IBM, Symantec, VeriSign, BT and Verizon.

It now has six virtualized data centers across the world, with 6,000 QualysGuard appliances installed in 85 countries.

VMware showed that its hardware was capable enough to manage the daunting task of making IT self-managing, Courtot says. Similarly, we have built the capability of virtualizing the complexity of scanning and analyzing traffic, enforcing rules and policies, and so on by connecting a remote service and an on-site appliance.

In 2008, Qualys plans to add several new services, including IT Compliance with the Sarbanes-Oxley Act. Because it has already built a global infrastructure, adding new services is literally a push-button exercise. It can offer the new capabilities to Qualys existing customer base, keeping sales and marketing expenses hence operating costs down.

One of the things I really like about SaaS companies is that while it is expensive to build the baseline infrastructure, once it is ready, layering on new services becomes both efficient and profitable.

In the long run, Qualys expects to deliver operating margins between 20% and 25%, up from its current 4% operating loss. The company s growth rate could also accelerate if new services like Compliance become as successful as the core vulnerability management offering.

So far, Qualys customers seem happy: the company boasts a renewal rate of 98%. That gives the company a clear view of revenues going forward, diminishing the risk of missing earnings.

Wall Street is just learning to understand the beauty of the SaaS model, and why companies like Qualys are attractive and relatively safe investments. SuccessFactors, a recent SaaS initial public offering, boasted $63 million in annual revenue and a 95% growth rate. It was richly valued at $500 million. In the next few years, as the SaaS market develops further, valuations will likely go up.

Qualys is an example of a potential 2009 IPO that holds the promise of delighting the market just as VMware did, but with better revenue predictability. And for investors, that could make Qualys and its kindred SaaS companies the business model of choice in the technology sector.

One afternoon last summer, I was reminded of Philippe in our garden in Menlo Park. A couple of venture capitalist friends were over for lunch, and somehow, the conversation drifted on to the topic, What makes a great entrepreneur? Stewart Alsop readily offered, A chip on the shoulder.

Philippe Courtot is an exceptionally driven individual. I have met few 63-year olds with as much energy. Through one company after another, this entrepreneur has driven to market numerous innovations with both anger and passion. He has resuscitated companies from near-death; he has worked with blank sheets of paper to create thriving businesses like Qualys; and fortunately he has also shared his sometimes blasphemous opinions with me on numerous occasions. I am always struck by his instinct for predicting trends that is the bedrock of his entrepreneurial journey. A journey that shows no sign of slowing at an age, and net-worth level, when many of his peers have long since retired.

SM: I would like to start by talking about your childhood where you come from, how you became this highly creative and innovative entrepreneurial personality. PC: I was essentially born the first day France was liberated from German occupation, officially, which was August 26th. My mother was from the Spanish side, so since a very early age I had the opportunity to go on vacation in Spain and learn the ways of both cultures. As far as I can remember I was a child of a lot of curiosity. I had a lot of energy and it took me some time to focus myself because when you are interested in many things your tendency is to disperse your energy. Over time I got better at focusing myself, but essentially as long as I can remember I was a curious child. I was raised with a strong Catholic background, and I went to Jesuit schools and I was questioning when I was 11 years old many things in the Bible, and they could not give me a good explanation, one which satisfied an 11 year old mind, and I started to gradually lose my faith.

SM: And what did your parents do? PC: My father was an administrator of companies, he was a lawyer. My mother was a Spanish teacher.

SM: What particular values did they teach you? Was there anything when you were growing up that propelled you into this line of expression? PC: I think that they both had a difficult life in many ways. My grandfather was a peasant and he educated himself. My father s values were more about learning and understanding, so his value was essentially *work*. He had a very good mind.

SM: And your mother? PC: My mother, in fact, was an illegitimate child of my grandmother at 16 and a half years old, and was given an education by the nuns until she was 16. At that time they normally stopped a full education at 12 years old. My grandmother, who by the way was the youngest daughter of a family of 13 girls (6 of whom died very young of diseases), ended up living alone in Spain. She raised my mother alone, and also managed to establish the French High School in Bilbao. She was then kicked out, along with my mother, during the

Spanish revolution and once again had nothing, and had to start everything all over again. Then World War II came, which was difficult for everybody. That is the background. This was during a time that a lot of people moved into the big cities. I saw the Cold War, I remember that well. I remember the noise the communist movement was making as they were trying to take power in every municipality possible. I remember my mom making soap and toothpaste. I lived during that connection, if you will, over the bridge between generations.

SM: But you chose a completely different life than communism, in fact you chose the complete opposite. PC: Yeah, it was pretty clear to me, I mean, again like the Catholic Church, people tell you how to behave and how to think. I was very young, and always a very independent thinker. It was clear to me that it was not a progressive way to live.

SM: Where did you do College? PC: I went to the University of Paris. My parents, especially my father, was pushing me to go into math, physics, scientific things, which I liked, but my heart was pushing me to be an architect. I caved in and went to the University of Paris to study Physics. But I still miss art. I loved painting at the time, and I will probably come back to painting one of these days. I kept the artistic expression in me. When I take companies, I have a notion of sculpting if you will, and I suppose I channel my artistic desires into sculpting companies.

SM: You were in France until what age? PC: I came to the US in 1981, and I was born in 1944. I was 37 years old when I left France.

SM: And what were you doing between college and 1981? What was your career in France? PC: I graduated from the University, and it was hard to find jobs in physics. At that time I was just getting married, I was the last group of individuals doing the mandatory military service, a year and a half. I needed to make money. I applied for IBM, Philips, and a few of the large companies, but none of them were really taking me. For two reasons, I really didn t have an IT background &

SM: But nobody did at the time, right? PC: They were starting to. But the real reason is because in France you had psychological tests at the time, and when they turned you down they did not tell you why. So I wrote them a letter and asked, and they wrote me back and told me it was their policy not to tell why they had turned down people. But I insisted and insisted and insisted and finally they gave in. So they set an appointment and asked me to come in, and when I came in they said that my psychological test showed that I was far too much of an independent thinker.

SM: That was my guess! PC: They were looking for people who were willing to be directed, and they said that I would not be happy working with them. And they were very right! Then what happened was I found a job in a small company in France that was distributing semiconductors. Through that I had the opportunity to attract the attention of Modular Computer Systems.

At that time the laws of France were trying to protect the domestic computer industry, so no other company, no American company, could sell in France. So, I set up the company for them, they gave me $5,000 in cash and I incorporated. So it was essentially my company, but it was really theirs. That is how I got into the computer business. It was an interesting adventure. I did not know anything about computers, really. I was barely speaking English, I knew a few words. My salary was based on commissions. I became a very good sales guy.

It is very important to see yourself, what you do and what you have, with the eyes of the customer.

In fact I realize now that I was not a sales guy. I was essentially coming to tell them a solution, but I told them you are very technical and I am not. I know the product is good, why don t you try it out and tell me what you think. My customers are the ones who taught me the value of the product I had. I learned one of the most important lessons very early on. It is very important to see yourself, what you do and what you have, with the eyes of the customer. After six months, when I brought a $20,000 order, the Americans did not believe me. Once they saw it was real, they gave me a big bonus in addition to the standard commission. So, when I came back to my wife, I said, I will go to America.

SM: So that is when you made the decision? PC: That is when I made the decision. That is when I realized that the American society was very different than the society that I was in. In France I had diplomas, I had a degree in Physics which was a pretty good education, but I struggled to get a good job. I was not from the big schools, so I was a second grade citizen. My parents were not connected, so every step of the way the French top society was telling me, OK, we are satisfied with the work that you are doing, but you are not one of us, so be happy with what you have and where you are. Be happy that we give you a job.

I realized that the American society was based on what you can do. So, it was then that I realized that it would be best for me to come to the US and work internationally. Then it took me some time, but I grew in the corporation. I was then promoted and went to the UK to manage sales and marketing. From there it was easy to come to the US. I spent 10 years with that company.

SM: And that brings us to 1981? PC: Yes, that is when I came to the US, in 1981. In 1985 I got my green card. I was attracted by Thompson CGR, which was looking for a president for their US operations. The criteria were typical French.

First, they wanted someone who was French. Second, they wanted someone with a scientific diploma, and third, they wanted someone with US experience. And they found in fact that when they used the big head hunter firms they had only two people, myself and one other person, who met these criteria. The other individual was very expensive for a French firm, so they finally selected me because I was, of course, less expensive.

I then moved to Maryland to help the old medical business of Westinghouse which had been acquired by CGR. This was a company which had managed to last for 25 years. In the 1940 s they were manufacturing torpedoes for World War II, and they were a company that was transitioning to becoming a radiology company. They had two unions of 750 people. I obviously took the job because it was a President role, a huge opportunity, but I knew nothing about radiology.

My only reservation was whether or not to go back into the French system, and you could see through the interview process that they were, everybody in the company, all the top management, always studying you, and they had the philosophy that We are the best you execute for us. You bring us the data, but we are the intelligent people, and we will tell you what to do. So I was not at ease with that, but nevertheless it was a big responsibility, so I said, Fine, I ll do it.

Very quickly I realized that what the French management wanted me to do did not make much sense. They wanted me to push for MRI, but our MRI technology was behind the curve, and they still wanted me to go and push and push and push the MRI. That was the number one requirement. So a month later I came back and said, You know, this is a very difficult marketplace for us to penetrate. However, I see a huge opportunity in the Mammography marketplace. For two reasons, first the American Cancer Society is promoting mammograms in a nationwide campaign, and second, I can see that we have demand, but not enough units, so if we ramp up production big time, I can sell all of the units.

So what they said to me was that, Mr. Courtot, we are not interested really, this is not for you to essentially devise the strategy of the company. We asked you to push the MRI, not the Mammography. So, I tried for another month and I was convinced there was no market there. After that month, I came back with more facts. I still believed we could inundate the marketplace if we went after Mammography, because we really had good image quality, good product quality. The problem was to manage the production. They still told me that it was not what they were asking me to do, it was not relevant, and it was not our market. I was ready to quit, but I thought of one idea. So I went back to them and asked what would they do if I brought them a lot of orders. At that time we only had 150 units scheduled for production for the entire year, and they said as long as I told them that I had orders which could not be cancelled they would agree to manufacture.

So I went to all of our dealers and I told them that I had good news and bad news. The good news is that if you give me some orders I am going to reduce the price and I will deliver the units on time. If you do not give me these orders, I am increasing the price 50%. Therefore, I got a bunch of orders, real orders, and they agreed to increase the production. We went from 150 units to 625 units.

The second thing we did very well was I wanted to find a way to be above the crowd. I went to an ad agency and said I don t have a big budget so I think it should almost be done pro-bono because this is for a cause, and they looked at me like I was crazy.

They said it would be very difficult to do, but finally they called me back, and the guy who designed the campaign, Albert, explained to me that he thought it was a neat opportunity. They did a wonderful campaign with Diahann Carroll. It really elevated awareness, and I had managed with only $150,000 to get a cancer campaign which benefited a lot of people. So here we are with the best unit in the marketplace, and the marketplace is now hot.

625 units were sold the first year, and we had a huge backlog the next year with an order of 1400 units. And in less than two years we rose to 40% market share from less than 2%.

The interesting thing is that the French management blamed me. They said, Mr. Courtot we never asked you to do that, now the company is depending too much on the US market. I just could not understand, and it took me some time to figure it out. They were smart people, so why would they insist for me to do something that made no sense, then not be appreciative when I had been successful? By the way the company was eventually sold to GE.

SM: GE bought the company because of the Mammogram equipment? PC: Exactly. So what happened was that the medical division of the company was getting large subsidies and to receive the subsidies they had to push the MRI equipment showing that the French technology was great. So that was why the management was mad at me, I was not helping them push the MRI according to the commitment they had made. Of course they never told me they had made such a stupid commitment. I was again a second grade citizen and not really part of the management and their planning.

SM: You were just trying to make the company successful and make the best business decisions! PC: Exactly, but they never communicated their issues. But there was no dialogue, because you just do what you are told. I was very happy when the company was sold to GE.

SM: And after that, California? PC: Yes. So, here I was, so happy you cannot believe. Here I was finally in the promised land, in the heart of Silicon Valley, with the American people and out of the French mentality.

SM: Was there an important lesson at this time that helped you take your next turn? PC: I studied a year with a venture capital firm, and learned a lot. Essentially what I learned was that all the startup investments that were not doing very well were essentially recycled by bringing in professional turnaround experts. They were re-buying the company at 30 cents on the dollar, and diluting everyone to try to rejuvenate it. I learned how to rejuvenate a company the American way, and that cash is king.

I was still unhappy with the medical equipment marketplace, and I really wanted to go back into the computer business, but at that time I could see that clearly the market had changed. It was no longer hardware, it was about software. I looked for some software companies, but I did not know anything about software. One day I looked at the Wall Street Journal and I saw an ad for a company, cc:Mail, which was looking for a President.

It was walking distance from my house, and I went there, met with the founder who explained what the situation was. All the VCs who had invested in his company wanted to sell the company, and he did not want to sell. They told him if he could find a President, they would not sell the company. So we discussed, and I was an ideal candidate for both guys, for the VCs because of my turnaround skills, and for the founder because of my scientific background.

What the VCs didn t tell me well they lied to me like they sometimes do they did not really want somebody to run the company, they wanted to sell the company; they just wanted someone to push the company so they could sell it.

So, I joined that company, cc:Mail, which had 10 people and $2,000 cash in the bank. What I did was to essentially reach out to our customers, what few customers we had, to see what they needed. All the customers, all the experts, they all said that email was going to be integrated into the operating system, and they were all negative toward LAN based email.

So while the VCs couldn t care less about this gasping company, the customers would tell me a very different story.

SM: And that was the product of cc:Mail? PC: That was the product of cc:Mail, Electronic Mail. So while the VCs couldn t care less about this gasping company, the customers would tell me a very different story. They would tell me how strategic it was becoming for them. The main reason they were using cc:Mail was to reduce the cost of fax between international sites. They sent drawings in email instead of faxes. Much like why we are using Skype today, to get around the additional Telecom charges. So I could see, obviously, what the pundits and supposed experts were telling me was very different from the customers, and I said, Oh, that s good news!

Nobody understood our opportunity. I went back and spoke with other VCs, and I told them the issue and that I needed some money in advance to build, to deliver one key missing component of our software at the time which was directory services at the enterprise level.

As you can see LAN based email needed a small directory. Enterprise email needed stronger directory services. We committed to that and we completed it for a few thousand dollars. I then went to a distributor, and I asked them, If I give you all the customers, would you put some additional orders? They said yes, and we essentially delivered all of our existing clients to them in exchange for some additional orders.

Essentially we got about a million dollars, and that is what allowed us to be a company.

So, what is interesting about that?

Now, we have Microsoft and IBM, and we are a little company with 10 people, and we are having to compete against the big guys and their shenanigans. Those were the businesses we had to beat to become the dominant player.

And we did, we beat Microsoft, and I can give you the details.

SM: Yes, let s go into those details if you would please. PC: So, the story of cc:Mail is obviously Microsoft and IBM started first. You realize IBM was very strong in Mainframe, and of course they realized that to move out to the network they had to come up with some big things. Microsoft followed with Microsoft Mail, and that was the time when they were really pushing Windows. Their entire strategy was to dominate the desktop, and everything would use Windows. They pushed mail with Windows only, not DOS.

They looked at us like a DOS application, and they tried to buy us, the typical way they worked at the time. They tried to show us the new services and servers they had, and they offered us $10 million for the company, which was peanuts. They applied some pressure, telling us they would compete with everything they have, but I did not cave in. And for one reason, first of all, their offer, I didn t like it, and the second reason was strategically thinking, I knew it would take a long time for Microsoft to become dominant with Windows.

SM: DOS had a lot more runway. PC: Exactly. DOS and Mac still had a lot of users out there, so I felt I could still compete with Microsoft because they were so Windows-centric, and there was no doubt they would become the dominant player in the operating system, but by the time it happened the email application would already be deployed. So, Microsoft went into a huge campaign to essentially discredit cc:Mail. They built a several page white paper document to show the Microsoft Mail futures against the cc:Mail present, and that was at a critical time when we were trying to do much larger enterprise business.

There were orders expected from Bank of Boston and other larger accounts, but people began telling us that there was something new coming into the marketplace and that they wanted to postpone their order, yet they could not tell us why because of a non-disclosure. So, those were difficult days for us.

SM: I can imagine. How did you get out of that hole? PC: Well, a few months later a nice person from Bank of Boston says, I want to send you a document, but I am not supposed to tell you, can you send me your home address because I think what we are doing is absurd. So, that is who sent me the famous document where Microsoft compares cc:Mail to their future. And so, my first instinct was to go sue Microsoft, not for the purpose of getting money, but for getting attention.

Then, as I was preparing the law suit, Bank of Boston called me again, and said, Look Philippe, Bill Gates came by, made a presentation, and we realized that we are waiting on something that is coming in the future, but it is all smoke and mirrors right now. We have made the decision to go with cc:Mail. That was fantastic news for us, and here I was about to go and sue Microsoft.

Instead, what I did then was go and tell every account, This is what happened with Bank of Boston, and I think you should call Bill Gates and ask him for a presentation of his product.

Gates traveled through the Fortune 500 accounts, and I literally traveled for three months behind him to go and visit all of these customers. I literally went in after him and closed one account after another. In less than two years with 5 or 6 sales people we closed 250 Fortune 1000 companies, which were *all* standardized on cc:Mail.

So all these marketing dollars and the marketing machine of Microsoft, which was designed to kill us we turned it back on them and it helped us grow cc:Mail.

SM: Wow, Philippe, that sounds like a clever strategy that even Bill Gates cannot help admire! What happened next? PC: And then I made the biggest mistake of my life, of my career to date I think. We sold the company to Lotus. We sold to Lotus because Lotus Notes had an interesting way of doing email. Nobody was doing email over the Internet as well as it could be done, and they were saying if we could combine the two technologies (at that time we already had 5 million users), we could have an interesting market position.

They offered a significant premium for the company: we got 3 times sales plus extra, which at that time was a huge premium, but today it s not a big valuation. So, you know the VCs were anxious to sell, and we made the decision to sell with the condition that I stayed with the company. And I have to say it was easier, in many ways, to defeat Microsoft than to save cc:Mail inside IBM. From the very first day it was their objective to shove Lotus Notes into cc:Mail, and I pushed back. They tried 5 times to force Lotus, and the users rebelled. So there were a lot of games, and the sad game was that ultimately I had to shut cc:Mail down with 23 million users.

SM: So, Philippe, I want to probe that a little bit. You said that in 5 years you built up to 23 million users. Was there any contribution from IBM or Lotus to help build that user base? PC: We had help, yes. The IBM sales channel was working for us, and even though the management wanted the field to sell Lotus, the customers wanted cc:Mail, and the field sells whatever gets them the commission!

SM: So you were able to get help from the Lotus sales force? PC: Absolutely. IBM worked out nicely because they were looking at $50 per user, and that was nothing. Customers valued the product immensely.

SM: What price did you sell cc:Mail to Lotus for, and if you had not sold it what do you think you could have done with it? PC: We sold for $65 million. Two years later, after I left, I met Bill Gates for breakfast in Paris, and I explained to him the idea I gave to Manzi. It was a simple idea to collapse cc:Mail with their Word application, together.

Bill turned white. He immediately saw that if we had done that we could, we would, have defeated Microsoft, because it would have collapsed their two biggest applications: Word and Outlook.

I showed the integration with cc:Mail at a conference, and I got a standing ovation, and then two months later I got asked to leave Lotus for being a troublemaker.

This was what our users were asking us, but Lotus did not want to do that because they did not want to surrender Lotus Notes to cc:Mail. They thought that might take another two years. I showed the integration with cc:Mail at a conference, and I got a standing ovation, and then two months later I got asked to leave Lotus for being a troublemaker. We could have moved much, much quicker to the Internet delivery model. It would have been a natural thing.

SM: Hotmail, GMail the works! PC: All of that. Obviously we were a company focused on what we were doing, which was mail. That is where I made the big mistake by selling. I didn t realize all of these post-merger issues.

SM: Hindsight is great! PC: This is life!

SM: So you have now quit IBM, what next? PC: I went extreme skiing for 9 months. I have done that every time between jobs take a sabbatical. It allows me to digest what I have learned. To digest and forget, essentially, and then I come back fresh and new.

I went from Physics to Mini Computers, to Medical Imaging, to Email Software and then I took another year off, and then went to Enterprise Software, and then into Online Payments, and I took a sabbatical again, and now I am in Security. I have been changing all over the technology marketplace, and I took the time off because I could refresh myself and come in with a new fresh look. I think life is the same. There are segments, components of life, everywhere, and you need time to reflect.

SM: Life is the same, business is the same business is still gross margin and revenue and earnings. PC: And customers. This is the thing everybody forgets, customers. It s customers.

SM: So you came back from skiing, what was going on in your mind at that point? PC: When I went extreme skiing I learned a lot of lessons. I learned to push myself from a physical standpoint. The biggest thing I learned to address was fear. If you look at the trees, the ski slope and the rocks, you have to acknowledge the obstacles in your path.

In business it is the same. If you look at your competition, if you are afraid of your competition and you focus on that, and you don t look at where you should go, then you get lost. The big trick in business is to transcend your fears and be aware of the obstacles, and then focus not on the problems but on the solutions.

I learnt it at the physical level, but I can transform it into the mental.

Because I have experienced all kinds of things, I am now more highly aware and extremely focused, which is what every champion in tennis says: everything moves much more slowly, you can see the spin of the ball, you can see the court it is peak performance.

SM: Yes, much of Eastern philosophy deals extensively with chiseling the mind to focus. So what happened after this ski sabbatical? PC: So there was a company called Verity. The VCs were not very happy and they were looking for someone, and I saw the opportunity to essentially restore the company. The company was doing very sophisticated search for the CIA and the agencies, and I saw the opportunity to bring search to the enterprise. I contacted Verity and told them I can do a lot of things, and because of my turnaround track record I got the job and began to completely restructure the company.

SM: How big was Verity at the time? PC: About $15 million, and 120 people. There were 13 or 14 VPs. I essentially completely changed the business model. That was where my trips helped me, because we went from a $1500 per user price point to a $100 per user price point the next month. I told the VCs we have got to take the hit now, we have to package the technology and we have to reach the masses.

SM: What were you selling at the time, Enterprise Search? PC: Exactly, it was essentially Google for the Enterprise. By repackaging our technology we were able to emerge as the standard for Enterprise Search.

SM: Did you see the Internet coming? I mean, Search was going to be a big deal I ve always looked at Verity as a squandered opportunity! PC: Yes. While I was vacationing with the extreme skier, we were organizing a trip to the peninsulas in Russia and we needed to get a helicopter lift up by the Russian army. So we had these extreme skiers who were connecting with the Russian army via the internet, and when I saw the email back I could see the entire chain of command from the Russian army going all the way back to Moscow.

So the view I had was, Wow, the Internet is connecting the planet. Then a few years later at Verity they showed me the first version of the Netscape browser from the University of Illinois. Instantly I recalled the extreme skiers. I said, Boy, this is it, the planet is going to get wired. This was the future, and it was going to be very big. I tried to push Verity into going to search the Internet. We were very successful getting search into Netscape, and I tried to get Yahoo!. Interestingly enough, Yahoo! had humans managing the data at the time.

SM: Yes, Directory Search. I remember. PC: Exactly, and it was interesting because you could find exactly what you were looking for, and you could also expand your knowledge. I thought that was wonderful. They had a much better search experience than anyone else at that time. I tried to push us that way, but our engine was not scalable enough. I tried to get the technology, but while the VCs were throwing a lot of money at Search, Verity, in a big way, missed the search opportunity on the Internet.

SM: A real shame. Netscape missed that opportunity as well. PC: Another interesting experience I had was when I realized what Microsoft was doing, by giving away the browser for free. Netscape was dominating the browser marketplace at that time and they were trying to integrate email, and Microsoft was coming out with IE 4.0. So I went to Netscape and told them they were making a big mistake because they were not giving away their browser for free, and they were compounding the problem because they wanted to create a new email paradigm.

Enterprise had spent 10 years working to get Enterprise Email working; they were not going to switch that easily. So I told Barksdale they should create NetCenter and put the effort on creating a platform so people could do search, directories, and they could encapsulate email, encapsulate Microsoft. His answer was, Thank you very much. We like people who root for us. We have already thought of all that, and if and when it becomes something we should do, we will do it.

And you know the rest! It is amazing, and the reason is, again, because they were looking far too much at Wall Street, not customers. I told them they should make their money from their NetCenter. They could have been Google!

Wall Street is a demanding master.

SM: Nonetheless, you took Verity public? PC: We missed the Internet market. The reason we missed it was we took the company public a little bit early, the hype of Wall Street and I have since learned my lessons, Wall Street is a demanding master. Wall Street loves you as long as you have earnings growth, and if you don t it s not that they hate you &

SM: & They ignore you. PC: They discard you. Essentially, they say OK you are a great guy, and then as soon as you miss your expectations, they say, We are finished. So when you go public you must be brave enough to resist the pressures they put on you.

SM: How big was Verity when you took it public? PC: I think it was $40 million. After that I took another sabbatical, went elephant tracking in the Golden Triangle in Thailand.

SM: What did you learn from the elephant tracking experience? PC: I did not know Asia very much, so I did not know the difference between the Asian mentality and the Western mentality. I think the Asian people look at life as a complete interaction, while the Western mentality is about the immediate success.

SM: What did you do when you returned from Thailand? PC: I wanted to go big time into the Internet. I had the idea and we created a small company called Business Project, with a few Internet people to do an application which would be a combination of Lotus Notes, Collaboration, and focus on businesses. The ideas were great, and I think that it will happen; in fact, it is coming now.

Very quickly I realized though that the browser was not capable. You could not create a good user experience with the browser yet. My first reaction was to say that Microsoft is not going to go there, since that would have killed their Office Suite. I had the idea to go back and acquire AOL which was in the process of suing Microsoft, and acquire the browser so I could get control of a browser and then we could deliver a Lotus Notes-like application and then after that we could have integrated elements of the suite.

AOL was not at all interested in selling to me. Their lawyers did not want to because they were suing Microsoft for damages, and they did not want to put a value on the damages to the browser. They were right, I had come up with a $500 million dollar offer, and I think they got $750 million. I knew we could not depend on Microsoft to improve their browser, so I said, OK, I have a good team, how can we apply that team to a new problem?

SM: So you had to go back to the drawing board! PC: This is when I scrambled together a new company, which was called PaymentNet, an Internet payment gateway. The company had some technology but had not packaged it well. The VCs had worked hard and did not want to put in more money, and they wanted someone to revitalize the company.

SM: Ah, a turnaround again! I am beginning to see your method. PC: Yes. I immediately re-branded the company, Signio. We did a major change. Our competition was CyberCash and a few others, and they were charging the banking gateways by the transaction, and I did exactly what AOL did and came up with a flat fee. I changed the business model and expanded the technology so we could have a very large version for the merchant running in the browser, and another more scalable version for the big merchant servers. We had a very scalable architecture. We started to take the marketplace.

We are now in the 1998-99 timeframe, and we had companies approaching us and wanting to buy us, and I wanted a partnership so I put major banks and investors into Signio. I was looking for partners, and I went to Verisign but instead of doing a partnership they wanted to acquire us. This was the first backend infrastructure: I call it Internet Delivery Platforms. The other delivery platform which they acquired later was Network Solutions.

SM: Tell us what happened with Verisign. PC: Well, once inside Verisign, we were also looking at buying a very small company that was doing something very similar to PayPal, but VeriSign was not that keen on that marketplace, which was not a very good decision.

But they did a very good job with Signio, and grew the business. Signio was sold to eBay recently, and so eBay is now the traditional gateway for credit card payments with the Signio platform. They were processing 30% of the transactions on the Internet, and that is something that I am very proud of. I have always taken these small companies and made them into larger companies with a lot of market momentum.

SM: How much did you sell Signio to Verisign for? PC: I think the original transaction was $700 million, and then the stock went up, so it was, in the end, about $1.4 billion. We could not continue not selling to Verisign, it just did not make financial sense.

SM: So another vacation coming up? PC: Then I went to Belize, and I was caught in a hurricane for a week, which was a fantastic experience. When I came back, I asked myself what was I going to do next. That was the 1999-2000 timeframe. I looked again and I found options. One was to go back to the internet and do something for the consumer. The other was to see how the internet would affect the enterprise business.

I am a firm believer that the enterprise is dead. People tell me to look at all the laptop computers, iPhones. But I think they are missing the point, these do not apply to the enterprise. We are now in the notion of the *extended enterprise*. The enterprise is completely fragmented. You outsource everything today; your servers, people, resources, and some people even outsource their R&D and just become a distribution company.

Then somebody came to me with an idea, and said, You know, today there are all these different network systems, an automated scanner could do the audits and then on a laptop do a report. We could automate that scanning and deliver it as a service. So I said this is one of the big applications of the future, and I gave him $500,000 and we started the project.

SM: You mean scanning for Security problems? PC: Yes. And while I was doing that, I started to look at the market. All the big companies, the McAfee s and IBMs, were all looking at scanning the network. It was difficult, mechanically, so, I brought one VC to fund the company further, and one year later we were really in the doldrums, 2001, when everyone was negative about anything whatsoever to do with the enterprise.

SM: Yes, the enterprise market crash was in full bloom. PC: I did not give or want any more money to go back into Enterprise Software. I was not interested in it because I thought it was completely dead. But, nonetheless, they didn t get what I was actually trying to do, which was *not* Enterprise Software.

So I went with Don Dixon at Trident Capital, a new VC, and told him we could create an Internet Delivery Platform which would allow us to scan any network on the planet no matter how big or small, and that would give us a unique opportunity to go after other things. I can t tell you yet what they are, but we can do them for sure.

SM: You are kidding! That is about the vaguest VC pitch did Don Dixon fall for it?
PC: Yes.

SM: Was Don someone you had worked with before? PC: Yes, he is one of the VCs who has a good view of what is important. He does not try to manage the company for you. A lot of VCs micromanage everything and they are on your back constantly. This doesn t work with me.

SM: You are an experienced enough entrepreneur. PC: I have always focused on the customers. Let me satisfy the customers, and you will get a good return. So, Don took the chance, and we cashed out the previous investor. Interestingly enough, our competition at the time had started exactly like us, and their VCs bankrolled them right back into Enterprise Software.

SM: You invested a lot of money in building this scalable Internet Delivery Platform. PC: We have an Internet delivery infrastructure which is at the scale of the planet. We spent $65 million to build it. Like Google, it s a datacenter that is highly scalable and robust. Now we offer services to scan networks and store reports in our database, and then we provide views of your network into your browser.

SM: So, Philippe, over the last 2 years, Microsoft has started entering the Security market. In my assessment, one of the ways they could have entered the Security market would have been to do something like Qualys, or by acquiring Qualys, and it probably would have made a lot of sense. Has there been a discussion? PC: Let me give you the bigger perspective and I will get back to your question - I am not running away from it.

What we see today in the enterprise is a huge consolidation of companies. We would not be surprised to see big companies swallow smaller companies. The competition will accelerate because it is not economical anymore to build and maintain Enterprise Software. It is like the days with the mainframe, where eventually there was just one company surviving, IBM. The weak companies are disappearing, getting swallowed by the big guys.

Today, obviously, you are seeing Microsoft become a much bigger acquirer than they have ever been. You have Microsoft, HP, IBM and Cisco as the big four. Then you have a slew of other ones, and then maybe one of the smaller ones will become one of the big five which may ultimately be reduced into the big two or big one. This is hard for the customers because when you go through a transition, the product you were using has been acquired and you do not know what is going to happen to it.

Then there is a new generation of companies that are emerging, the Googles, Qualys, which are internet delivery platforms. A platform like YouTube, is built to the scale of the planet. This is the new generation of the application, and some are going to try to take an Enterprise Software and make it ready for an internet delivery model.

For Apple to add enterprise features is a no-brainer, they have the architecture and it is much easier than for Microsoft which does not. That is the big paradigm shift. The big guys realize that you need to move into the Software-as-a-Service model as well, and that is a transition. Some, like Symantec, understand that and you can see that in their services today, they are not pushing products, they are now pushing services. McAfee is pushing products, which is difficult and costly to do. McAfee does not have the service plan, and they are missing that game.

When you look at Microsoft and Security, they have two ways. They just do some themselves; they are putting it back into the operating system. They have to do it, like everybody in the industry, because you cannot continue with all the Security holes. Then they look at the Security marketplace and they have moved big time into anti-spam, anti-virus, and are commercializing that layer. For them to do it the way Qualys does would require a lot more time and effort.

Qualys has been approached by the big guys for acquisitions. Our answer has been that we have a unique model, and if they buy one of our competitors it will not do them any good because for them to do it the way we do it, would cost them a lot of money. So, we invite them to partner with us, and that has been very successful. We have good partnerships with IBM, Symantec, and they look at us as a building block. I can deliver to them an immediate application which can be delivered the next day to enterprises.

SM: Your partnerships with IBM and Symantec are essentially reseller agreements? PC: Exactly. In the case of IBM we integrate with their Managed Security, and we correlate with the data they collect. We are in such a strong position we are able to keep our brand. Between me and Don Dixon, and a few other VCs, we had the guts to put up $65 million at a time when nobody was investing in anything. The entire market was dry. Just dry. That is why there are so few competitors.

Again, now there is a lot of money in the market, and we are going to see a slew of on-demand software companies which are going to be attacking enterprise problems.

SM: In the same vein there are companies like SAP which are putting in their own SaaS CRM service. PC: Well, look at Microsoft today. 40% of their profits are from Office. Office wants to be hosted in the browser and be delivered as a service. But the company is not built to host any application as a service.

The enterprise today has very specific needs, and the needs have changed. It is the Extended Enterprise**.** You cannot keep the data inside, you have to put it outside and secure the data so you can set the application where you need it and can control who has the rights to use, alter and edit.

Others cannot do it because they put the data inside the company where only a few people can access. But think about the extended enterprise and the problems companies will face. This data is very hard to control, secure, and maintain. Once you move it out, you use the Internet as a distribution medium, and you need to secure the data. Some of the old problems will disappear, and new problems will arise because of this extended enterprise concept.

SM: Yes. Collaboration across the extended enterprise is also a big challenge. Imagine, if you are trying to design a car sitting inside BMW. Your dashboard components are probably being done in China, door knobs in Malaysia, how do you manage secure sharing in order to edit design files together? In fact, in the extended enterprise, Security and Collaboration are intertwined problems! That brings us to the current situation with

Qualys. How far along are you now? PC: Today, we are doing 250 million IP scans; we have 2500 customers like Daimler Chrysler, which is spread over multiple continents. We have about 3000 appliances deployed, and we have 22 of the Fortune 100, and a lot of credit unions as customers. Their Security needs are very high, and we do a good job.

SM: Fantastic. And what are your plans now? PC: We are raising the bar with a new AJAX UI. When you look at deployment of a new application, you need to look at enabling technology. It took 45 years for airlines to get safe and cost effective because many things had to be invented along the way.

When I look at the internet there is one technology which needed to be upgraded, it was the browser. With Firefox, Microsoft was forced to evolve to catch up. AJAX went around the limitations of the browser by allowing us to create rich applications. We can just go get the data we need and do interactive, rich applications in the browser now.

SM: Interesting. On a broader scale, what technology do you think would make the biggest difference going forward? PC: The only piece of technology missing today is ubiquitous broadband wireless access. Then you are always online, and always connected no matter where you are on the planet you will have access to data. I think in 5 years we will have enough broadband that there will be no network in the company because it will be somewhere else on the planet. Why maintain a network yourself if you can have someone else do it?

Small companies do not need a network if they are connected. You just need applications to access your data. Now you look at Zimbra what is the difference between Microsoft Outlook and Zimbra? The new generation of people are computer savvy and they do not want an Enterprise Software application because it is complicated. I think we are coming into the new world much faster than we realize.

SM: And how do you see the industry power structure shifting? PC: Software-as-a-Service is very disruptive. What I see is that it changes the paradigm because the barriers are different. In the past the enterprises were making the purchase decisions. The new paradigm is now very different. Specialists like Qualys are making the selection of the infrastructure pieces.

Unlike the enterprise, we are deployed on a batch of servers. If Microsoft comes out tomorrow with a new database that is faster and cheaper than Oracle, we can switch and the users will really not care, nor know. We relieve them of costly, complex choices to make. Our users can switch much more easily also, because while we have the data it is their data. It is easy to take the data out and move it to someone else.

The role of high tech companies is about to change very quickly, like in the mainframe industry there was a need to deploy computers everywhere and they could not do it effectively. So, mainframes had to go away. Now, we are seeing the same thing again, only on the scale of the whole planet. If a company like Qualys, with 140 people, can deliver a worldwide application in seven years, imagine what the big ones could really do. So the competition is now becoming global.

Just like the industrial revolution, people were all afraid and nobody could envision how much wealth would be created. I think we are just at the very beginning of a new revolution.

SM: So you could see a company out of India or China doing exactly what Qualys does

but with a very different cost structure they could become a player?PC: Absolutely, things are happening. Things are going to happen more and more and more. You are going to a world where changes are going to be very rapid. That is good news. We should look at the fact that this will increase and create opportunities. Just like the industrial revolution, people were all afraid and nobody could envision how much wealth would be created. I think we are just at the very beginning of a new revolution.

SM: Philippe, merci! Wonderful set of insights! I hope some entrepreneurs go back to the drawing board on the opportunities around the Extended Enterprise and the next generation SaaS out of India or China.

A Recession-Proof Corner Of The Tech Sector

With another US recession on the horizon in 2008, corporations will likely rein in information technology spending. But one class of software maker   Software-as-a-Service companies   managed to thrive during the 2000-2002 downturn and should continue to be recession proof.

Indeed, SaaS companies such as Salesforce.com have been reshaping the IT sector for the past decade, offering corporations low-cost Internet-based business process software. And unlike software giants such as Microsoft and Oracle, SaaS companies have also been successful selling to the growing and lucrative small- and medium-sized business market (SME).

While some tech pundits believe Google, which gets a lot of buzz for its online software products, will become the vendor of choice for SaaS, I think companies like Salesforce.com, Qualys, Taleo, and SuccessFactors that specialize in software for specific business processes will prevail.

Take Concur Technologies. This Redmond, Washington based SaaS company saw revenues jump 33% to $129 million in fiscal 2007, and it expects revenues to climb to $200 million in fiscal 2008. Concur s growth reflects the need for its niche products   employee expense management and vendor payment software. We help companies enforce travel policies throughout the organization, and during a recession, organizations can control costs using our system, says Concur Chief Executive Steve Singh. Large chunks of employee travel budget can be reduced, and Concur makes sure that the budget is adhered to.

Another attractive element: Concur charges on a per user basis rather than the hundreds of thousands, or millions, of dollars typically charged for software deployments at companies. Concur is also able to keep its own business costs down by closing most deals over the phone rather than traveling to clients offices.

Overall, the SaaS business model is the key to the industry s success and its ability to weather recessions. During downturns, businesses typically cut large-scale capital expenses, but they don t do away with services that manage vital functions, such as payroll, travel, communications and sales.

While Concur sells to large corporations, such as Texas Instruments, JC Penny and Airbus, it also focuses heavily on the large SME market. There are 25 million SMEs in the US that spend close to $500 billion on IT services. This means that Concur, which has 6,200 customers so far, has a lot of room to grow.

Intuit, for example, has been particularly successful in penetrating the SME market by creating a very simple product and offering good customer support. (Microsoft unsuccessfully attempted to buy Intuit in 1994, with the single objective of entering the SME segment via Intuit s killer app   small business accounting software.)

Other companies, such as ADP and Paychex, have also been successful selling payroll processing services to SMEs.

SaaS is also popular on Wall Street these days. Companies such as Concur and Salesforce.com haven t missed earnings estimates, mainly because they have predictable revenue streams. So as long as metrics like new customer growth and churn rates are monitored, SaaS stocks can be extremely comfortable investments. Other public SaaS companies that have done well include Omniture, Taleo, SuccessFactors and NetSuite, which was founded by Oracle s

Larry Ellison and went public last month.

There are also numerous private companies gathering momentum, each specializing in a particular business process. Be it Payroll Processing or Talent Management, they are quickly proving to be strong performers through boom or bust.

Steve Singh, Concur

While Philippe Courtot s Qualys was built upon the idea of a business model disruption, Steve Singh had to absorb a business model change from Enterprise Software to Software-as-a-Service (SaaS) as an already public company. Steve tells the story of how he made the hard decisions and came out stronger in the long run, despite the stock s plummet from $30 to 28 cents. Since then, however, Concur s stock has scaled back up, and in mid-2008, is approaching $50.

SM: I would like to trace the story of how you built the company, but first, let s start with your personal background. Where do you come from, where did you grow up, and what was your early career? SS: I am happy to cover that, although it will probably be boring! I was a product of India, but I grew up in Michigan. I spent the early part of my professional career in Silicon Valley working for a division of Apple. I also went off and started a company that became a part of Contact Software which is the maker of ACT. I did a brief stint at Oracle, followed by a stint at Symantec. Most of these changes were due to being acquired. After Symantec I came on board as the CEO of Concur, which was February 1996.

SM: What roles were you playing during your earlier stints? Did you come up the marketing track? SS: No, I was in the development track. I am an engineer, so I started off writing code on the Apple Macintosh platform. I and Mike Hilton, the co-founder of Concur, were the original developers on MacWrite II. We were also the folks who developed what became ACT. My professional background is very engineering oriented. I happened to have a passion for the business side as well, so I migrated in that direction.

SM: Did you found Concur? SS: I didn t found Concur I was an original investor in Concur. Rajiv Singh, my brother and also the President of the company, and Mike Hilton, the Chief Technology Officer, founded the company. I had the chance to invest in the company and was a very active board member in the early days.

SM: What year was Concur founded? SS: It was founded in 1993. It just goes to show how long it takes to build great companies.

SM: What did the company do in the beginning? SS: We have always done the same thing. We have always been focused on automating the expense reporting process.

The way the company got started is interesting. When Mike and I were at Contact Software, in the last 9 months of our tenure there, as we were selling the company, I was traveling a fair bit. The bankers who were involved had me traveling a lot talking about the technology, about where we could take it, to potential buyers, and with all that travel I never got around to filing my expense reports.

When we were dealing with Symantec to acquire Contact software, I had a chance to take a breather and one of the things the CFO told me was I had a week to get my expense reports in before the acquisition closes, and if I didn t I was going to lose out on my expenses. As it turned out, I had about $150,000 in expense reports to file. It literally took me a week to sit down and go through every single receipt, and put it on the form our company used. I am sure I lost money in the process.

As I wrapped that up, I talked with Mike and said, I can t believe there is not a better way of doing this! I had a three year employment contract with Symantec to honor, but I told him if you want to go start this company I know Raj is interested and I would be happy to help fund it, so let s go solve this problem. That is the basis on which we started the company.

Mike and Raj are the guys who made a reality out of the concept. They originally built a version of the product that was sold through retail stores. This is back before there was a concept of the Internet. We always knew this would end up being enterprise sales, so we made a version for the enterprise which was a web-based solution. We were one of the first web business applications ever written.

In 1998 when we went public, we were the first web applications company to go public. We have always been at the forefront of our industry. With time it was very obvious the Enterprise Software licensing model had limited growth opportunities. Not every company in the world can afford to buy a license for a piece of software, then pay all of the consulting fees required to deploy it, as well as the ongoing maintenance fees.

We looked at the business model, and realized the ideal business model is one that looks like the payroll industry; something where the customer got all the benefits of the services, complete enterprise level functionality, but in a cost model that was comparable to outsourcing payroll. It had to be something that was deployed quickly, low cost, and used on a transactional basis. In this way, you are only paying for what you use.

SM: What are your pricing guidelines now? SS: We actually don t share that publicly, but it is not too different than payroll processing costs. The core point is if you look at the paper model, and you go to companies and ask them how much it costs to process an expense report via paper, it is about $45 - $50 per transaction.

SM: When you say that, is it because people have to manually write it down, and place it into the computer is that what you are quantifying? SS: No, in fact our buyer is the CFO or controller of a company. They do not look at soft-dollar savings, so your time and my time are not factored in. What they do look at is how many people in the accounting department who receive your paper expenses enter them into the general ledger system. What does it cost to do paper-based checks? How much do you save in supplier contracts? What benefits can you get in reducing the transaction processing costs? We can take that from $45 - $50 down to well south of $10.

SM: What was the revenue of the company when you went public in 1998? SS: We were a lot like every other dot com. We had a modest amount of revenues, we were probably doing about $6 million a quarter back then, all licensed revenues.

SM: Were you profitable? SS: No, we were not. A lot has changed over the years. Keep in mind this is right before the bubble.

SM: How did you fund the company? Was it bootstrapped? SS: No, like a lot of companies, after we got it off the ground with our own money we took some venture capital money. We were fortunate to have some incredible venture capitalists, Brentwood Venture

Capital, which is now a part of Redpoint. Institutional Venture Partners, Mayfield Fund, RRE those are some of the venture capitalists we worked with.

SM: What happened after going public? SS: The company did well in the public market for a period of time. One of the major changes for us was in April 2000, before the bubble burst.

A true story, which gives you some context about us: I was headed out on a much delayed honeymoon. I had a chance during the flight to read all of our management reports. When you step back you get a chance to see where the business is going. We had acquired into some businesses that we were not executing very well on things like HR and Procurement.

At that point you can choose to address those issues or you can choose to ignore them. As I went through this, I had a chance to see where we wanted to take the business. I saw we were excelling in the expense management side, but we were not doing well in the Procurement or the HR side, and even on the expense side there was limited future on the growth of the licensed software model.

As I thought about it for a few weeks I came back and I pulled the team together. I told them that we owed it to the shareholders to build something that held great value for the long-term. Even if it means we have to go through some pain in the short term. We charted out a business plan that said we would have to move to an on-demand business model. Keep in mind, back then the idea of an on-demand model did not exist in the tech industry. The concepts and the parallels were there in places like payroll processing, but not in software.

We charted out a path, we made the changes to the business model and the business planning process. We shared our desire to change with our investors and obviously caused a very negative change to our stock at the time.

But I knew it had to be done, and we did it.

SM: Well, Wall Street is very short term focused. They don t have the same instincts as the operators in terms of major changes in the business due to changing market forces. So you changed course in 2001? SS: The change actually happened in 2000, and the market did not like the idea of us changing our business model. We hit a low point of 28 cents a share after the announcement, and the stock before was $30.

Over a period of a couple of months we saw the stock descend rapidly. We were a very thinly traded stock, so when we saw one of our larger shareholders get out, the stock took a very significant hit. It also recovered shortly thereafter.

The point is, we told our investors, the right way to capture this market and build long-term value was to align the economics and the delivery model in a way that was beneficial to the customer.

One of the things I will tell you that I am happy about is that every quarter since that change literally every single quarter now for seven years our business has improved.

Our view is that you must confront the issues that exist in your business as soon as humanly possible, and solve them.

Much of the hard decisions we made in March of 2000, other companies had to make in March of 2001. Our view is that you must confront the issues that exist in your business as soon as humanly possible, and solve them.

SM: Looking at the stock price chart you hit bottom from 2000 to 2001, and started rising when other companies dropped in 2001. SS: That is right. It took a long time. Some investors are more risk oriented than others, but it took a long time to re-earn the trust of our investors at that point.

SM: It is difficult to make those types of changes as a public company. SS: It is. Honestly, when it comes down to it you really have a very simple decision. Either deal with the challenges, or hide from them.

SM: And you were CEO through this timeframe? SS: Yes, all of those mistakes were mine.

SM: How did you change the channel at this point? Shifting to an on-demand model, you would have then had to make changes to the channel as well. SS: The changes were pervasive, and they were not related just to the channel.

First, the entire executive team had to change. If you looked at the executive team back then, it was 17 people. All but Mike and I had to be changed out. You had to start thinking, fundamentally, as a services company and not a software company.

The way you built the software was different; the way you dealt with your hosting operations was different; the way you delivered the software was different; and the way you serviced it was different. The whole business model changed, and the whole sales model changed. Instead of sales executives who were used to selling big Enterprise Software deals, two deals a year and you make your number, we had to change the model to find sales executives who knew how to sell more deals per year. We then had to find sales executives out of companies like ADP and Paychex who were used to selling 20-30 deals per year to make their quota. Much more transactional sales.

SM: So you probably moved more toward telesales. SS: Yes, exactly right. We went from a 700 person company to a 300 person company, which then further went down to 250 over the course of the next 8 months, and we started rebuilding from there.

SM: OK, so the focus has been on-demand expense management solutions. That has been the case from 2001 until now, right? SS: That is exactly correct.

SM: What is the plan now? How are you going to manage growth at this point, what is the market landscape? SS: In January of 2006 we hit another inflection point in our business. It was an inflection point which, when we took the bet, we were alone in the marketplace in making such a turn.

Our competitors looked at the change, didn t think it made sense, and didn t think customers would want it. It reminded us very much of the change we made in 2000, although not as big of an impact from the stock point of view.

We have two separate processes today: booking travel and filing your expense report. In January of 2006 we acquired a company called Outtask for $88 million. The whole premise behind the acquisition was: Why are these business processes separate? Why are they not integrated to make a better experience for the business traveler?

When people got paychecks at their pay periods, they were literally paper based checks. You received them, took them to your bank, and a week later the money would show up in your account. Today, we get our paychecks and they are automatically deposited into our accounts and they are available immediately.

Look at the expense reporting process, the vast majority of the world, 93-94%, use paper to file expense reports. We looked at this and asked why we couldn t effectively do away with the idea of filling out expense reports. Why can t we integrate travel booking and expense reporting in a way so that while you travel, your expense report is being filled out?

SM: Most of the expense reporting is around travel. However, there are other expenses to be incurred, right? SS: That is exactly correct, there are expenses which occur outside of travel, but the same solutions can be applied whether for business travel or taking a client out to lunch.

The core point is that as you are conducting business why can t we intelligently gather the right information so you really have to do very little to file your expense report? That is why we acquired Outtask. We combine these processes together as one and then, say as you book a trip, we will capture all of that itinerary data. We already capture all of the credit card data, so we will reconcile the itinerary data to the credit card data and then we are going to introduce this novel concept called Smart Expenses.

These take the itinerary data, the corporate card data, and also the e-receipts we capture from suppliers. We combine these three things together, which are completely reconciled; we know you booked it, it showed up on the credit card and here is the electronic invoice from the supplier. We know everything we need to know about this expense so we are going to put it in the expense report for you. You don t need anything, not even the paper receipt anymore. That was a big change a year ago, and our competitors looked at it and said it would not fly with our customers. What we have seen is the exact opposite.

SM: Whom do you consider your competitors? SS: If I were to look at the competitive landscape, the ones we spend our time worrying about are American Express, SAP, Oracle, IBM, Carlson Wagonlit, EDS, and Accenture.

SM: Accenture because they build custom solutions? SS: They build custom solutions and they are also very big into BPO solutions.

SM: When you compete with SAP, what is your competitive pitch? SS: Obviously SAP has incredible mass and distribution. They will oftentimes price the solution, at least the software side, free, leaving you to pay only the consulting and maintenance costs. It is a very tough competitive situation to be in.

We are finding that we can win a significant portion of the time because of a couple of things. First, the solution we provide is just fundamentally better. The experience is so much better that the customer looks at it and does not find the other solutions nearly as compelling. Second, we provide the solution at a cost structure that is so compelling it is hard to find a way to do it cheaper. Fundamentally, those two things will always win in the market.

SM: This is probably not one of the business processes which SAP has started delivering as an on-demand solution yet either. SS: That is exactly right.

SM: You are winning on the delivery model as well. So where is the future of the

company? Great management teams cannot just focus on today, they have to look five years down the road. SS: Which leads to exactly why we did the Outtask solution: we have to build scale. We have a great reputation in the travel market and the expense market, but we have to also face some very big competitors. Although we are doing very well as a company, we look for opportunities to add scale and value added services, like payment processing, which is why we did the Gelco acquisition.

SM: What is the payment processing service? SS: This is one area we believe adds great value. As an expense report is processed, they will actually take money out of your corporate bank account and pay your employees on your behalf. As an employee you are getting paid very quickly.

SM: You are then completing the loop. SS: Exactly, it is procure to pay.

SM: Very interesting. SS: With our booking product, we have the procure side of it, expense reporting is the processing side of it, and with Gelco we have the pay side of it. So, procure to pay is a start to finish solution.

one of the great things about an on-demand business model is you can drive your cost structure down to the point that it is very compelling for companies of any size.

SM: Help me understand your customer base a bit. Are you focused on Fortune 500, Global 2000, or are you focused on smaller companies? SS: Early on we were focused on global accounts. However, one of the great things about an on-demand business model is you can drive your cost structure down to the point that it is very compelling for companies of any size. We have customers as small as the Los Angeles Philharmonic with their 20 users. On the other end of the spectrum, we have customers like AT&T which have thousands of users.

SM: You must have a strategy of how you approach the market. How do you segment the market? SS: True, we do segment the markets, but our strategy is we would like to focus on a vertical set of services for travel and expense management, procure to pay. That is our segmentation. From a customer size point of view we do not segment.

We have 5,000 customers. Once we complete the acquisition of Gelco we will have another 1,200 customers. We will have 6,200 customers which will range from some of the smallest companies in the world to some of the largest companies in the world.

SM: How does that break down what are the percentages? SS: You will find the breakout is very comparable to the distribution of corporations across those sizes. There are a lot more companies in the 100 to 1000 employee segment, than there are in the 1,000 to 10,000 segment, and in the above 10,000 segment. The distribution of our customers matches that distribution.

SM: You do not have any bias, one way or the other? SS: Not at all. Our distribution strategy is to reach customers of any size. We have no concentration of revenue, by customer or by market segment that is overly significant. If you think about payroll, it is similar. ADP serves customers who are as small as a two-person company, and customers as large as you can find.

SM: I don t think they do a lot in the two-person range, but there is a small company called PayCycle that is going after the under 20 employee segment, and Paychex seems to be going for the middle market. SS: That is fair. I know the folks at PayCycle and they are doing a great job.

SM: The reason I am pushing on this is that there are variations in how you sell to a small company versus a larger company. SS: There are, however, I maintain that those variations are changing as web technologies become more pervasive. Today we think of the web as a delivery model in terms of how you use the software, as a person or a corporation. However, I think you also have to think about it as a delivery model for sales and marketing. Why can t you market and sell directly over the web? You yourself are a great example of reaching customers over the web, so if you look at businesses in the next 5 to 10 years you are going to see a big push by business to market and sell to customers directly over the web.

SM: When you are doing a 10,000 user deal, or a 100,000 user deal, versus a 5 to 10 user deal, is there a difference? With the larger accounts you have to have a sales force to close deals in person. SS: Of course, and I see what you are saying. We have a sales force which is in the field that calls upon larger accounts.

SM: Smaller deals, in the 1-20 range, you can probably close them all by phone and even in the mid-market you could close many of them by phone. You do not need the high touch sales. SS: Your instincts are right. I think you understand things that a lot of folks don t. The cost of distribution is substantially cheaper in a Telesales model as you come downstream in the market.

SM: Your earnings would be different depending on the model you are leaning toward. If you are leaning more on the SME side, it would be a lot easier to compete with SAP and Oracle. You won t even see them in the accounts anymore.SS: In fact you run across different competitors in different segments. You are absolutely right. One of the reasons we generate the operating margins we do is because we have a nice distribution of where the revenue comes from. You can absolutely expect our ability to generate more aggregate profits in the middle markets and the smaller markets, than in the upper end of the market segment.

SM: This might be slightly out of line to saying this, but if I were to present this company, I would say two thirds of my customers are from the mid- and small market, and it is more profitable to transact in that market. SS: I appreciate the comment you are making, but the issue for me is that we serve customers across the entire spectrum.

My audience goes well above and beyond the financial community. I want to incorporate that into our message. At the same time, smart investors will look at comparable companies like Paychex and say, Look at the profitability Paychex generates in serving smaller accounts where the cost of distribution is lower and more efficient.

SM: What I think is exciting, and the reason I have started covering the on-demand space in a lot of depth, is because it is a delivery model that allows software companies to tap into the mid-market which was basically a no-man s land for a long time.SS: I think you are absolutely right. In fact one of the things we used to pitch five years ago, back when I first started talking to investors about the on-demand model, was the predictability of revenues. That is still the case; however what we are pitching today is not just the predictability of revenue.

SM: No, on-demand opens up a whole market, one that was not accessible before. SS: Exactly. Additionally, it actually should increase profitability. One of the great things about this model is you should be able to drive down the cost for your customer while increasing your profits. That is fundamentally different than in the traditional software model.

SM: What is your next step now that you have acquired Gelco? SS: We have a lot on the plate right now. However, if we look at the broad perspective, our job is to take the travel and expense supply chain and fundamentally re-engineer it to make it more efficient.

If we can make it more efficient, we can get great customer adoption and our business will continue to grow progressively. After the acquisition of Gelco we will be at 6,200 customers. We need to get from 6,200 to 50,000 over the next decade. That is what we are going to focus on. Obviously if there are additional services we believe we can get to our customers, we are going to tackle that. We are spending a fair bit developing new services, and you are going to see that over the course of the next year or so.

SM: What about partnerships. Are you working with SalesForce.com? SS: Mark Benioff and I certainly know each other, and I think there is an interesting opportunity to partner on the SME market.

SM: SalesForce.com s customer base is directly in your sweet spot. People who have to travel a lot and deal with a lot of expense reports. It seems like perfect synergy to me. SS: I think you have good insight.

SM: I also sense a little bit of reservation. SS: No, not at all. None at all. You have great insights. We have announced so much in the last couple of weeks, we should focus on that. We do not have a formal relationship with SalesForce yet. I could not agree with you more that there is an amazing opportunity there.

SM: Anything else you would like to share? SS: I think you have done a very good job of covering this. You have an insight into our business which I think is pretty unique. You are absolutely right, especially about SME customers and the profitability increase. Also it opens a whole new market segment traditional software companies could not tap into.

SM: Good luck to you, thanks for taking the time, Steve. SS: Thank you for your time as well, I appreciate it.

Addressing Unmet Market Needs

Latin America s
E-Commerce Leader

There is a market of 500 million people nearly 8.6% of the world s population that the business media all too often neglects, serving up story after story on China and India. Forgotten is all of Latin America.

Between 2000 and 2007, the number of Internet users in Latin America grew from 18.1 million to 122.4 million, a compounded annual growth rate of 32% compared with only 12% in North America during the same period. Chile has the highest penetration at 43.2%, with Argentina at 39.7%, and Brazil at 22.4%. Average penetration across Latin America is approximately 21.5%, compared to 71.4% for the US. Even with such low penetration, Latin America s Internet population represents close to 10% of the world s Internet users.

Not surprisingly, Latin America is developing its own collection of Internet stars. One has really caught my eye: MercadoLibre, which translates to free market , is an online marketplace that facilitates the buying and selling of computers, electronics, photography equipment, household items, even cars. Stanford Business School graduate Marcos Galperin started it in 1999 in Buenos Aires, Argentina. MercadoLibre invited me to visit the company in the autumn of 2007 and advise them on strategy. What I learned impressed me.

Although MercadoLibre had a rocky start, the company is now delivering stellar results, growing at over 60%, with profitability increasing steadily. The moral of this story: It takes patience to build a great company, even in Internet time. Now I believe MercadoLibre has an opportunity to become a billion dollar enterprise in the next 10 years and be a force in Latin America s economy.

In its original incarnation, the company had a pure auction platform modeled after eBay. Galperin and friends, despite originally being from Argentina, weren t sure what the Latin American market would tolerate. Sitting around the Stanford University campus in sunny and wired California, they could not possibly have imagined that it would take so long for the Internet let alone online auctions to gain adoption in Latin America. Silicon Valley, after all, is a reality-distorting environment that makes us entrepreneurs extrapolate wildly!

Latin America had less than 3% Internet penetration in 1999, and already 40 companies were doing exactly the same thing as MercadoLibre. While MercadoLibre had some venture money and was developing software, they had to wait for customers to materialize. And during that Godot-like wait, many of their competitors went out of business.

Ironically, Galperin believes the dot-com crash actually helped MercadoLibre. There was no more financing. We were lucky, because we were able to do our second round of financing just after the crash in May 2000, and we closed out a $46 million round. Other companies were short of cash, except for DeRemate, a direct competitor started by some Harvard University graduates. The funding crunch lasted for almost five years. All of the smaller competitors died away. It helped us tremendously, Galperin recalls.

Even Mercado s backers were skittish and threatened to shut the company down and take back their money. Venture capitalists are not known for their patience. They tend to get really anxious when markets don t develop really quickly. Other entrepreneurs had their doubts, too. Luis Riviera, a native of Venezuela, who has since become Chief Executive of Lyris, was asked to join MercadoLibre in 2002. He turned the company down, citing lack of market maturity in

Latin America.

But gradually the market itself, once a dream, became a reality. Revenues started to materialize for Mercado. After the drought between 1999 and 2002, I believe we did $4 million in 2003, and $12 million in 2004. In 2006 we did $52 million, Galperin says. For the year ended December 31, 2007, MercadoLibre s annual revenue increased by 63.5% to $85.1 million.

Last summer, the company went public in the midst of another financial crisis. We were quite unlucky in that we did our road show in the middle of the subprime crisis, recalls Galperin. The day we priced, the market broke 400 points. And the day our stock went live was the day the Fed, the European Central Bank and the Bank of Japan, all intervened in the markets and gave liquidity, which was something that had not happened since September 11, 2001. Despite that, the stock performed well. It went out at $18, touched a high of $81.17 last winter, and is now trading in the more realistic $35 range.

MercadoLibre has become the No. 1 online marketplace for Latin America. It facilitates the buying and selling of merchandise in the same way eBay and Amazon do. Items range from computers, cameras and MP3 players to furniture and household items, even Toyotas. The business, unlike eBay s auction-based model, is primarily driven by fixed price transactions. In that sense, they are closer to Amazon. Mercado also has an online payment offering a la Paypal called Mercado Pago, which is seeing good adoption and has huge potential to facilitate commerce in the Latin America market.

MercadoLibre has evolved into a strong brand that many people on the street recognize. Its team is well set and stable. Unlike Silicon Valley or other hot markets such as India or China, attrition is low, making it easier for the company to bank on the talent base that has been trained and matured on its clock.

And MercadoLibre is also profitable: Net income for the fiscal 2007 was $9.7 million, a nice jump over the $1.1 million reported for the company s fiscal 2006. Their 2007 diluted earnings per share of 22 cents met analyst expectations to the penny.

Some of MercadoLibre s strength comes from simply outliving its local competition. Language and culture, I believe, are substantial barriers to international competitors, as multinationals like Google and Yahoo! have discovered in China. (Even so, eBay holds a 20% stake in MercadoLibre a smart strategy for the US company.) The region does not have an active venture capital industry, so future competition is likely to be limited. Those factors give MercadoLibre a nice, clean runway to build a dominant Latin American e-commerce business without a lot of interruption.

It would be a tremendous achievement for the company to bring the tools and technologies for facilitating large-scale electronic commerce throughout Latin America. Not only would that be a triumph of capitalism it would also be a great development economics success story, a free market the world ought to watch with great interest.

Marcos Galperin, MercadoLibre

I first heard of MercadoLibre when I received a call from the company, inviting me to Buenos Aires to help with their strategic planning. This interview with Marcos Galperin was conducted at the cafeteria of the company s Buenos Aires headquarters, during the lunch break on one of the days during my visit. In the basement of a tall building, the cafeteria was bustling with hundreds of people all MercadoLibre employees and we found ourselves a corner to sit down and talk.

Over the course of the days I spent with the MercadoLibre team, one thing became obvious to me: Latin America is ripe for an entrepreneurial outbreak akin to what India and China have experienced.

SM: Let s go back to the story before MercadoLibre. Let s start with your background where did you grow up? MG: I grew up here in Buenos Aires. When I was 17, I went to college in the US. I studied at the Wharton School at the University of Pennsylvania from 1990 to 1994. When I graduated I came back and worked for an oil company which was the largest oil company in Argentina. I did Finance there for three and a half years. Afterwards I went to do an MBA at Stanford. When I came back I started MercadoLibre.

Actually, I started it when I was at Stanford. I wrote the business plan and contacted investors in a class there. One of my professors put me in touch with one of the founders of a private equity fund; he let me drive him back to the airport after he came to speak to our class. I gave him an abbreviated business plan, and he thought it was great. That is how it all started.

SM: Your co-founder was also in your Stanford class, yes? MG: Hernan [Kazah] had accepted a job at a different company which was also a startup, but he agreed to help me out with some marketing ideas. He basically never stopped, and he became my co-founder.

SM: And your idea at the time was eBay for Latin America? MG: That is exactly how we thought about it. Through Stanford, we contacted classmates and people at eBay to get a sense of where Latin America was on their radar, to see if it made sense for us to launch something or not.

But all of them spent all of their money doing mass marketing, doing the Pets.com strategy.

SM: Did you get the sense that eBay was not focused on Latin America? What was the Latin American Internet market at the time? What kind of Internet penetration? MG: It was very small. There was 3% penetration, roughly. Today it is 20%, so it can still grow a lot. Out of that 3%, e-commerce was probably 10% or less. It was very, very small. One of the things I think we did right, relative to the rest there were 40 companies doing exactly what we were doing some of them raised more funds than we did. But all of them spent all of their money doing mass marketing, doing the Pets.com strategy.

We saved our cash and developed our products. From the very beginning, we focused on building a good product and our IT backbone. That is a very big difference between us and everyone else in the region.

SM: Which other companies were able to raise financing besides you? MG: There were a couple of others. DeRemate was founded by a Harvard group, so it was a huge rivalry.

SM: Harvard people do not make good entrepreneurs? MG: At least these ones didn t. They were very big on spending money and doing PR, but not very good at building their company and building a good platform.

SM: What was the source of your technical expertise? MG: The second person to join the team was my cousin. He was the CTO, and had a very technical background. He was with us for a few years and then he stepped out. He groomed our current CTO before he left.

SM: What were some of the early milestones that gave you the indication that you were starting to be successful? MG: At the beginning there were not that many!

SM: Having just 3% Internet penetration must have been very frustrating! MG: Exactly! We tried to focus more on milestones which were operational but not necessarily revenue. We still remember the first time someone came and paid their bill at the office. We still have the PDF of the scanned check. We tried to focus more on the platform, and expanding to other countries and ensuring we had a team in every country. The business was a very small business in the beginning.

We always have fun reading the eBay story. Checks started arriving to Pierre Omidyar s home because the guy who hosted the site for him told him he was having too much traffic and they would need to start charging Omidyar, so he sent an email [to customers] saying that he would have to start charging because he was being charged. Checks started arriving in such a large quantity that he realized he had a business he actually hired someone just to take care of the checks. In Latin America, that would never have happened! We spent a lot of time waiting for the checks.

But we did two things well. One was to focus more on the platform and less on mass marketing. The other one was to understand the differences between implementing a business model in the States or Europe versus implementing one in Latin America.

SM: What were some of those key differences? MG: The way buyers and sellers interact is different. eBay was very big into ensuring buyers and sellers could interact before the transaction. We felt that if we let them interact before the transaction we would never collect a payment. Instead we created a Q&A message board which ended up having very important side benefits. The message board is a great community generating tool. It is a great customer service tool for the seller who only answers questions once. It is great for buyers because you see questions which you perhaps may not have thought to ask, but which will make you feel more comfortable knowing the answer to.

It ended up being great at preventing phishing and fraud schemes to sellers. In the old eBay system, if you could contact the seller then you could solicit information from the seller. eBay eventually disabled the ability to send an email to the seller. Fraud rates are very, very low on our platform and we believe that is one of the reasons why nobody can ever get our sellers email addresses.

SM: What was your platform in those early days an auction platform or a fixed price

platform? MG: Complete auction platform, and today it s a 90% fixed priced platform. Another thing we did different is that we did not like the **Buy It Now** feature on eBay. We used it as a transition from pure auctions to a fixed priced environment, but very rapidly we took it away and just left two options auctions or fixed priced. Overwhelmingly, and across different countries, sellers were choosing to use fixed prices for their items, with the exception of used products or items where the market prices were difficult to determine.

SM: Is it a C2C or a B2C business? MG: It is mostly B2C, with small businesses. 75% of the items sold are new items and we believe most of them are small businesses which are selling them.

SM: Do you have any idea as to what percentages of small businesses in South America are using MercadoLibre as a platform to sell? MG: I cannot give you an accurate answer there.

SM: It is an interesting metric to look at, since retail is a relatively weakly organized sector in the region. MG: I think we could get a good estimate of the number of small businesses in a region, and then see what number of sellers we have in a region. That could give us a percentage.

SM: Your business, the vertical penetration of the business, is it primarily consumer electronics and gadgets? MG: I would say 50% is consumer practicals gadgets, computers, photography equipment, etc. The remaining 50% accounts for all other services and sales.

SM: You also have a strong automotive category. MG: Car auctions are very strong for us.

SM: Did the dotcom crash in the United States impact you here? MG: Yes, because there was no more financing. We were lucky, because we were able to do our second round of financing just after the crash in May of 2000, and we closed out a $46 million round. Nobody else was able to access cash, with the exception of DeRemate they were able to get more funds. Most companies were not able to get financing for 4-5 years, which gave us a great advantage. All of the smaller competitors died away. It helped us tremendously.

Operationally, before the crash, it was all about building the platform. After the crash, it was about building the business. From 2000 to 2003 is when we grew the most. People here continued to adopt the Internet, the telecoms continued to invest in broadband.

SM: What was Internet adoption like in 2003? MG: I do not remember year by year. I think the evolution was somewhere around 10% per year.

SM: What type of revenues were you seeing in 2003? MG: I believe we had $4 million in 2003. I would have to check that number, but 2006 was $52 million, and in 2005 we had $28 million.

SM: You raised $46 million in financing in the middle of 2000! I find that unbelievable. MG: Exactly. Two years later we only had $2 million in revenue.

In 2001, we barely managed to avoid one of our major investors shutting down the company.

SM: How did the investors feel about that? MG: In 2001, we barely managed to avoid one of our major investors shutting down the company. The founders still had a good number of shares, so we were able to outvote them.

SM: How did you manage to keep a good number of shares with a $46 million preferred share investment? MG: The valuation was quite high.

SM: No kidding! What was the valuation? MG: We do not disclose that.

SM: That is an amazing deal. The investor in that round was a private equity firm, you said. MG: The lead investor was Goldman Sachs. Others also invested, such as Chase Capital, GE Bank, Banco Santander Centro Hispano, a large bank in Europe and throughout Latin America.

SM: In 2003 you had $4 million in revenue, and $12 million in 2004. Were the investors starting to warm up to the idea? MG: Yes, they were wanting us to be profitable as soon as we could, but eBay was a shareholder by then and they believed it was more valuable for us to continue gaining market share and growing our top line rather than focusing on whether we made or lost half a million per year. We agreed with that. We could have become profitable in 2004, but we decided not to. We became profitable in 2005.

SM: How many employees did you have by 2005? MG: I believe we had about 200 people.

SM: Is it expensive? How much does the workforce cost in South America? MG: It varies by country, but it is typically much cheaper than what it is in the US. It depends on the type of person you are looking for.

SM: Are the technology skill sets easy to find? MG: The technology market in Argentina, where we hire most of our people, has heated up a lot. It is getting harder to hire people.

SM: So you grew well through 2006, and in 2007 you went public. How was the IPO received in the investor community? MG: Very well. The stock went up quite a bit. We were quite unlucky in that we did our road show in the middle of the sub prime crisis. The day we priced, the market broke 400 points. And the day our stock went live was the day the Fed, the European Central Bank and the Bank of Japan, all intervened in the markets and gave liquidity, which was something that had not happened since Sept. 11, 2001. Despite that, the stock preformed we went out at 18, and the stock is now trading at above 40.

SM: Your investor base is mostly institutional investors, right? MG: Mostly US institutional investors.

SM: US Mutual funds? MG: Today we do not have a very clear picture of exactly who holds our shares. During the IPO, Tiger and General Atlantic both put a relatively large allocation. We need to see results of the most recent quarter. We believe there are other large funds which have been buying our shares, but we have not been able to confirm that.

SM: Is there a particular type of analyst who is responding to the stock, such as Latin American analysts or technology analysts? MG: Mostly it is the technology analysts, and recently we have received some Latin American coverage. In our road show, we have focused much more on the technology global growth investors. We think as shareholders, they are much more likely to add value. They have seen different stories in different parts of the world, and understand the differences in business throughout the world.

SM: They won t panic either. MG: No, they won t. They understand the challenges and know what we are doing to address them. They can also see where the future market is going.

SM: What is the plan going forward? The IPO went well, the market is going well, adoption is increasing where do you see yourself headed? MG: Continuing to focus on what we are doing. We got into our industry in the very early stages in Latin America. We want to continue being very concerned about the trends going on. We need to focus on regional trends to ensure we know what to change and where to adapt to successfully grow in the region. I think for the next 5-10 years we will continue to focus on that rather than anything else. We have our open payments platform [Mercado Pago] in Chile. Originally it was a closed system with an escrow component, and would not work outside of MercadoLibre. We converted that to an open system, much like the PayPal model, and we believe that is a powerful business opportunity.

SM: Does PayPal operate in South America? MG: You can withdraw money but you cannot fund a PayPal account. They do not have a Spanish speaking site either.

SM: What is your dynamic with eBay today? Competitive or collaborative? MG: They own 18.5% of MercadoLibre. They are a very big shareholder. We have a very good working relationship with them. We have had very good best practices sharing in the past. Our non-compete agreement expired in September of last year, but we continue to do best practice sharing. They are focused right now in regaining momentum in the US and Germany, their two biggest markets where growth has slowed a lot. As we were saying earlier, the markets we compete in are different, and the formulas work differently. I think they are happy to be minority shareholders and have a local team that drives business at this stage. That is also what they ended up doing in China. They were a minority shareholder, and then they bought everything, then went back to being a minority shareholder.

SM: In India they bought the largest provider, Bazee.com. MG: I think the group in India was much smaller than we are though.

SM: They were. Am I reading this right - that you are the type of team that is more interested in building the company as opposed to flipping it? MG: We have been building it for 8 years now, so we better be into building!

SM: Are you tired? MG: No, I am not tired at all. We just had our end of year party, and I gave a message there. We have opportunities now like we have never had before. Unlike other periods when we were losing money, or as we were saying before, just focusing on the platform, but the business was not there, now the business is there and we are growing and we are profitable. Everyday we have more cash in the bank than we did the day before, which is a good feeling for us because for many years that was not the case. Now we have the cash, we have the team, we have a very strong platform, and we have a very strong brand. Add to that all the opportunities there are in this space, and it is an exciting time.

SM: How does the entrepreneur network in Latin America work? Are there many entrepreneurs in Latin America now? MG: Yes, there is a foundation called Endeavor Foundation. They select entrepreneurs in their region and then support them. This foundation was founded by Linda Rosenburg and Peter Kelner, two Harvard graduates. They got the big private equity investors, Latin American market investors, and emerging market investors, and they involved them in the founding of this organization because they wanted entrepreneurs to have access to these people. They do an incredible process of selection.

SM: Is it like an incubator? MG: No, not exactly. They do a process to select you, which is really competitive. Potential entrepreneurs present their business plans to different panels in their respective countries. This is now in place in 12 countries. Each country sends their finalist to a final panel in Miami. This organization started in South America, but it is also in Turkey and South Africa now. It will continue expanding in the Middle East as well.

The judges are big investors, entrepreneurs from all over the world. A consensus vote is required just one vote against the entrepreneur means they are not elected. By the time you are elected, you have really gone through an extensive process. Once you are elected, you are plugged in with all of the entrepreneurs in Latin America, South Africa, Turkey and the other expansion areas that the Foundation plays in. This is very useful. The board of each country is made up of very influential people. When an entrepreneur encounters a problem, they are able to take it to their network and really get help dealing with it.

Rather than giving money to poor people, the support goes to the people who give jobs to the poor.

SM: It sounds like a great model. MG: It is a very interesting model. It has been thought of as the best way to help emerging markets. Rather than giving money to poor people, the support goes to the people who give jobs to the poor.

SM: Have there been a lot of success stories? MG: I just went to the ten year anniversary in New York because we were the first Endeavor company to do an IPO.

SM: You are the poster child of the Endeavor program, that is great! MG: Thank you, it has been a great experience building MercadoLibre.

SM: MercadoLibre continues to experience tremendous growth now that the Latin American market is ramping up. They are featured in my *Seven Stocks for Long Term Hold* list, and by Long Term, I mean years, not quarters!

A Technological Fix For Education

Venture capitalists are chasing hot areas with planet-scale problems: energy, water, global warming. Industry legends, including John Doerr and Vinod Khosla, have become prominent spokesmen for the issues, pumping huge sums of capital into these eco-markets.

In our enthusiasm for green, however, there s a forgotten industry segment that remains woefully unaddressed education.

With the advent of social media, and with the revival of entrepreneurship and investments in consumer Internet services, technology-enabled education looks like a huge opportunity for wealth creation.

Why have entrepreneurs and investors ignored education? The market is relatively tough to crack due to its seasonal nature and the dysfunctional sales cycle which results in wary investors, says Edward Fields, chief executive of HotChalk, a free online community application that aims to connect teachers, students and parents from K-12. Unlike many other efforts, HotChalk seems to be getting real traction.

Entrepreneurs have long struggled to sell technology to schools. This struggle and ensuing failure has resulted in investor cynicism, so much so that today the segment garners little money and draws few entrepreneurs. Those who do march bravely into the market often languish in an under-capitalized never-never land, unable to take on the big problems due to insufficient funding. To give credit where it is due, junk bond king Michael Milken has been the most notable exception to this rule. He has consistently invested in education through his holding company, Knowledge Universe. One of the best-known examples of Milken s investment is LeapFrog, an educational toy company that literally leaped into prominence with a popular reading technology. Today, Leapfrog is a public company and has launched a new reading product Tag.

John Doerr, too, has spent several years trying to rally high-impact individuals around his New Schools Venture Fund, which focuses on revamping, and building anew, charter schools. But fixing schools is tough work. The New Schools Fund has had only marginal success, starting some successful charter programs, but struggling with the turnaround schools. And that program doesn t aim to develop technology.

I believe, however, that HotChalk may become the next example of how to develop a winning formula in educational technology.

Think of HotChalk as a social network for teachers, students, even parents. Any teacher can sign up on HotChalk for free. In five minutes they are able to view other teachers classroom materials and upload their own lesson plans, receiving feedback from a previously undiscovered network of peers.

Teachers can send notes, homework assignments and grades to students electronically. Today all students are accustomed to communicating via e-mail or text messages, so it is essential to incorporate this aspect into their education. Not to mention the added convenience this gives teachers, says Fields, who appreciates the key role that teachers play in the education-technology adoption cycle.

In a classic social media way, HotChalk has thus created a community of teachers, students and parents, interacting with one another around a software application that makes the process of teaching easier and better aligned with 21st century student dynamics. The application ties in education providers from every niche, including textbooks, supplements and assessment publishers.

Then comes the true brilliance of HotChalk s strategy: the company doesn t even try to sell to school administrators. Instead tapping the core users: teachers, students, parents. Launched in September 2004, HotChalk s membership has already climbed to more than 375,000 teachers. More than 7.1 million unique visitors from 188 countries use the site each month. That touches 72,000 schools, 93% of which are in the US.

But while there are 3.2 million teachers, 55 million students and over 140,000 public and private schools in the US alone, HotChalk sees no reason to limit its market. Globally, the numbers jump to 29 million teachers and 464 million students. The English-speaking international market alone includes an additional 1.3 million teachers. Beyond that is the non-English speaking world, encompassing China, Latin America, the Arab countries and Europe. HotChalk defines the comprehensive global education marketplace as its total available market.

How does HotChalk make money? Again, a classic social media principle at work: advertising and partnerships with big industry leaders.

HotChalk has received substantial financing from both venture capitalists and strategic investors. In August 2007, William Oldsey, Executive Vice President of McGraw-Hill, learned about HotChalk, recalls Fields. He initiated a partnership that would bring McGraw-Hill s significant teacher training and certification tools to users. Then NBC learned about HotChalk s vision, and its management proposed a partnership to distribute its comprehensive news archive as a supplement to traditional educational materials.

These, unlike the basic HotChalk application, are paid subscription services. Both NBC and McGraw-Hill have since become equity investors in the company, alongside several venture capital funds, including Silicon Valley s Mohr Davidow Ventures.

In 2008, HotChalk looks to be on track to reach $12 million in revenue, aiming for over $30 million in 2009.

Schools are lining up to invest in the program, as the teachers who are already heavy-duty users of the HotChalk offering represent some 72,000 schools. They are helping HotChalk sell school-wide subscriptions without resistance.

I can t hire sales reps fast enough to meet the market demand, says Fields.

HotChalk s success, I hope, would cause entrepreneurs and investors to pay proper attention to the vast untapped potential of the educational technology market.

On the list of planet-scale problems, education is clearly one of the most pressing.

I first found out about HotChalk from the folks at Adify, who were partnering with the company to support their education-focused Vertical Ad Network. I have been deeply interested in technologies supporting education especially those that leverage the Web 2.0 and Web 3.0 phenomena, but it has been unbelievably difficult to find startups addressing this opportunity.

Ed Fields walked into my living room full of enthusiasm and conviction having cracked a fundamental challenge: how to get technology into the classroom.

SM: Let s start with your background. Where do you come from? What are the roots of your career? EF: My parents were educators. My father chaired the Molecular Genetics program at Harvard, and my mother taught art at the School of the Museum of Fine Arts in Boston. Education is a crucial part of my family s story and that has strengthened since I had my four children, three of whom currently attend public school and one is in college. I launched HotChalk to actively involve myself in raising the quality of education worldwide.

SM: What did you do before you established HotChalk? EF: I was the founder, President and CEO of ProductFactory, a Product Lifecycle Management company. Prior to ProductFactory, I was director of Interactive Publishing at The Learning Company which is an education software company focused on the consumer market.

SM: So you d had exposure to the for-profit education market at The Learning Company, and an entrepreneurship background through ProductFatory. What type of company was ProductFactory, and how did you conceive the idea? EF: ProductFactory provided product development programs and portfolio management solutions to Global 1000 enterprises. The offering was spun out of a client-server PLM company called WorkGroup Technology.

SM: What was the value proposition of ProductFactory? EF: It was all about delivering a product development/program management application that used deliverables as a central organizing principal. The application could push complex, globally deployed supply chains through the phase-gate product development methodology. It was an innovative approach which made it possible to include suppliers in the product development process thus helping companies accelerate time-to-market, reduce costs and improve quality across the product lifecycle.

SM: How did you fund ProductFactory? EF: ProductFactory was bootstrapped with a $1 million friends and family round.

SM: And the major milestones behind ProductFactory? EF: Obviously the founding was memorable, in November of 1999. After a year of product development, the company delivered an Internet enabled solution that was selected for deployment by some early adopter firms including Eclipse, Aviation and PlugPower, one of the first companies attempting to commercialize fuel cell technology. We were very proud of the fact that companies trying to break existing product paradigms chose ProductFactory as a management tool. We enabled a radically new approach to innovation by leveraging the Internet for supply chain collaboration at the innovation stage of the product lifecycle. Later, the product was chosen to manage complex, globally deployed supply chain innovations for GlaxoSmithKline, Cisco and Dell.

SM: What were ProductFactory s revenues? EF: It was a low seven figure run-rate business with a handful of leading edge customers when Agile Software licensed the product and ultimately acquired ProductFactory in 2003. I stayed on at Agile as Senior Vice President of Marketing for a year, then went on to start HotChalk.

SM: What was the final exit value? EF: The terms of the acquisition were not published and the information is restricted by the acquisition agreement. That said, because we had bootstrapped the business, it was a great financial outcome for the founder, executive staff and our investors at a time when positive outcomes were few and far between because of the dot com meltdown.

SM: How was the transition from ProductFactory to HotChalk? EF: My experience at an Enterprise Software company like ProductFactory coupled with my consumer focused educational software experiences at The Learning Company set me up for HotChalk. Through these experiences I realized the tremendous potential of web-based educational technology resources. I was inspired by my own experience as a parent and the frustration that parent teacher conferences always seemed filled with surprises. Since I did not have any continuous visibility into the daily or weekly goings at the school, I discovered all sorts of things at these meetings.

SM: What was the market landscape when you founded the company? Who was your competition, and what was their positioning? EF: Online education resources like Blackboard and Moodle were doing quite well then, although none of the other companies had a collaborative community element. On HotChalk, teachers contribute their own content, use resources uploaded by other teachers, create tests and rate materials. This enables teachers to find things that work in the classroom, aggregating the best information worldwide. This is one of our key differentiators in the marketplace.

Teachers can send notes, assignments and grades to students electronically. Today all students are accustomed to communicating via email or text messages, so it is essential to incorporate this aspect into their education. Not to mention the added convenience this gives teachers.

Another differentiator between HotChalk and the rest of the field is our unique partnership with NBC News that brings news video into the classroom.

Imagine children watching original coverage of the Kennedy assassinations as they learn about that time period!

Imagine children watching original coverage of the Kennedy assassinations as they learn about that time period! Or watching the coverage of Rosa Parks, Martin Luther King s Assassination, the March on Washington, as they learn about civil rights.

On-demand access to NBC News 70 years of television coverage, pre-television film footage and radio broadcasts provides a historical background for lessons, adds relevance and improves learning outcomes for all students. Students can use HotChalk s resources at their own pace, giving the many US students who do not speak English as their first language the ability to comprehend more readily. This content is updated continuously so educators can teach current events right up to the minute.

SM: What is it that truly makes HotChalk unique? EF: HotChalk is the first free online community application to connect pre K-12 teachers, students and parents. It s the true essence of Web 2.0 since each teacher s individual experience and overall community experience become richer and more dynamic with each user s contribution. HotChalk is content agnostic! We work with education providers from every niche, including textbooks, supplements and assessment publishers, and our range of content is continuing to expand

We know teachers intimately. We speak with them daily through surveys, feedback forms and phone/email dialogues. These open lines of communication with teachers enable us to offer resources on their sites known to provide value to educators. Teachers are often presented with technology products by administrators that they actually don t adopt for a variety of reasons. This has led to a gross misuse of funds by school systems. We have found that administrations in some areas have been known to purchase programs costing more than $1 million, yet have under a 5% adoption rate by teachers. Schools cannot afford to waste funding on products that do not benefit their teachers, yet it happens all the time.

We have a revolutionary offering which others have noticed, and it s exciting. In 2008, membership has climbed to more than 375,000 teachers. More than 7.1 million monthly unique visitors from 188 countries are using our site. The value HotChalk provides for its members has created an organic marketing phenomenon that continues to multiply our user base.

SM: What types of strategic partnerships have you been able to create? EF: Strategic alliances are critical to our success and enable us to provide many free resources to teachers, students and parents. Our partnerships with NBC and McGraw-Hill mean HotChalk can provide time-tested, proven digital news video and teacher development resource offerings at a low cost to schools.

SM: How did you achieve these alliances? EF: In August 2007, William Oldsey, Executive Vice President of McGraw-Hill learned about HotChalk. He came to us and initiated a partnership that would bring McGraw-Hill s significant teacher training and certification tools to our users. Then NBC learned about HotChalk s vision and its management proposed a partnership with HotChalk to distribute their comprehensive news archive as a supplement to traditional educational materials.

The resulting affiliation has led NBC to take a much more active role than anticipated, including equity participation in HotChalk s C round financing. The success of both ventures ensures that there will be more curriculum-related joint offerings in the near future on a national and regional level.

SM: Let s examine the marketplace. How big is your market? And how do you calculate TAM? EF: Our target market is teachers, students and parents. Teachers globally lack essential educational resources. There are 3.2 million teachers, 55 million students and over 140,000 public and private schools in the United States. Globally, there are 29 million teachers and 464 million students. The English-speaking international market alone includes an additional 1.3 million teachers. We define the comprehensive global education marketplace as our total available market [TAM].

Our business model is to provide all teachers worldwide with a free, safe, easy and cherished tool to bring their classes online, and interact with other teachers to share their best resources. HotChalk aims to be an advocate for teachers so they have the resources and support that government, administration and corporations have promised to offer, but have not. We enable these teachers to readily communicate with students and parents online.

When teachers work together with students and parents, academic achievement follows. We don t try to work with school administrators. We work with the teachers, and they re the most crucial element of the education value chain

SM: How do you specifically provide value for schools, teachers, parents and students? EF: Teachers are an extraordinary leverage point in the system because there are on average more than 100 students per secondary school teacher. While we re focusing on serving all of the different constituencies, out of the gate for HotChalk it s about teachers. When teachers work together with students and parents, academic achievement follows. We don t try to work with school administrators. We work with the teachers, and they re the most crucial element of the education value chain.

SM: Venture capitalists tend to avoid education startups. How did you fund HotChalk? Did you bootstrap again? EF: Sales cycles in school districts can be unpredictable due to funding instability, school board changes and politics. This has made traditional investors wary of our market. It can take a long, long time to sell any new product to the schools, by going through the school administrators. There was not a lot of venture funding of education technology in 2004.

Our Series A was a friends and family round, and was $150,000. As we continued to make progress, we began to attract more traditional forms of venture capital from players like Berg and Berg and the Meriwether Group. That led to a Series B of $3.5 million, of which 50% came from VCs and 50% came from existing investors. Our Series C was for $10.5 million of which 95% was institutional and 5% was from existing investors.

We have always had a strong foundation of people who are experts in web-based technology and investors who believed in us. We are quite fortunate that our investors are business partners and long-time colleagues who are well respected in their fields.

SM: Who were your initial institutional investors? EF: They include members of the team that bought ProductFactory Jay Fulcher and Bryan Stolle. These partners provided more than just capital. Bryan Stolle, now a partner at Mohr Davidow Ventures, gave valuable coaching and support instrumental to the development of HotChalk.

SM: Who were the Series C institutional investors? EF: Last summer we inked the term sheet on our Series C financing with NBC News, McGraw-Hill, Peacock Equity Fund, Mohr Davidow Ventures and existing investors participating.

SM: What stage are you at now in terms of revenue, profitability and users? What metrics do you use for evaluation traffic, unique visitors, other metrics? EF: In banker s parlance, HotChalk is a Stage 4 Company with shipping product, revenue and sustainable growth. We will begin fundraising for global expansion in a year or so. Our traffic is continuing to expand: 7.1 million monthly unique visitors and 375,000 teachers use our service in 72,000 schools and 188 countries. Our largest teacher concentration is in Florida where we have more than 10,000 registered teachers.

SM: What is your business model? What is the value proposition for investors? EF: Advertising is the key to the HotChalk business model. We are able to provide free services and content as corporations place relevant advertising throughout our network. HotChalk never advertises to students during the school day and we never advertise to students in elementary school. We do not accept advertising from fast food companies or anything that is sexually suggestive. HotChalk only presents tasteful advertising to meet the needs of students in a positive way.

We recognize we have a responsibility to the pre K-12 audience because of the age and the educational environment where our application is viewed.

SM: Can you describe your team building process and philosophy? Is your team complete? EF: We are always looking for the best and brightest who share our passion for education. Our management team is seasoned in software development, education technology and, perhaps most important, technology adoption in the public pre K-12 setting. Those who are an ideal fit also have all-important experience building tech startups from ground up into successful organizations. HotChalk is a small but mighty company where every individual makes an impact on the organization and as a result makes a significant impact on teachers worldwide.

As a graduate of the Marine Officer Candidate program, I m a believer in the inverted management pyramid. Leaders work for their followers and it s the leader s job to make sure that the team has the tools, training and resources necessary to carry the day.

SM: What is your continued growth strategy? How will you manage growth selling to schools, something other companies have found difficult so far? EF: HotChalk approaches school districts and individual schools directly. Based on data gathered from our free offerings for teachers, when we approach a district we can tell them with precision how teachers in their area are using specific HotChalk programs and how those programs affect their teaching. Districts see that HotChalk brings immediate value since, more often than not, their teachers are already on our system. Administrators often end up reconsidering proposals from companies with products that are interesting, yet provide limited value due to adoption challenges.

2.8 million teachers need to be recruited over the next eight years to meet education demands. These future teachers are students in universities who use Web 2.0 applications daily, so using a web-based application is second nature.

SM: How do you view the market landscape, and going forward into the future? EF: There are 3.2 million teachers teaching and many are headed out the door. Some are retiring, but almost all are fed up with increased demands and little support. 2.8 million teachers need to be recruited over the next eight years to meet education demands. These future teachers are students in universities who use Web 2.0 applications daily, so using a web-based application is second nature. The high potential for adoption by these future educators is the foundation of our enterprise value. HotChalk s product is simple and easy to use, so even less technologically-savvy teachers can get on board.

SM: What are your thoughts on the education technology market overall? Why is there so little activity and funding? It s obviously a vast and important segment operating under archaic assumptions. How do we turn it around? EF: The market is relatively tough to crack, but we can turn this market around by taking care to understand the marketplace and who needs resources the most namely teachers. Taking the time to listen, understand and adequately address this segment enables us to provide immediate value to our target market. Programs need to stop catering only to administration and IT professionals. This group often perpetuates the archaic assumptions you mention.

Initiatives need to demonstrate value at the outset. They must be easy-to-use and teacher/classroom friendly to encourage early adoption. Any teacher can sign up on HotChalk for free. In five minutes they will be able to view another teacher s classroom materials and upload their own lesson plans and get feedback from other teachers. This ease-of-use, as well as other extensive resources available to educators, provides immediate value for the school.

SM: Have you given much thought about a potential exit? EF: I don t spend a lot of time thinking about the exit. We re focused on making a meaningful impact on the lives of teachers to drive student results. Getting that right will drive sustainable shareholder value which is what our investors are most interested in.

SM: What have been the key lessons learned from this journey? EF: Each technology market segment is unique and requires a fresh approach. What I discovered in education is that there are numerous constituencies locked in a dysfunctional state largely because education has become so politicized. That must change in order for real progress to occur. It s time we remove politics from education and support teachers, making sure they are given the resources they need. How else can they equip our children with the tools they need to positively impact the 21st century?

SM: A fine question, and a fine conversation. What I learned from your story is that you used teachers as your primary lever for market penetration, taking a social media approach, as opposed to the traditional approach of knocking on the doors of school principals. This is very clever. Bravo, Edward!

Tackling Planet Scale Problems

Hydro-Alchemy

Alchemy refers to the medieval science of turning metal into gold. Today, as we frantically deplete our planet s natural resources, one brand of alchemy that will become critical to humanity s survival is technology that turns seawater into drinking water.

Currently there are two primary processes for extracting salt from water thermal distillation and sea water reverse osmosis but both are expensive and inefficient. Enter Energy Recovery. The small San Leandro, California-based company created a ceramic device called the PX pressure exchanger, or as Discovery Channel called it the single most significant breakthrough to be seen in our lifetime. The PX has helped water treatment plants around the world reduce desalination costs to a fraction of what they were in the mid-1960s. At that time, the cost of producing a cubic meter of fresh water from seawater averaged $10. With the help of Energy Recovery s PX, desalination now costs an average of $0.46 per cubic meter.

Here s how it works. The PX captures the energy that would otherwise be discarded in the reject stream of the reverse osmosis process, then cycles it back into the system. Since its debut in 2002, the PX has become a leading desalination product, installed in more than 300 desalination plants worldwide.

Sales of the PX have pushed Energy Recovery s revenues from $4 million in 2003 to $35 million in 2007. In April 2008, the company filed for a public offering and plans to raise as much as $175 million. It plans to use the proceeds to develop more products and ramp up sales and marketing.

Energy Recovery s path to success, however, has been anything but smooth. Founded in 1993, it has narrowly escaped going out of business several times, survived three rounds of significant management changes, and battled through the courts to gain control of its intellectual property.

It took enormous patience and conviction from its management team as well as its investors high-net-worth individuals from Norway who believed that the company was doing something important. Over a 15-year period they funneled $12 million of their own money into Energy Recovery, without once raising an ounce of Silicon Valley venture capital.

Venture capitalists are coming from the money management side, and, of course, they have the obligation to cut their losses, says Energy Recovery Executive Chairman Hans Peter Michelet. If a traditional venture capital firm had been behind ERI, they would have pulled the plug long before we did. We went all the way.

Michelet says Energy Recovery expected to reach $20 million in sales by 2000. It finally reached that milestone in 2006. The company had to experiment with multiple generations of technology and initially went to market with a PX that wasn t powerful enough. The PX product it has on market today is five times as powerful.

Is Energy Recovery s market mainly in the developing world? Not according to Michelet. There s also a great need for desalination technologies in industrialized nations. You don t have to go overseas to look at the critical aspects of desalination, he says. It s enough to just go to California. We demonstrated that we could now, in California, desalinate a cubic meter of water for a total of 1.58 kilowatt hours.

That number doesn t tell the laymen anything, but let me put it in context. Colorado, today, spends about 1.9 kilowatt hours just to pump a cubic meter of state water to California. In addition to that, about 1.6 kilowatt hours of additional energy is spent slushing a cubic meter of the Colorado River water around in California. When you look at all the energy being consumed by California simply pumping water around, you realize it is quite a bit cheaper to desalinate water from the Pacific Ocean.

And with the Environmental Protection Agency forecasting that the US will have to spend $277 billion on water infrastructure by 2019, suffice it to say, Energy Recovery has a large market to tap into.

And tapping into it, it is. Energy Recovery popped onto the Nasdaq on July 2, 2008. Although priced at $8.50 a share, ERI opened at $11 and closed for the day at $9.83. It sold 5.9 million shares, raising a gross of $68.7 million on opening. Then, it went up to $13.25 on July 8, a remarkable 56% gain, enjoying a well-deserved financial bonanza.

Hans Peter Michelet, Energy Recovery Incorporated (ERI)

I knew HP had built up a Norwegian investment bank before he got involved with ERI. And long before that, as HP told me laughingly over breakfast, that he was born with a silver spoon. Born into an old entrepreneurial family in Norway, HP was raised on a value system rooted in, one, entrepreneurship, and two, harnessing science and technology into commercially successful endeavors.

HP is a parallel entrepreneur, involved in 8 different businesses from software to cleantech to hold your breath a cod farm. So hopefully in the fall of 2008 you can buy organically grown cod fillets at Whole Foods here in the US, says the charismatic Norwegian.

However, in this interview we focus on his efforts and experiences with ERI, providing insight into the process of starting a company as a venture capitalist, only later to go hands-on under situational demands.

SM: HP, I want to start with asking you about ERI in your own words. ERI is one of your eight different ventures, right? HP: Yeah whether it s eight I don t know, but I will tell you about ERI. ERI is the world s leading manufacturer of energy recovery devices. Our core innovation is a ceramic pressure exchanger called the PX. We can go into more detail about what specifically it is later, but the company we have close to 50 employees around the world and we ll be close to 60 by the end of this year.

As to the numbers, we are a privately held company, but we should see revenues to the tune of at least $40 million this year. So we are de facto doubling the revenues from 2006 to 2007, and going forward we have a pretty clear visibility of looking at $100 million in about two years time.

SM: Great! And where are your customers? HP: We sell directly to our customers all around the world, and we have just opened an office in Shanghai. We have a big set up in Madrid, Spain. We also have an office in Oman.

SM: Can you lay out the energy recovery business for us? HP: We are into the desalination industry, meaning converting seawater to fresh water. This is historically a very energy intensive process. And what our device does is it recuperates up to 98% of the energy of the brine, or the rejected high pressure stream, and circles this energy back into the loop. But the practical consequence of this is that we reduce the energy consumption of converting seawater to fresh water by two thirds. Amazing economics: today, it costs $6-8 to desalinize one gallon of seawater and turn it into drinkable water; with this technology, one is able to do it for 80 cents.

SM: Where are you seeing adoption of the PX? HP: Well, to understand some of the trends here it is important to look at it historically. You can sort of divide desalination into two camps. One is called thermal, which is really an evaporation technology, and the other is reverse osmosis. Historically, the Middle East has been all about thermal. Just because they ve had abundant energy and there really has been no opportunity cost attached to this energy. So you have typically seen large plants built in connection with refineries or other energy intensive plants where they have a lot of excess energy to spend on thermal desalination.

Now what you see as a trend, as a function of the isobaric technology that we are part of, is that Reverse Osmosis is going from a historic share of about one third of the market to 60%. I think we will see it stabilize around 80% because of the energy efficiency and the simplicity of the PX. Even if I give you the excess energy for free out of a thermal plant, it is still cheaper to desalinate water through reverse osmosis with the PX.

So it is dawning on the whole world that this trend is likely to continue. That is the technical trend driving the market.

You see that global warming is no longer something people talk about as a scientific experiment. It s an accepted fact.

The other thing here is that we have a convergence of forces everywhere. You see rapid urbanization around the world. You see that global warming is no longer something people talk about as a scientific experiment. It s an accepted fact. The rain patterns around the world are changing. Then you have the increased affluence of the Chinese and the Indian markets in addition to increased urbanization and depleted ground water wells; so, all of these elements, they play into the same trend.

SM: So desalination becomes a lot more critical as a source of clean water. HP: It becomes a bigger source of clean water. Desalination has always been there; it is not new. What s new in this game is that suddenly desalination has become a reliable and affordable source of water irregardless of rain or seasonal patterns.

SM: Reverse Osmosis desalination seems a lot more critical at this point given the energy requirements that India and China are putting on the world. The pressure that it creates on the Middle East, and the opportunity cost of selling the energy to those large economies as opposed to using this energy for their own thermal desalination. HP: Indeed Sramana. But you don t have to go overseas to look at the critical aspects of desalination. It s enough just to go to California where you actually see we were part of a private public partnership last year called the Affordable Desalination Collaboration.

We demonstrated that we could now, in California, desalinate a cubic meter of water for a total of 1.58 kilowatt hours. Let me put that number in context.

Colorado today spends about 1.9 kilowatt hours of energy just to pump 1 cubic meter of water to California. In addition to that you spend about 1.6 kilowatt hours per cubic meter just to move the Colorado River water around inside California. That takes a lot of energy and it is expensive. You realize it is actually cheaper to use desalination.

SM: From the costal reserves? HP: Yes, from the coastal reserves. Call it the ocean. So there are about 26 major projects along the coast of California. I think it was yesterday that the Spanish company, Prodesa [they have since changed their name to Oceano] was awarded the Carlsbad Plant, to be built between LA and San Diego. That s the first large scale desalination plant along the coast of California. So it s happening here as well.

SM: And you anticipate that there are going to be a lot more plants beyond the Carlsbad plant? HP: Yes, I think so. There are two aspects here. One, California by and large, is dependent on snow from the Sierra Mountains for its water supply. If you look into the future, at least the various predictions I have had the chance to look at, the snow melt of the Sierra Nevada Mountains is expected to be reduced by 80% within the next 40 years.

SM: Oh my god. HP: Right, and there is no other reliable source of future water other than desalination. Add to that the expected increase in the population of California. Currently there are 34-35 million people and it s expected to increase by 10, or 15, or 20 million over the next 40 years. So where are we going to get water from? I think it is likely it will come from the ocean. But then you have one final thing: when you add water to the equation, you also add economic growth. So there are also forces opposed to putting desalination along the California coast.

Social common sense, awareness of the coastal sensitivity for economic growth, means that a lot of people are not happy with economic growth. So by saying no to desalination plants you are also able to limit economic growth in various areas. So you have these opposing forces.

SM: HP, what do you encounter from the government on the issues of global warming? Is the government sufficiently aware of the fact that the Sierra Nevada snow base supply is drying up? HP: You ask them, Sramana. I don t know, but we are on the verge of the breakthrough on the technological side.

When I drove by my house today, my neighbors already had sprinklers on their lawns. Usually you don t see that until April or May. California is already into a drought. So I believe that rapid education will become a necessity. And necessity is the mother of all invention. Of course, we already have the invention ready, whenever they wake up.

SM: You won the Environmental Exporter of the Year Award two years in a row, right? HP: That s correct. Last year we were awarded the Environmental Exporter of the Year Award by the Export Import Bank of the United States. This year we were awarded the same title but from the US Department of Commerce. So of course that is a great boost in terms of visibility. I think people realize we contribute positively in an environmentally sound way to solve a lot of water issues around the world.

SM: You showed me a video earlier where your innovation is described as *the most significant engineering breakthrough that we will see in our lifetime*. Can you elaborate on that? HP: Indeed. Those words are Discovery Channel s words, not mine. Perhaps I should try to comment on that by putting it into two boxes. One is that by harnessing the energy component of converting seawater to fresh water, you are solving in itself a lot of issues for millions around the world.

Five, six, seven years ago it was very difficult to fathom the importance of the PX. We realized that we were onto something, but, of course, now with all of these converging forces, it really stands out. So that is one piece of that comment.

The other thing is the pure simplicity of the device. It is also quite unique. We are operating here at extremely narrow tolerances that are not even visible to the human eye. But we are doing this in ceramics, meaning we have no corrosion. When you are operating in a seawater environment corrosion is a very dangerous enemy.

But as I said, this is the comment of the Discovery Channel, but, I like it.

SM: Is there a broader significance to your energy recovery technology beyond water desalination? Do you have applications in other power related challenges? HP: Yes, as with a bike, you start to paint it in different colors to sell it to different people. Given that you may define the PX as a very sophisticated pump, we will see other industrial applications of the same device going forward.

One is obvious. It is inter-brackish. Brackish water but that operates under lower pressure so you have sort of a longer payback. The next big wave, and it is very easy to be seduced by this one, and it s dangerous because you need to remain focused on what you do today and not get carried away with something that may happen tomorrow, but the next big thing is **Osmotic Power**.

SM: Describe Osmotic Power. HP: Today we do desalination. Meaning we go from salt water to fresh water. Osmotic power is actually taking the forces the other way around where we go from fresh water through a forward osmosis membrane and into salt water. In that process we generate the pressure that will be used to run the turbines, which in turn will create electricity. This is the next big wave, I think, for this technology. And this year will be the first major prototype, with an osmotic power plant built somewhere in Europe with our device in it. This is still a few years away from commercialization.

But to give you the scope, one of the largest utility companies in the world using renewable energy, estimates an annual market of about 1600 terawatts. That should be equivalent to about 50 billion euros in annual electricity production. It is sizeable and is really a function of the PX that this is possible. Otherwise you insert more energy than you get out, so it becomes less cost efficient. But yes, there are issues yet to be resolved.

SM: Interesting. So HP, if I am hearing you right, you re currently building the company on the basis of energy recovery for water desalination. But, the same technology can enter a new market Osmotic Power a significantly larger market of about 50 billion euros per year? HP: Yes, 50 billion euros per year.

*You may argue that what we did then wasn t venture, it was more*ad-*venture, with huge risks involved.*

SM: OK, so ERI. How did you meet the founders of ERI, or the technologists behind ERI? HP: That s Harvey. He called me one day and said, I m into this, it s possibly big, and I am out of money. I know you have some money and it is your turn to start writing the checks. You may argue that what we did then wasn t venture, it was more *ad*-venture, with huge risks involved. This was back in 1993-94, so 13-14 years ago we started funding the inventor. At that time playing with the same concept, but in metal. As you know though, today we are in ceramics. So we have come a long way.

SM: At the time the company was how large, and who was involved? HP: At that time it wasn t large at all. It had two employees at that stage. It was a pure R&D venture. We had a group of four people pitching in monthly checks to keep the inventor and his family alive and to make sure he had sufficient resources to continue with the experiments. Then we hit snags because we realized it could not be done in metal, because metal expands as it gets warm and we realized we needed to move into ceramics.

Then we visited Oak Ridge National Laboratory in the early 90 s, came with our specifications, and the answer was pretty much the same: Guys it can t be done, please go home.   So then there was an urgent conference call to see what we do. What do we know about ceramics? We had to confess that we didn t know that much about ceramics. But, two years later, after studying a number of books and going to the library in and out, the inventor was able to come up with the ceramic PX. So we have crossed a lot of unknown territory to get to where we are today.

SM: Territory which traditional venture capitalists would NEVER allow you to cross. They would have pulled the plug on this venture long, long ago. So in 1993-94, when you were funding this company from New York, you were at an investment bank at the time? HP: At the time I was. That is where I met my colleague. I was the CEO of a Scandinavian investment bank at the time. So this was sort of a pet project I did on the side in those days.

SM: You were basically funding the R&D through all of the experiments? Through metal versus ceramics, and all of that? HP: We funded all of that, and we kept on funding well beyond what any reasonable venture investor would deem appropriate. We funded well beyond where a person should say enough is enough.

SM: Sounds like something venture capitalists would never do. HP: No, and I think there are lessons to be learned here. A venture capitalist, or persons running venture capital firms, are coming from the money management side, and of course, they have the obligation to cut their losses. But this was our money. VCs manage other people s money. The dynamics are different. I think if a traditional venture capital firm had been behind ERI, they would have pulled the plug long before we did. We went all the way.

SM: And you went all the way based on a conviction? Did you already fathom the significance of what you had in your hands? HP: No. In hindsight I think it is important not to know too much. If you know too much you become too cynical and you may argue that it doesn t make any sense to go on.

Here you are sort of into that classic paradox between what you may define as an industrial builder versus a money manager. We realized that we were on to something, but how large was not known to any of us   yet, we had visions. We understood pretty well the direction of it, but it was impossible to have a full idea. I sort of remember the old business plans. We should do 20 million dollars in the year 2000 and all of that. Now we are in 2007 and we finally did 20 million dollars last year.

SM: So it has taken much longer. How much money did you guys put in? HP: I would divide that into two groups. One would be the retained earnings that we have been able to generate over the years through commercial sales. And the other is in pure cash coming into the company. In pure cash we have invested about 12 million dollars, and in terms of retained earnings we have invested about 12 more. So at this stage somewhere between 20 and 24 million dollars is relevant.

SM: The 12 million dollars that came as cash from outside   that is a substantial chunk of money. Did you put in all of that money yourself, or did you have other investment partners? HP: We have pretty much been the same consistent group of people along the way. And there are some lessons. That is a different discussion.

SM: Who are these people? HP: These are sort of our own friendly network of wealthy Norwegian people. We really don t have any institutions; it is private individuals that have been willing to stick together come hell or high water. Each time we had an issue we stuck our heads together and wrote the checks from our grocery. We kept on going. So it s just the same people.

SM: Very interesting you sustained from 1993-2007. That s a long time, and 12 million dollars is a substantial amount of money for individual private investors to commit to. It is a remarkable achievement, HP. And sounds like it wasn t at all an easy ride!HP: Thank you.

SM: So can we go into some of the discussions as to how you built this company? In terms of building the organization, you had a technical founder who had the science of this project, yes? HP: He was an artist. It is always difficult for an artist to take things to an industrial scale. He was into hand-crafting every PX. We needed a production system that scaled. We managed that transition.

The key here is when you do this at any given time, you should always try to hire the best people you can possibly afford *at the time*, because it is all about the people and it all starts at the top. Good people attract good people, and you need a certain class of people to make the company and the organization succeed.

So I think a lot of the lessons are in there. You have the dimension of us as sort of the equivalent of the Three Musketeers as investors here. We have been aligned as owners all along. I think that is also another lesson to learn. Too many people crack under stress. I said, in venture you must thrive on bad news. If you don t thrive on bad news, move over, because every day represents something uncharted and new where you sort of sit down and say, How do we deal with this?

And you make mistakes every single day too. As soon as you realize you made those mistakes you go back and you fix them.

At this point we are on our third management team, and I am a lot more involved in operational management.

SM: Can you take us through the history of the different management teams? You were running the investment bank when you started funding this company. There was a technical founder of the company. What was the next step? You were still on the east coast at this point? HP: Yes, I retired from my investment bank position back in 1996. We went on with the founder all the way until January of 2000. Then we realized we had the ceramic rotor. At that stage we were trying to ISO-organize the business. We were actually trying to standardize and take the *art* out of the production process. I spent an increasing amount of time on the business.

You can only do this by presence. You have to be around. You cannot sit on the phone and do business around the world. You ve got to feel it and smell it.

You can only do this by presence. You have to be around. You cannot sit on the phone and do business around the world. You ve got to feel it and smell it. We realized we were hurting ourselves by not really allowing the organization to expand. The founder was not willing or able to hire people who were smarter than himself. That made the whole organization stagnant.

SM: Did you take him out? HP: At that time we offered to make him a technical manager and let other professional people build the organization. What is quite common with founders or inventors is that it is a black and white universe. We ended up in a one-year litigation. He tried to take away the patents and quite a number of things we couldn t live without. We ended up suing him in the US Federal Courts, Courts in the state of Virginia, even through the patent offices in Norway. So we took out the heavy guns. That was the first management change.

At that stage we had also started to look at developing a sustainable global marketing strategy to launch the PX. I was living part-time in California with another venture, and part-time in Norway. The person who was doing our marketing study at that time was interested and capable and we hired him as the CEO. That was how we solved the marketing challenge.

I remember that shift. We thought we had planned it well. We even put an armed guard in front of the entrance door in Virginia. We knew that we dropped a bomb here. We were ready to do anything. We even changed the locks on the doors. We thought we had something explosive on our hands and we did.

A few months later we wrapped up the entire company, machinery and all, put it in seven containers, and put it on the railway car and shipped it to California.

SM: So, your new CEO was from California? Is that why you made the switch to California? HP: Yes, it s that simple. We took a number of the core guys with us and set up the shop in San Leandro where we are today.

SM: Did the other owners also move? HP: You mean the investment partners? No, I was the lead guy. So I was the one who said, ok I will run with this. From 2000 to 2004, I spent three to four months of any given year in California. That really put a strain on my family. I have four young kids and a wonderful wife, and I realized this wasn t how I wanted to live. So they came over here to live with me from 2004-06. They just moved back to Norway again last year.

SM: Your role at that point was Executive Chairman? HP: Yes.

SM: So that was your first management team change. You hired a new CEO and you took the Executive Chairman role, and you had another few years of progress. Yes? HP: Yes. Then we realized we were about to outgrow everyone again. We had to make some new changes. There were a whole lot of issues at the time. We were at this delicate balance with a 95% finished product. At the same time the urgency to take it out to the market to try to make a business out of it was quite pressing.

We realized we had to change management again and we did that. We have been running now with that same management team since 2002. And that has been very successful, but, I have been an integral part of this team.

SM: What are some of the challenges of building a business like this? It sounds like the types of projects you are involved with have very long sales cycles. HP: Yes, you know that is typical in Industrial. You are dealing with water and a lot of people don t care about the technical solution to this as long as you get the water. Also, you don t really find players within the industry who enjoy being guinea pigs. So when we started, on large contracts, we had sales cycles that ran from 18 months to two or three years.

Another lesson learned: we had the PX 40 at that time. The number 40 refers to the throughput of water per minute; a pressure exchanger that had a throughput level of 40 gallons per minute. We thought that this unit could really make a difference. But as we started listening more and more to the market and getting input from the customers, we realized that the PX 40 could never be the type of device that we thought possible initially. So we then had to embark upon a completely new scaling of the rotor. So our working horse today is the PX 220, which is five times as large as the PX 40.

SM: Sounds like you went to market with the wrong product, HP. Was there a lot of R&D involved in scaling from the PX 40 to the PX 220? HP: Indeed, and we invested essentially our whole future on it. We realized that if we were not able to make the PX 220, we would never be able to get into the major part of the industry. We would always be in just small plants.

You can t really take a linear scale up. It doesn t work that way because you are dealing with flow dynamics. You re dealing with completely different physical properties when you scale up like that. That was a true achievement by our great organization to make the new product happen. We launched that in April 2003, or 2004.

SM: When you have to manage these long sales cycles 36 months sounds like a very long sales cycle how do you deal with cash flow issues? HP: Indeed. I will tell you. GE is now building a large plant in Algeria, called the Humma plant. It is a 200,000 cubic meter per day plant. And we were working on that order for four years and there are a number of lessons learned in this.

We got that order in June 2005. That order to us represented a major breakthrough. Not only was it a major client, it was a client who was willing to bet on our technology. At that time it was one of the largest desalination reverse osmosis plants in the world. That order alone was about 150% of our previous year s sales. And for these guys to put this type of trust in us was a major achievement, but also a financial challenge.

We ended up slicing that order up into a series of smaller orders that we could ship and they would pay as we go. So in fact, we ended up having to negotiate such that our major customers were willing to sponsor our working capital.

SM: That s key. Okay great. You re in 2007, everything is going really well, a lot of momentum in the company what are your thoughts about scaling this business? It sounds like you are at a point now where you can scale quite quickly? Are you starting to think about exits? HP: Since the outset ERI has never been for sale and never will be. However, the analogy is the house you live in. You have no intentions of moving until one day a person knocks on your door and offers you $10 million for a house that is currently priced at $250,000. Then you sell. I think the same will happen to ERI.

As to the thoughts of going public that is, of course, an option, but it requires careful planning and certain organizational changes prior to executing. The nice thing about ERI is that with its complete global reach, taking the company public may just as likely be done outside the US. We are constantly being approached by various investors from all corners of the world.

Another important issue about any exit, ERI or not, is the question of ownership. The question is therefore, at what stage in the current evolution of ERI are today s owners no longer the right owners? Given the rapid growth of ERI, this is a constant issue. The moment you realize that current owners are holding back the development and growth of ERI, it is time to think about the right exit, either partially or totally. So far I believe we have proven to be the right owners for

ERI, but none of us can tell about tomorrow.

SM: Well, HP, this has been an absolute pleasure to share and relive your journey with ERI. I personally learned a lot!

Mobile Microfinance

An estimated 750 million households worldwide don t have a bank account. In Mexico, cash transactions constitute 79% of payments. In India, 91%. In China, 82%. Even in the US, 80 million people fall within the category of the under banked .

Most people around the world, however, own a mobile phone. Over the past few years, a number of start-ups have put these facts together to form a cottage industry that helps people access banking services on their cell phones.

Obopay is part of the movement to bring banking services to those around the world who don t have bank accounts. The Redwood City, California-based company was founded by Carol Realini, a semi-retired software executive, after she returned from a trip to the Congo in 2002.

In the Congolese capital, Kinshasa, Realini noticed that nothing worked. In a city of 8 million few had electricity. It is hard to imagine for us living in relative luxury, that in the twenty-first century human beings still rely on propane lamps or candle-light, function without hot water, and cook in clay ovens practices still prevalent in many parts of Africa and Asia.

And yet, the city had wireless towers. The first thing I noticed when I arrived was cell phones everywhere, she recalls. In a city where nothing worked, everyone had a cell phone!

During her trip, Realini was handed a prepaid phone and sent to the store to buy more minutes. At the store, she noticed that most people were carrying bags of money. The store looked exactly like a bank, Realini says. People were standing in line with their bags of money. When they got to the kiosk, they put down the bag of money and received a little card. They would then program their newly purchased minutes into the phone.

From this, Realini got her idea for Obopay. Wow, there you have it! she thought. If people can call and text each other, then they can use their cell phones to send money to each other.

The potential for mobile micropayment has attracted other entrepreneurs as well. In India, Sanjay Swamy founded mChek, and has signed up 45 major banks, including ICICI, State Bank of India, Citibank, Visa and Mobile Telecom carrier AirTel, as partners to bring his service to market.

mChek launched in Sri Lanka first, and today powers 5,000 small businesses, mainly retailers, to use cell phones as point-of-sales systems. A whole generation of small retailers will bypass plastic altogether, Swamy predicts.

Perhaps these small merchants will bypass the credit *cards*, but they certainly won t bypass credit. So mChek s VISA relationship helps them tie mobile payments to Visa-authorized credit accounts.

Swamy has also started experimenting with one of the largest microfinance institutions in Andhra Pradesh, a state in Southern India. His hypothesis is that every village has a small kiosk that sells everything from cigarettes and chewing gum, to onions and other convenience items. If microfinance institutions are able to do all the credit processing through mobile phones, then these stores can act as clearing agents or glorified ATMs and disburse cash as well.

Carol Realini has every intention of taking Obopay to India as well. Though while she is enthusiastic about the microfinance opportunity, she is more reserved about the short-term adoption prospects. I am not sure the microfinance industry has the back-office technology they need, Realini says. Think of us as the front office the last mile to the customer.

I share her concern, since I have heard it from many experts that the technology adoption at microfinance institutions is still quite rudimentary, making loan administration expensive and inefficient.

Nonetheless, I am excited by the prospects of mobile banking, and while it may take a few years before its impact will meaningfully filter down to the poorest of the poor, it is encouraging that entrepreneurs like Realini and Swamy are calling on the problem.

Carol Realini, Obopay

What do you do after a wildly successful career? Happily retire? Golf? Join a bridge club? If you are Carol Realini, you spend some time doing humanitarian work, walk around the villages of Africa, and stumble upon a new double-bottomline business venture!

SM: Carol, you have had a great career. Can you give us a review of how you arrived where you are today? CR: I was born and raised in San Francisco. I was a math major at University of California, Santa Cruz, after which I became a math teacher at San Jose State. At the time San Jose State was just starting up the Electrical Engineering department, as well as the first master s program in Computer Science. I earned my master s degree in Computer Science during my spare time. The teachers in the program at that time were industry people from IBM and HP who taught classes at night. Computer Science was a new field in the 1970 s.

After graduation I started my career as a technical person. I took a job as a software developer working for a mainframe company and developed operating system software. I spent 12 years there and in the early 80 s got involved with putting UNIX on mainframes. I negotiated the first UNIX agreement with AT&T, who owned UNIX at the time. I was essentially involved in a startup within a big company. I got hooked on building new things and the innovation it required.

Once that happened I really decided my future was going to be with younger companies, and with innovators rather than large companies. In my next position I went to a company just before it went public. It was a database company called Ingres. I was the Director of Product Marketing. After only 18 months at Ingres I was recruited to join a very early stage company called Legato Systems which was a Sun spinout. I was VP of Marketing and VP of Sales.

Legato was wildly successful, but after the first wave of product launches and deals I left to become the president of J. Frank Consulting in the early 90 s. In the later part of the 90 s I accepted my first CEO position for the venture-backed company Chordiant Software, and I raised over $30 million for them.

SM: What was going on with your career moves? Were they spontaneous, or did you have a focused direction? CR: Each time I made a move I had a lot in mind. I took each opportunity and job seriously. Each role I took at a company represented a commitment to make certain things happen for that company**.**

SM: As you look back on your career, do you feel your decisions were strategic, planned decisions? CR: It might have been! I remember my first day at work. I walked into this big building and I was one of two women technical engineers. Women were just entering the technical workforce back then. I was bright-eyed and I remember thinking I wanted to run that company some day. I have no idea why I was that ambitious. I worked really hard but never ran that company. I changed my goals from time to time, but I always wanted to be the CEO of a company. I was able to do that by 1990.

Somebody told me if you are not a CEO by the time you are 40 you are never going to make it.

SM: Some would say you had a great opportunity at Legato, and it took some guts to make the move you did. Why did you make that move? CR: Why did I leave Legato? Yes, it was definitely going well. I had a great job and the company was on the move. Somebody told me if you are not a CEO by the time you are 40 you are never going to make it. I was not 40 yet, but I started thinking a lot about getting that top job. I decided I needed to put myself on the accelerated schedule. That was part of the reason I left.

Fast forward ten years and it looks like a good decision. By then I had built two companies. Chordiant Software was doing well but I was not the person that was going to take the company public. We hired a professional CEO to take the company public, and I retired. At the time, I thought I was retiring forever because I was 46. I really accomplished way more than I ever thought I was going to accomplish. I had worked really hard doing three startups in a row. I said to myself, There is more to life than just working. I am not going to work anymore. My husband and I moved to Aspen, Colorado. We loved the mountains and skiing, so Aspen was a great fit.

That began a four year period for me which was an amazing timeframe in my life. I did a lot of skiing and biking and all sorts of stuff. After a while I decided I would take some of my skills and apply them to some areas which were new for me. I knew a lot about raising money, and a lot about handling money. I continued to be an Angel investor in a couple of companies, but even more interesting and pertinent was another line of my endeavors. I ended up getting involved in international development and foreign aid.

SM: In what capacity? CR: I met John Marks who is the head of a really large non-profit in the area of conflict resolution, and he asked me to join his board. I like to think of it as democracy building. The name of the organization is Search for Common Ground, and it works in about 15 countries worldwide. They are established primarily in places that have been conflict zones. There is a lot of involvement in Africa and the Middle East as well as some in Indonesia. The work is fascinating and the organization has quite a number of people worldwide. It is over 25 years old. When I got involved with that it opened up a whole new world for me.

SM: Can you give us more detail about what Search for Common Ground does? CR: Their work is divided into grass roots community work where they help build capacity for peace at the community level. They also do media work and have radio and TV shows. Their content is to help communities communicate and increase group collaboration. It is a fascinating organization.

SM: What was your involvement with Search for Common Ground? CR: I was involved in raising money and providing technology advice. As a result of that work, I gained exposure to other things going on in the world, such as the microfinance movement and the social entrepreneur movement. I spent time in Washington D.C. and interfaced with that community. I met James Wolfensohn who, at the time, was the head of the World Bank. These were communities who were really working to figure out how to scale banking to include everyone, thus allowing social and private entrepreneurship to flourish in other countries like India and Africa. The spirit of entrepreneurship is alive everywhere but a lot of the infrastructure to support it is not. That really gave me a new view of the world.

SM: Is that the real genesis of Obopay? CR: It is a significant part of the Obopay story. I was in Congo in 2002 on behalf of Search for Common Ground. At the time I had never seen a pre-paid phone but I heard of them and knew they existed. I never thought much about them.

I had never been to a place like Congo. I went to Kinshasa and at the time nothing in the city worked. It was a city of 8 million people and yet there were only a couple of blocks where electricity worked. The city was pretty weak on infrastructure, yet 8 million people managed to survive there. What I found fascinating was the cell phone technology in the midst of this city. When I got on the plane to fly to Congo the only business people on the plane were cell phone people. Everybody else was in the aid industry. I was working for an NGO so I was in the aid category as well. The first thing I noticed when I arrived was cell phones everywhere. In a city where nothing worked, everyone had a cell phone!

When I walked into hotels where they had electricity, every outlet was taken. The employees would come with their friends cell phones and charge them. At some point I was handed a prepaid phone and told to go to the store to buy more minutes. There were not a lot of merchandise stores and no banks to speak of, but they had plenty of cell phone stores. I walked to the cell phone store and noticed most people were carrying bags of money with them. They were literally carrying around bricks of money. It looked exactly like a bank. People were standing in line with their bags of money. When they got to the kiosk they put down the bag of money and received a little card. They would then program their newly purchased minutes into the phone.

SM: And you were able to recognize this as a rudimentary structure which could support banking & CR: Exactly. I just said, Wow, there you have it! If we could just generalize the value being put into all of those phones, we would have a banking system! That type of banking system could reach places like Congo. If people can call and text each other, then they can use their cell phones to send money to each other. That occurred in 2002, and I was not the only person on the planet to have that idea, but I got really interested anyways.

At the same time I was connected to the microfinance industry. I knew a lot about what was happening there. I felt there was a real possibility of banking looking really different. I started doing research in 2004 and one of the first things I noticed was in terms of banking services, there was a whole lot of the planet that got left out. Even in the US, 80 million people fall in the category of under banked . What that really means is that for a lot of reasons the traditional banking services are not a good fit for their lifestyle. If in a place like the US there are 80 million adults left out, then you can imagine how many people are left out if you look at it globally.

When that research report was done, I read it assuming my career was behind me. After I finished reading that report my career was in front of me

At the time I was still retired and still convinced I was never going to work again. A friend of mine joined me and we funded a research project in mobile financial services. When that research report was done, I read it assuming my career was behind me. After I finished reading that report my career was in front of me. I said, I want to go back to work, and I want to be part of building Obopay. I made that decision in early 2005 and the rest, as they say, is history.

SM: Take me through the building blocks of Obopay. What did you need to put this venture together? CR: It is a complex infrastructure in reality, yet very simple on the surface. Conceptually it is really easy for everyone to understand. I take a mobile phone and set up an account with Obopay. There are various ways the account can work. It can be an extension of an existing account; it can be a new account; or, it can be an account with an attached debit card. As the consumer, I decide which method I want to use. Once I set it up, it gives me access to however much money I have, and allows me to do something which is very important I can send it to any other mobile phone. If you give me your cell phone number, I can send you money without knowing what bank you are with.

SM: Does the receiving side need to have the same infrastructure set up with Obopay? CR: You have to be in the same country, at least for now. That is the only requirement.

SM: Can you deposit into the cell phone account? CR: You can t do that, and nobody has asked us for that. Behind the scenes the money is always in a bank. When I send you money, you as the user have to make a decision. Do you want to keep the money on the phone and set up an Obopay account linked to your phone? Do you want to set up an Obopay account, link the Obopay account to your bank account, and then put the money in your bank? You can also decide you don t want an Obopay account and put the money directly into your bank account, which makes you a one-time user. In the US we are working on figuring out how to allow you to get cash directly like you would from a Western Union location.

SM: When I request a check where does that money come from? CR: It comes from Obopay. Behind the scenes we manage where the money is kept and how the money is moved. We have a pooled account where we are simply a money transmitter. We manage the pooled account where everybody s money is maintained in one consolidated bank account. We keep track of all of the various transactions and where money needs to go.

SM: That is the stored value Obopay account? CR: That is right. We have three configurations in the backend. One is exactly like PayPal. It is configured in a bank. As a PayPal user when your money goes into your PayPal account do you know what bank it is in? No, and you don t care because PayPal has it. It is the same thing here.

SM: We almost think of PayPal as a bank. CR: We do and we should, it is front ending banking services.

SM: With that you are charging 1.5% of the transaction value? CR: Today we charge 10 cents, which is our introductory price, irrespective of transaction size. We have not announced this yet, but over time our business plan says that we will probably move to a model which is equal to approximately 1.5% of the transaction. Today the consumer pricing is 10 cents per transaction.

SM: What are the relationships you needed to establish for Obopay to be successful? CR: Banking is a regulated industry. To do what we do we have to have money transmitter licenses. In the US there is a federal license and there are state licenses. We have approximately 40 state licenses since not all states require licenses. We also must build technology to accomplish all of this and then establish relationships with financial institutions to allow us to deliver the services. We are not a bank and we do not want to be a bank. We have to have a partner bank that lets us keep the money in their bank, and we just handle the movement of money. The bank is providing us, on a wholesale level, the ability to store that money.

SM: Do you maintain relationships with multiple banks, or a single bank? CR: We have relationships with multiple banks, similar to how PayPal uses two banks. They use Chase and Wells Fargo. Historically companies buy wholesale services from different providers and, depending on their capabilities, buyers can select where they go for those wholesale services.

SM: Is there strategic consequence to that choice? CR: I would say no, although it is a very important relationship. This is all about money and who your providers are. The bank is an underlying provider of core services to us so we do not take that decision lightly. If you look at what we are doing with Citibank, which we think is a model which will scale quite well, that relationship is unique. Citibank has acknowledged Obopay with the stored value of a debit card. They also want to allow their customers to get Citibank Obopay so they will allow Obopay to connect directly to their customer accounts. We are excited about the possibility of this service taking off and other banks wanting similar services.

SM: What about carriers? CR: Carriers don t provide banking services, but they do provide mobile payment services. A lot of people are buying digital content and paying for it by having it charged to their phone. In that aspect carriers worldwide are already in the mobile payment business. We look to establish relationships with carriers who want to offer services like Obopay. We have that relationship with Verizon, and are building it with other carriers around the world.

SM: What is the nature of your relationship with Verizon? CR: It is primarily a distribution relationship and marketing partnership. We provide 100% of the service. They market it and distribute it.

SM: Let s talk about your different geographies. CR: The original plan was to launch in India or Mexico first, and then come to the US. But we realized there was a greater opportunity in the US. There was a lot of input we got from young people, families, and from under banked people that they would like to see this product brought to the US.

We have people from 13 to 75 years old using the service. We have kids who get their allowance via Obopay, and others who have configured their Social Security checks to go directly into their Obopay accounts.

The very first US implementation of Obopay was in the early part of last year. The first year here has taught us the product and services have broad appeal. We have people from 13 to 75 years old using the service. We have kids who get their allowance via Obopay, and others who have configured their Social Security checks to go directly into their Obopay accounts.

SM: When did you make the decision to go to India? CR: A little over a year ago we had an investor say, It is time to go to India, now. I went over and it was clear the opportunity was there. By the time my trip was over, I hired a head of Indian operations. In India we had to change the product for regulatory reasons and we can only use a limited model which is the bank model. In the US we are a money transmitter, in India we are a managed service offered by a bank. Last month we launched with YesBank, and we are about to announce three more banks in India.

We are working with both public sector and private sector banks to increase the number of banks offering this service. Even though we are sticking with a very conservative model, it is not considered conservative by the Indian government. We need them to be comfortable with what we are doing. It is our intention, this year, to offer a transfer service between the US and India. - Ultimately, our aspirations are to have Obopay support US to multi-country remittances.

SM: Have the microfinance institutions embraced you? CR: Embraced is the wrong word. We have been in conversations with various microfinance groups about taking Obopay and using it as the front end to microfinance technical solutions. I think it is a natural for distribution and collection of loans.

SM: There is a big administrative hurdle in that whole microfinance scaling issue, so this sounds like a natural fit. CR: I am not sure the microfinance industry has the back office technology they need. Think of us as the front office, the last mile to the customer. We have been in conversations with Indian microfinance groups regarding their technology development and have asked them where they are in terms of being able to support us with their backend applications. They are all interested, but don t have the technology in place yet. We are particularly interested in microfinance in India. 90% of urban Indian adults have a mobile phone and only 16% have a debit card.

SM: SME could be a big market for India. CR: We think that there is an opportunity for this to be the merchant terminal of choice. All merchants have mobile phones, and so it is not too much of a leap to think about this. I think there is huge potential there.

SM: Are you also doing Mexico and Africa? CR: We are in conversation with a carrier who wants us to go to Africa this year. We have a conversation going with a couple of different groups in Latin America. As a company we have a big commitment to the US and India. Most of our energy right now is focused on scaling those businesses. I think it is going to be even more so when we start doing remittances between the US and India. The US is still the number one sender of remittances all over the world.

SM: What has been your financing strategy? CR: One skill set I brought was fundraising experience. We did your typical small seed round, primarily led by the principles who put money down to build the first prototype. The first real round was led by Redpoint. Once we closed the Redpoint round, Qualcomm almost immediately came to us and stated they wanted to invest. Citibank has also been an investor. We have a blend of really great investors both locally and from New York. It represents a lot of growth funds for us.

SM: What does that bring your business to in terms of revenue and traction? What kind of volume are you doing now? CR: Because of our relationships with partners such as Verizon and Citibank it is not appropriate for us to give out customer numbers. I will tell you that this will be a first revenue year for both the US and India. We had some revenue last year but this is the year we are tracking revenues with the expectation to experience significant growth in both countries.

SM: Is there anything else you would like to point out that I may have missed? CR: We have distinguished ourselves in a couple of ways. We did a great job of raising capital with just a big idea. Big ideas are very hard to fund.

SM: I think having an entrepreneur who has a track record helps them fund a big idea, as they are then funding the entrepreneur. CR: In fact one of the things we did early on was to supplement my experience with great folks from other parts of industry. We have Dave Johnson who was the original CFO of PayPal. He brings invaluable experience. We have a lot of deep mobile experience as well. I may have had a track record, but I also brought them a really broad, deep team which was cross industry.

The other part of the fundraising story was that we did not become single-threaded on a single category of capital. Each investor is quite different in nature. Some are corporate, some are non-traditional. We did a good job of bringing the right resources and investors to the table. There may be a lot of mobile financial service startups, but most have very small funding. To be in financial services you need capital.

Additionally, we were not afraid to cross a pretty broad industry. We built the backend and the front end technologies. We brought together mobile engineers and payment engineers and told them to build a technology platform and the applications on top of it. They did not know how to talk and understand each other, and one of the biggest challenges was just getting people to understand each other. We were able to accomplish that. Finally, early on in our evolution we got very large companies to make commitments to us. Citibank was the first.

SM: How did you pull that off? CR: Part of it was timing. They had just decided mobile was strategic, and they were just starting to form their mobile strategy. We also asked them to think in mobile time. I frequently talk to big financial service companies and emphasize they are coming from an industry where 10-30% growth is great, but in our industry rates are 100-200%. I have to ask those companies to step up to mobile time. We need partners who are going to move fast. They have made that commitment and done an incredible job with us. I think we have been very effective getting our team and our partners talking to each other in mobile time.

SM: Congratulations, this is an exciting time.

Lighting The Way In India

While greed is infectious, it hasn t touched Harish Hande. Unlike many entrepreneurs, Hande didn t dream of great wealth, luxury or power as he built SELCO India, a rural solar energy company. At a time when his fellow Indian Institute of Technology engineering alumni were drifting aimlessly into the domestic IT industry, Hande stayed focused on his major: energy engineering. After earning a PhD from the University of Massachusetts, Lowell, Hande headed back home in 1993 to provide reliable, clean energy to un-electrified areas in rural India.

We believe that in anybody s daily life, reliable energy, like solar electricity or solar lighting, can lead to a better quality of life, Hande says.

SELCO, short for Solar Electric Light Co., sells small-scale, modular solar photovoltaic systems to households and businesses in villages in the southern Indian states of Karnataka, Kerala and Andhra Pradesh.

He started small, buying one solar-lighting system with $300 he had left over in scholarship money. Then, to find workers for large scale installations, he went to village TV stores in Karnataka. Hande described what he was doing, and asked if anyone was interested. They were, since many of them relied on candles and kerosene lamps after sundown. This gave him confidence that he could build a team, and that there was a substantial market for what he wanted to do.

Since most rural Indians are poor and can t afford to pay for SELCO s systems out of pocket, Hande needed to obtain bank financing. In late 1996 he was able to convince Malaprabha Grameen Bank in Karnataka to finance 100 solar-lighting systems. Probably because they were getting fed up with me more than anything else, Hande jokes.

He then leveraged the bank s backing to get other banks to finance more solar-lighting systems. That was our biggest code to crack, since our entire model is based on banks providing the financing, Hande says.

In addition to providing a source of safe, clean lighting to rural people, SELCO also helps them generate much-needed income. With light after dark, they can keep shops open later and stay up at home working on crafts. Some of his customers told Hande they can now make two to three baskets a night, selling them for 30 rupees each.

This gave Hande the idea to create a business plan for a tribal community in Karnataka, with four-year bank loans under which they would pay for their solar-lighting systems with the proceeds of basket sales.

So far, SELCO has installed close to 100,000 solar-lighting systems, and in the process, it has brought light to people who were considered too poor to be part of the capitalist system.

I use the term light both literally and metaphorically, since Hande s thinking went far beyond solar lighting installations. What he did was innovate at a much deeper level by connecting energy services to income generation.

Sadly, Hande says few of his fellow Indian Institute of Technology energy engineering alumni are working in alternative energy. When I went back to IIT last year, all 26 seats in energy engineering went to [work in] software, he says. There is an extreme shortage of energy engineers.

I recently wrote an open letter to IIT students asking them to look beyond software to do something electrifying, following Hande s example.

Harish Hande, SELCO

I had dinner one evening in Palo Alto with Harish and learned about the development of SELCO and his journey as a remarkably committed social entrepreneur. C.K. Prahlad s Fortune At the Bottom of the Pyramid presented a compelling thesis that successful for-profit ventures can be created by addressing the poverty sector. Harish Hande s efforts represent a case study of the challenges of this market, and also the profound meaning and satisfaction such a venture offers.

SM: Tell us about your childhood where you grew up and what kind of education you had. HH: I grew up in a steel town in Orissa, a rather backward state on the east coast of India. I did all of my schooling up to 12th grade there, and then I went to the IIT for undergraduate work in Energy Engineering. I did my Master s and PhD at the University of Massachusetts, Lowell, also in Energy Engineering.

SM: Interesting. Is all of your educational background in Energy Engineering? HH: Yes. I concentrated on one discipline and have all of my training there.

SELCO is my first job, and hopefully it is my last.

SM: What did you do after you finished your masters, did you work anywhere? HH: No, I have not worked anywhere else. SELCO is my first job, and hopefully it is my last.

SM: Did you just decide to pick up the pieces, leave Massachusetts and go to India to start SELCO? HH: It did not happen exactly like that. My PhD revolved around rural electrification, and during my fieldwork I looked at Sri Lanka and India. However, while I was doing my masters I also focused on rural electrification, I was looking at the Dominican Republic. I had gone there for a very brief visit.

The person installing solar panels there later on became my friend. It was at that moment that I realized solar power was such a viable energy solution. When I came back to the US, and I prepared for my field work in Sri Lanka and India, the questions about what was a reliable and feasible solution for rural electrification emerged. There were various solutions which seemed could be applied, but while I was doing the actual solution design work, I came upon the solution that became SELCO. I also met my co-founder then.

SM: What year was this? HH: Sometime between 1992 and 1993.

SM: Can we then say that you started SELCO in 1993? HH: As a concept, that is correct. As a formal company we started in 1995.

SM: When you moved back to India, where did you set your headquarters? HH: We headquartered in Bangalore. My mother is from Karnataka, so it was a choice between Orissa and Karnataka.

SM: Was this because it was important for you to know the local languages, so you could work in the villages? HH: Absolutely! A lot of things can get lost in translation. Between those two states, there was one element which swayed my bias, and at the time I was completely unaware of it. Karnataka had a larger network of financial institutions in the rural areas than Orissa. Another factor was the lack of money in my pocket, and I had relatives there who could subsidize my cost of living.

SM: Orissa is also a real backwater state in India, and Karnataka is definitely one of the most forward states. HH: True, it is a forward state. However, in terms of un-electrified rural areas it is just slightly ahead of Orissa. In terms of other mechanisms, it is much more developed.

SM: How did you get the company launched? How did you fund it, and what were the early days like? HH: Initially, I was in touch with a non-profit in the US called the Solar Electric Light Fund, but very little came of that. I used what little money I had left from my scholarship, something like 15,000 rupees (~$300), which was enough to buy one solar home lighting system. I bought the system, and then I went and sold it and installed it. Then I purchased additional systems, sold them and installed them as well.

The focus in the initial period was not looking at where money was, but rather looking at what the success level of the technology was, and if people would accept it. If you asked me if I would start the business the same way, I would say absolutely. When you have no money, you tend to be more innovative. The financial development which has happened during the last 12 years has happened because of the shoestring methods we originally employed.

SM: Can you explain the business of SELCO at this point to us? HH: The whole philosophy of SELCO is to provide a reliable energy service at the doorstep of the underserved. The people who need it are those in the rural areas of India. We believe that in anybody s daily life, reliable energy like solar electricity or solar lighting can lead to a better quality of life. It can also lead to increased savings by reducing fuel costs, or it can lead to increased earnings due to extra hours available for work.

Overall, reliable electricity enhances productivity.

SM: You could be talking about a woman in a village who makes a living by sewing blouses. HH: Yes, the light can increase the number of hours she has to work with. Additionally, instead of pedaling a sewing machine and doing all of that manual labor, she can now use a solar powered sewing machine and enhance her productivity.

SM: Looking back, what were some of the big crossroads you faced? HH: The first crossroad was finding technicians already working in the rural areas who could do the installations.

SM: How did you find them? HH: I went through the villages and stopped at some of the TV shops. I described what I was doing, and asked if anyone was interested. There were a couple of people who wanted to see the products, and they introduced me to some of their uncles and aunts who had no electricity to see if they wanted it. They gave me confidence that we could make a team.

The second milestone we crossed was financing. Like anything else which costs multiple times your annual income, financing is needed to afford it. Many of the financial institutions were not aware of the technology and did not know if the technology made sense.

They had apprehensions that solar lighting could be linked to income generation in the same way as other products which they had been financing. So, the second milestone was getting financial institutions to start lending.

That happened in late 1996, Malaprabha Grameen Bank was the first to start financing. They elected to finance 100 systems, probably because they were getting fed up with me more than anything else. I took the letter which stated they would finance 100 systems to other banks, and asked them why they were not doing the same. After that, banks opened up. That was our biggest code to crack, since our entire model is based on banks providing the financing.

SM: Were there any other obstacles that stand out? HH: Another obstacle we faced was making the transition from solar lighting to solar power. One of the barriers people felt was how do you connect something like solar lighting into income generation, and how is that linked to the market. That linkage is what had to be done. Doing so helped us go into the poorer sections, because we needed even more innovative financing for the areas which had very little income. We had to show that power was going to give them income.

SM: Tell us about some of the human impact case studies of your work, using the chain you described. HH: We had been working with traditional banking mechanisms until 2001 and 2002, when we realized we had to be even more innovative with financing. Since we had been working with traditional banking we were able to get introduced to different banks in 2004 and 2005.

We were able to get introduced into banks which worked with global banking rather than microfinance banks. If major banks get involved with financing energy services it would mean that the rest of the world would look at us differently. A big deal for us occurred when Sewa supported us, because they have a national brand and good financial products. The flexibility which comes with financing is key. We believe our product is a mix between technology and financing.

How flexible you are to the need of the end user with technology should be mirrored in financing. This philosophy also helped us look beyond just solar in terms of energy services, and from there we were able to launch ourselves as a one stop energy services organization. We look at a house and think of it as a black box, and then look at it in terms of what energy services we can deliver to it.

In our company we have to think of ways to help the poor, not sympathize with them.

SM: A lot of our readers likely have no idea what a poor village in India looks like, or what issues they deal with. Can you give us some examples of your intervention? HH: One of the best cases, which provides a great visceral overview, occurred several years ago. In our company we have to think of ways to help the poor, not sympathize with them.

We had a group of tribals where five to six families lived in a house and they just had candles for light. They were day laborers working in somebody else s fields. They used to roll *bidis* [an indigenous cigarette of sorts] in the night under small kerosene lights. They told us they did this rolling under kerosene light, and because it only gave good light for a small area, it was all they could do. We asked them what they would do if they had more light, and they told us they were very good basket makers.

The problem was that they did not have the time during the day to make baskets, and there was not enough light at night to work then either. I asked them how much they sold the baskets for, and they told us 30 rupees, and that they could make two or three per night.

I asked them if they would be willing to give 5 rupees per basket to pay for the light, and they said absolutely. We connected them to somebody who was willing to wholesale the baskets. The clients paid 5 rupees per basket for the loan, and in four years they had paid off the loan for the lighting. If you consider it, this is 300 rupees per month for them, which is $7 per month for light. That is what *they* paid; it was not subsidized by someone else.

The moral of the story is if you can create a product which matches their needs, it does not matter how poor they are. World Bank has always said that solar does not make sense for them because they were too poor, but here you can see if the need is matched, then it is a productive fit.

We have not done anything extraordinary, we have just been a catalyst between two resources. The idea came from them, and we had tools to link them to the market. Other than that, we did nothing else. There is enormous potential if you just look at the whole chain, find the weakest link and strengthen it.

SM: Let s talk about financing a bit more, about microcredit, microequity, microfranchise   the microfinance structures you are putting together to deliver these solutions. HH: We use microfinancing particularly well when you have a case where a lot of customers, 200 houses or so, are all willing to pay 175 rupees a month for a system which costs 11,500 rupees.

A bank will want a 10   15% down payment, which is approximately 1,100 to 1,500 rupees of margin money. The people cannot afford the margin money, and the bank insists on the margin money, so we step in and place a guarantee on behalf of the end users. They get the loan on our guarantee, and after a year or so we can get our guarantee money back.

SM: How many installations can you do with that process? HH: I can only do as many as I am comfortable with because it takes away my working capital. I also get partners onboard who think in similar terms. I have a partnership with a non-profit which sometimes places these guarantees.

SM: You can then use some foundations to place the guarantees? HH: Yes, and we do that. However, it is important that these firms think in the same manner that I do, that it is not charity.

SM: A guarantee is not charity, it is just margin money enabling them to take the loan out. HH: True, but very few foundations think that way. They don t realize that by placing a guarantee that money can be leveraged and the people can be benefited by it. There are some foundations that think their purpose in life is just to get the money out.

SM: What other things in the microfinance arena do you get involved with? HH: Working with microfinance, there is almost an infinite number of solutions. I am not exaggerating. You can find a particular need in any segment: a home based worker, a midwife, whatever   you can design a product for that segment. You must be very patient, and listen to their needs   talk with them, and see what solutions they come up with.

Then you think of appropriate products which meet their expectations. Part of the solution is matching the right microfinance structure to the product, and it then becomes part of the product. Not many institutions think this way, but that is the beauty of getting involved with a global bank.

People hesitate to think beyond quarterly results, and they do not like the risk of the unknown. Getting a partner who does microfinance is the ideal solution. The partnership then influences other microfinance institutions.

SM: What stage are you at now? How many installations have you done? How many employees do you have? And what kind of geographic coverage are you accomplishing? HH: As of today, I have reached a revenue base of approximately $4 million. I have 80,000 housing installations, most of them in individual households in the state of Karnataka which has a population of 44 million and approximately 8 to 10 million households.

We have 25 centers, and aim to have all of these centers profitable. We have 142 employees, 20 in the head office and the rest in the centers. We believe that sustainable energies are only sustainable if we have doorstep service and doorstep financing. That is why we created 25 centers, and their locations are based on the distance a technician can travel by motorbike in two hours. That is the service area.

Each center needs to be a profit center. We set targets in two ways. If a particular center s break even point is $10,000 per month, we set $10,000 with a minimum of 20 houses. They cannot go to a hospital and get a $10,000 sale and meet the goal. The households are the sustainability of SELCO for the future. Those 20 houses will lead to 200 houses in the next 5 years.

SM: Do you serve hospitals and public buildings? HH: We do hospitals, temples, churches, mosques, residential orphanages.

SM: The 80,000 installations you have today are covering about 800,000 people? HH: I would say 500,000.

SM: What is your profitability? HH: Last year was 3.5% 4%. This year was a massive loss.

SM: What are your growth goals and your target? HH: The plan is to reach an additional 200,000 households by 2011 with multiple energy services. We hope to have 65% of revenues coming from solar energies, and the rest coming from better methodologies of cooking, drying and bio gas.

SM: Of the 80,000 installations completed, have they paid you one-time fees, or do you go back and do more work for them? Do you have any recurring revenue from them? HH: In most cases, at least in terms of solar, it s a one-time revenue. However, there are a lot of places where people become return customers in a few years, after they have expanded their income.

SM: How are you going to finance your growth? HH: We are talking to a mix of small VCs, as well as a new breed of foundations that look at small social companies like ours. These foundations are looking at alternative ways of investing their money instead of just in grants. In terms of liquidity, right now we have quite a bit of debt. These foundations offer long-term loans at low interest rates rather than grants or social welfare. This is good, because there is a lot of infrastructure which has not been created at all. Financial markets are a key infrastructure need, and in many ways they do not exist. If you do business in New Dehli or California, those infrastructures exist. We spend a lot of time here building them ourselves.

SM: Let me ask you a bit more about the Sewa Bank partnership opportunity. What does it offer, and how will you leverage that? Sewa Bank started in 1972 as a part of Sewa (Self Employed Women s Association) which was a Women s Union. It was looking to give poor women who were mostly street vendors access to credit.

Financial institutions saw no value in poor women who had no assets. That led to the creation of a new bank, which is Sewa bank the whole purpose was financing poor women. Over the years they have built up a clientele of 300,000 users. Most are street vendors, midwives, and all sorts of poor women who are actually part owners in the bank. The loan is not given for the sake of giving loans; they look at clients as partners. They look at what the loan is being used for.

SM: In essence they offer strategy consulting to go along with the loan. Do you know how that differs from Grameen Bank in Bangladesh? HH: I can t say because the Grameen Bank has done very similar work. I know that a lot of the banks in Karnataka look at it in terms of how to meet their maximum quota for those types of loans. They put little thought into how the loans should be used.

SM: The banks there do not provide the consulting, so they have not achieved as deep results? HH: Yes, and their brochures point to the number of loans. Sewa bank is the biggest institution, but they have Sewa Health, Sewa Childcare, Sewa Hometrust, and other organizations under the umbrella. They have 25,000 women masons under the housing trust who are potential energy service entrepreneurs. That is the network we can feed into. They can sit with midwives and see what type of energy solutions can meet midwife needs.

SM: Let me switch gears a bit and explore how you build an organizational culture to sustain this model? How do you hire employees in this culture, especially facing the stiff IT competition? HH: It is very difficult to answer the question about hiring people. At different levels, they have been hired organically. I have had good managers who have hired good people. People who like it stay for a long time, and those who do not like it are gone in six months. There is a culture, and if people do not work hard or do not like working there, the others make it uncomfortable for them to stay, so they generally tend to leave early.

SM: It is a very specific type of work, and if I am not mistaken you are not competing at the same salary levels as IT in Bangalore? HH: No, we cannot compete with the IT sector, not even the non-profit sector because they pay a higher salary. In fact, that is my highest competition: the non-profit sector in India pays a very high salary. I can t afford that.

SM: You probably are not competing with the IT industry directly then. HH: No, but what I do face is that the people we hire are the brothers of the IT hopefuls, and they have a significant pressure not to join a company like ours.

SM: Did you have the same pressure? HH: There was a pressure about whether or not it made sense because I did not have a business background, and people wondered about the model. The typical comments were that poor people never pay.

The pressures I see today are when young people want to join the company, and their parents call up and ask how long we are going to be here. I point out that we have been here for 12 years, which is longer than any IT company in town. If the company is going to keep growing I need quality operations managers. Convincing the families of my applicants is a difficult task.

SM: Your biggest challenge then is the human resource piece to scale all of this. If you are looking to do an additional 200,000 systems, it seems the real issue will be the management scaling. HH: Very true. I also see that the people who come into interviews are very good at one aspect, but they are one-dimensional and that is a problem. I have a very hard time getting people who can think in terms of technology and financing.

SM: You are really looking for strategic thinkers. You are going to have to find more productized solutions so people at that level don t have to do that type of thinking.HH: I am sure we are going to have to make that sacrifice.

SM: A lot of companies have scaled, and nobody has scaled by requiring strategic thinkers at the lower levels who can design solutions on the fly. To scale you have to productize. Even in custom software, there is plenty of reusable code.

Let s switch gears. You have told me that you had 6 individuals in your IIT energy engineering class. Where did they go? HH: One started Daksh, and sold it to IBM. He did his Masters in the US in solar energy and then ditched it. He went back and got a second Masters at Stanford in solar, and ditched that too. Another did his PhD, and I would say he is partly still in energy but he has effectively done an algorithm to maintain the cold chain in supermarkets so you do not have to physically be present to correct it. Another has joined CitiBank. One other guy works on the military base in Cape Cod.

SM: I just wanted to get a comparison of where people with your background end up. It looks like you are putting your training to good use. HH: When I went back to IIT last year, all 26 seats in energy engineering went to software. There is an extreme shortage of energy engineers.

SM: Not just energy, but all engineers. Metallurgy, Architecture, Civil Engineering, Materials Science everything else. Soon India will only be able to write software the sucking sound of software, at the cost of all else! HH: It is scary. There are young kids who can speak a little bit of English, and rather than building on their fundamentals they go to the call centers. Can you imagine trying to hire someone who has spent five years in a call center? They have no experience of anything.

SM: One of the points I would like to discuss is the impact of Germany on the solar power market. Can you tell us how that impacts India, and impacts you? HH: Plain and simple: the German market killed us. I always bought solar panels and solar products from India. When Germany suddenly implemented a subsidized program, it sucked up the world s production. Manufacturers in India had a shortage of modules needed to build the products I used.

Second, manufacturers changed and stopped building the smaller modules so they could make larger ones for Germany. My lead times increased, and for a small company like me it went from 15 days to 90 days. The cost of the panels increased by 47% over 18 months. Both of those issues hurt us very badly.

All of the manufacturers were getting much larger orders from Germany, and they were getting cash orders from Germany. People always say when volumes go up, costs go down, but in our case it was the exact opposite. My argument is that if sustainable channels of energy are not supported in the developing world, it is a much greater threat to climate change. People will continue using kerosene and other forms of energy that are bad for the environment, because they have no option.

SM: You are saying that the climate change damage is going to be done by the time solar solutions are available again for the developing world? HH: Exactly! Can you imagine going to Uganda or to Mali? The infrastructures exist even less there, and those are the issues we should be thinking about now. Resources would be more valuably placed in places like that.

The planet will be destroyed by those billions of people in the developing world who will be forced to use non-optimal forms of energy to meet their absolute basic needs!

It is a temporary shareholder value created in places like Germany. The planet will be destroyed by those billions of people in the developing world who will be forced to use non-optimal forms of energy to meet their absolute basic needs!

SM: Of course the people you are dealing with are operating in a capitalist market, and they get rewarded by maximizing shareholder value. The solution you need does not exist. HH: The logic that we are doing it in Germany to help climate change is not terribly credible is all I am saying. Shareholder value is shareholder value. Let s not confuse that with climate change!

SM: That is absolutely correct, at the priority level that is absolutely correct. Can you point us to other efforts in India and other countries in the poverty sector that are achieving significant impact the way you are? HH: If you are talking poverty sectors, then there are microfinance ventures which are working. In terms of energy services, there are unfortunately very few. Two years ago I wanted to have a small entrepreneurial workshop in India where we thought of bringing entrepreneurs together. We had a very hard time finding 12, and they were all in very, very early stages.

SM: Most will not scale to the extent you have. HH: Scaling becomes a question of liberating. If the end product costs $10, and they are selling it for $10, and they are not putting in the $5 cost it takes to reach the user because it is covered through a grant. They do not have a sustainable model because they are thinking products, not solutions.

SM: You have said that India is growing at 8% while simultaneously adding 100 million people below the poverty line. Can you elaborate? HH: India opened up in 1992. Obviously any growth from 0 to 1 is infinite growth. There are very few people who are benefiting who had not already benefited originally.

SM: So the middle class has created affluence. HH: 18% of the wealth is with 1% of the population. For me, that is scary. There are 80,000 auto rickshaws in Bangalore alone. People say that is a growth. How is that growth? These are 80,000 who cannot find a job, and the only other thing these people know to do is rent an auto rickshaw and drive it.

You have not created jobs in those sectors. You look at IT, software development, or you talk about financial sectors. They require a good education, English speaking capabilities, and you end up cutting off most of India by that requirement alone. How would the benefits trickle down?

SM: The real estate and retail sectors are developing well. HH: These are in concentrated geographic areas.

SM: There is no ambiguity that there is a huge population and a huge geographic area missing from the economic development impact. HH: I have not seen any jump from when we started in 1995 to now in the increase in rural incomes.

Where are we talking about the 8   9% growth? These industries contributed much since 1992, but it does not reach the rural area. In Karnataka, 70   80% of the people go to other areas because of the lack of institutions in their home areas. This is not even considering the other states which are way behind Karnataka.

SM: What is your parting message to entrepreneurs in the poverty sector, not only in India but globally? HH: Think long term, and have patience. There is no short cut to creating good processes. A lot of people try to solve it quick, and that can t happen. Some people do it by numbers   reach 5 million in 3 years, and I will give you money. I would never do that. Concentrate more on the processes, and the numbers will come.

SM: Thank you very much. This has been an enlightening conversation. Your way of life is a difficult one, probably very few people could pull it off. My sincerest admiration and congratulations for taking on something so fundamental.

Epilogue

If, in 1994, I d had the knowledge I derived from these interviews, my climb up the mountain of ignorance and inexperience would have taken a much more direct route. But I did not have a map to navigate by, and wished, often, that such a map existed.

Fourteen years later, at the time of writing this book, I do have a map. However, that map is not the same for everyone. It does not offer a universal route to success, for its roads are written by hand and at its forks decisions must be made by its author. The right path is a function of who you are, and what your personal needs and aspirations happen to be. Just as I have crafted my own map, you must now craft yours.

In the set of stories you have just read, each entrepreneur has illuminated his own unique path. My intent in collecting these disparate case studies is to help you develop awareness about the choices, the options and trade-offs with which you will draw your own map.

For me, during the early years, venture capitalists were an integral source of learning. Between 1994 and 2000, I never stopped raising money for my three startups. It was exhausting revising slide-deck after slide-deck, as VCs poked holes in my analysis of business opportunities. Heart-breaking as it was to hear so many No s, it was exhilarating to hear the few vital Yes s that catapulted me forward. And later, as a consultant, I have sat on both sides of the table sometimes representing clients pitching to VCs, sometimes doing due diligence on behalf of VCs.

It helped me develop invaluable perspective, which today has led me to a core conclusion: at the early stages of a venture, bootstrapping is generally a better path than dependence on venture capital. HP Michelet s ERI, for instance, would not have endured in the hands of early stage venture capitalists given how many iterations they survived to bring a successful PX to market. Philippe Courtot s conviction that SaaS was the business model of the future, when his VCs remained bound to the axel of Enterprise Software, would have died on the vine had it not been for his personal wealth, with which, he managed to salvage his dream.

And yet, venture capital, used well, is a powerful tool. VCs bring leverage, speed, hiring power, and sometimes excellent mentorship.

Either way, I urge you to go back, paying close attention to how these entrepreneurs have framed their strategic roadmaps, including analyzing Total Available Market, Segmentation, Eco-system Analysis, Competitive Positioning, Value Proposition Articulation, and myriad other important assumptions.

Wherever you are in your entrepreneurial journey and I am many years into mine these stories stand as an immense repository of wisdom.

In subsequent volumes, I will present many more case studies encompassing a diverse set of entrepreneurs, industries and business ideas. Each to inspire you, and offer perspective with which you can craft your own map.

I will close this volume here, but you are welcome to join the discussion at my website, www.sramanamitra.com.

Other *Entrepreneur Journeys* books by Sramana Mitra
Now available from Amazon.com

Entrepreneur Journeys, Volume Two:
Bootstrapping: Weapon of Mass Reconstruction

In a world battered by economic crisis, Sramana Mitra believes entrepreneurship is the only sustainable path forward to a healthy economic world order. And core to the success of entrepreneurial ventures today is the invigorating art of bootstrapping. She takes aim at this essential route along the roadmap to startup success in the second volume of *Entrepreneur Journeys*. Along with her incisive analysis and commentary, she showcases a dozen successful entrepreneurs and their lessons from the bootstrapping trenches. Overflowing with lively entrepreneurial tangents, theories, and behind-closed-doors-experience, the book rises to the level of economic policy discussion while simultaneously offering practical advice from experienced bootstrappers. Important issues like doing more with less, getting started with little or no capital, and validating the market on the cheap are discussed with the likes of Om Malik of GigaOm and Greg Gianforte of RightNow.

Some praise:

Sramana Mitra s *Bootstrapping: Weapon of Mass Reconstruction* is a book for our time because it s something real out of Silicon Valley. No more stories about legendary VC fundings of startup-to-IPO in six months. In this, the second volume of *Entrepreneur Journeys*, her focus is on doing more with less, in tune with the times. This book has some fascinating histories of the different paths people take to entrepreneurship, and the difficulties they face. I would only have wished each of the interviews to be longer and deeper, because every story is worth telling.

-Fast Company

Mitra clearly has a passion for small businesses. This useful volume is largely comprised of interviews with the founders of such companies. Her skilled questioning prompts a discussion of the many issues involved in starting and growing a business. The entrepreneurs share wisdom and insight useful to any budding or existing business owner. The reader will be struck by the vision, inventiveness and sheer determination of these entrepreneurial heroes, who operate businesses that are successful but far below the radar. A highly relevant and timely work on entrepreneurship s role in economic reconstruction.

-Kirkus Discoveries

I recommend *Bootstrapping: Weapon of Mass Reconstruction* to my MBA students and to anybody planning on, or even just thinking about, starting a business. And also to policymakers. Maybe especially to policymakers. The importance of entrepreneurs to our economy cannot be overemphasized.

-Craig Newmark, Newmark s Door blog
Associate Professor of Economics, North Carolina State University

Sramana s work on bootstrapped entrepreneurs is an inspiration in these tough economic times. The solutions to our economic problems ultimately lie with the entrepreneur who brings imagination, resourcefulness and good old-fashioned elbow grease to tackle old problems in new ways, create new solutions and new industries. It is all too easy to forget this, particularly when we feed on the depressing daily diet of endless bailouts and hear trillions of dollars being thrown around. A great entrepreneur can do a lot with ten thousand dollars. This book is a good antidote to the depressing mood of these times.

-Sridhar Vembu, CEO of AdventNet and Zoho,
Bootstrapped to over $50 million in annual revenue

In the end, a true entrepreneur will not be denied. What Sramana captures with simple grace are the riveting personal stories of modern day business alchemists, who mix vision, pragmatism and relentless effort to forge creative new and successful ventures. Her collection of interviews will make for an engaging, educational read, for those in the entrepreneurial space, those considering joining the game and those just plain curious about the formative innovators whose efforts provide outsize social returns of the most concrete and enduring nature.

-Don Hutchison, Silicon Valley Angel Investor

Entrepreneur Journeys, Volume Three
Positioning: How To Test, Validate, And Bring Your Ideas To Market

In *Positioning: How To Test, Validate, And Bring Your Idea To Market*, the third book in her *Entrepreneur Journeys* series, Sramana Mitra offers a close look at the process of sculpting your idea into a sharply defined go to market strategy. Clarity, Mitra confirms, is the ultimate tool in building a successful business. But such clarity cannot be purchased or assumed it requires asking the right questions. Mitra showcases case study after case study of successful entrepreneurs who have answered these questions, analyzed their markets, and defined their value propositions through differentiation, competitive analysis, market sizing, and, among other core elements of a compelling strategic marketing plan, segmentation. The process she takes her readers through is akin to the grilling venture capitalists typically put entrepreneurs through. A grueling test to any business idea, Mitra s book stimulates a due diligence exercise, which no matter if you are bootstrapping or raising venture capital, you must put yourself through to avoid wasting precious years and scarce resources.

Some praise:

At the beginning of 2009, I found myself without a VP of Marketing in a young start-up company and a new product coming out of the door that would radically change the positioning of the company. I had been introduced to Sramana by a VC who said, you have to meet this great lady just to know her. I contacted her to help me redo the positioning of the company. She did an excellent job in a short period of time using her crisp methodology that has now positioned the company for success. There is no better person to write a book on positioning. In this new series, she lays out the requirements for positioning and uses real world people and companies to illustrate her points. She is a no nonsense leader in our industry that must be listened to.

-Mark B. Hoffman
Chairman and CEO, Enquisite; Founder CEO, Sybase; CEO, CommerceOne

More praise for *Positioning: How To Test, Validate, And Bring Your Ideas To Market*:

Too many entrepreneurs allow their passion to drive them to take action rather than to distill their wisdom. This leads many to jump right into building out generic business functions and pursuing generic strategies. What I ve seen over the years is that the most successful entrepreneurs are the ones that pause to deeply understand what market potential they exactly want to unleash. They then set out and test and evolve. Sramana, in her book *Positioning: How To Test, Validate, And Bring Your Ideas To Market*, provides the critical case studies that highlight how entrepreneurs should continually self-evaluate and refine their ideas. It s a great reference.

-Gus Tai
General Partner, Trinity Ventures

Many start-up companies dissipate precious energy and capital without ever reaching a point of clear market traction. Too often, their failure stems from their inability to operationalize their vision into a compelling value proposition targeted at clearly defined customer segments. Sramana Mitra s book *Positioning: How To Test, Validate, And Bring Your Idea To Market* combines personalized vignettes of passionate entrepreneurs who, through trial, errors and sheer determination, have managed to integrate this important lesson across the defining dimensions of the emerging Web 3.0 environment. Aspiring entrepreneurs and experienced venture capitalists alike will benefit from this compilation of focused interviews and will want to test their own enterprises against the scrutiny of Sramana s probing questions.

-Eric Benhamou
Chairman 3Com; former CEO, 3Com & Palm; CEO, Benhamou Global Ventures

Coming Soon:

Entrepreneur Journeys, Volume Four
Innovation: Need Of The Hour
(Winter 2010)

Entrepreneur Journeys, Volume Five
Vision India 2020
(Spring 2010)

You can learn more about Sramana Mitra at
www.sramanamitra.com