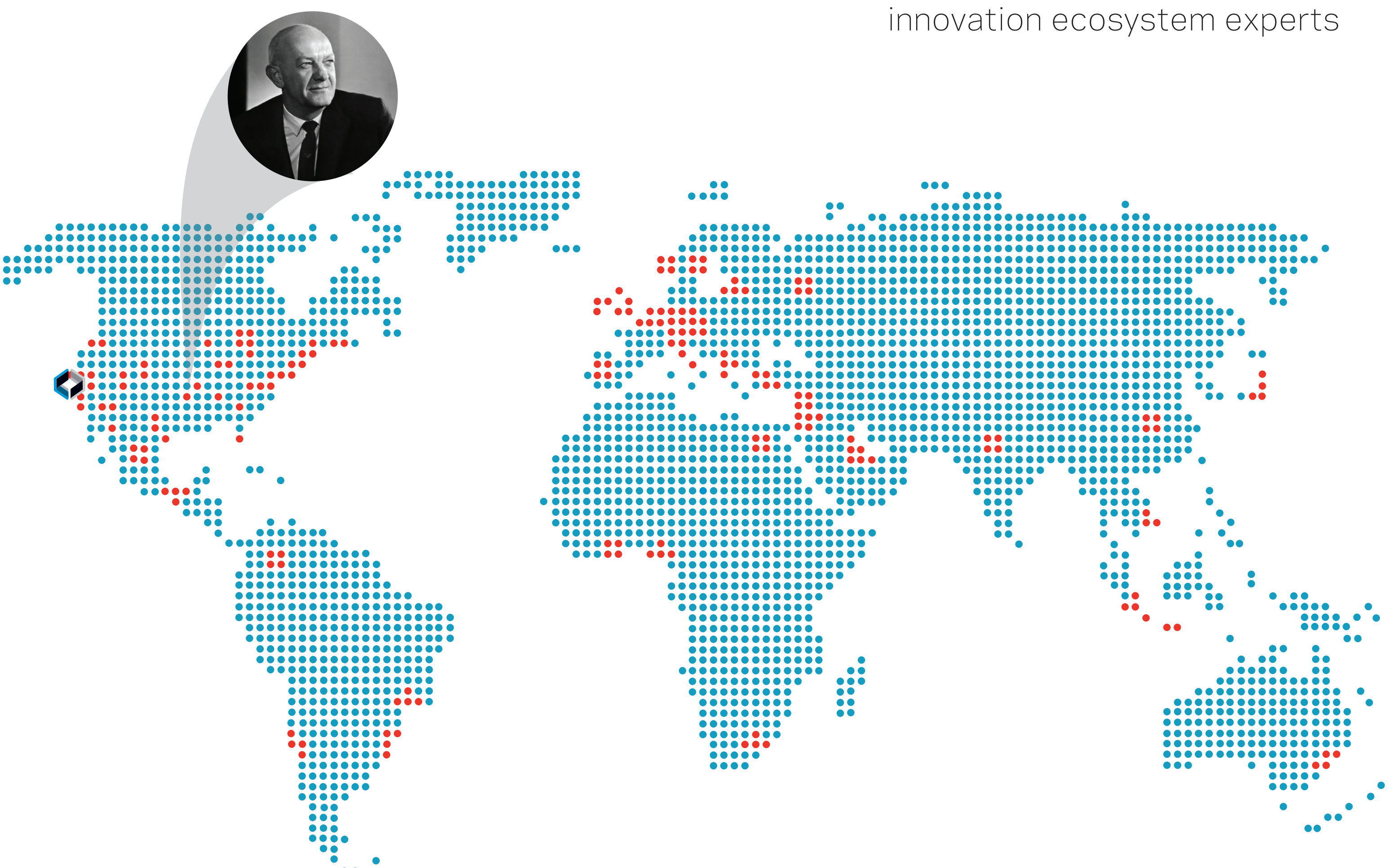
Kauffman Fellows REPORT

Forward-thinking articles from our global network of innovation ecosystem experts



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Forget "Superpowers": Three Traits for Extraordinary Success in Venture Capital

Phil Wickham

Charter Class

Venture capitalists are always looking for the "secret sauce" that leads to outsized successes. In my application to the Kauffman Fellows Program in 1995, the primary theme of my essays was my search for the DNA of a successful startup after two wildly different outcomes with my own ideas in Japan. By the time I took the helm of the Kauffman Fellows organization in 2008, the answer to startup DNA had become clear to me: culture.[1] Culture operates at the organization level—at Kauffman Fellows, we promise to accelerate venture capital leaders at the individual level. How can we be confident of doing so?

Two years before I became CEO, in 2006, an executive coach posed a simple question to me: "In a room full of extraordinary peers, what personal traits would make you stand out?" I struggled with it for months. The breakthrough finally came when I realized that I was trying to identify my "superpowers"—but I needed to reframe the question: "What set of ordinary traits, in their mix and over-expression, created my kind of personal genius?" Expert upon expert, since I first tackled this exercise, has espoused as gospel the idea that each person has a personal genius, or as Kauffman Faculty member Bill Tobin says, "a purpose on earth we are uniquely qualified for."

As CEO, I focused my role on a variation on the "superpowers" question: in a room full of accomplished venture capitalists, what traits make the significant leaders stand out? (By *significant*, I mean persistently top-tier returns, innovation in fund strategy, and societal contribution through education or civil leadership or philanthropy—and usually, I mean all three.) As I hand off the Kauffman Fellows CEO reins to Class 16 graduate Jeff Harbach, I wanted to share what I've learned.

Clarity came to me, as almost everything else has in my 20-year journey with Kauffman Fellows, through the expertise of one of our 1,000+ faculty or advisors. In this case it was a session with Mark Helow, Founder of 10X CEO, one of the nation's premier CEO coaching platforms. Through multiple sessions, iterations, and Mark's pattern recognition skills, I managed to boil down three indicators of venture capital significance that make for exceptional VC leaders.

[1] See also Phil Wickham, "Designing Culture: A Kauffman Fellows Perspective," *Kauffman Fellows Report* 4 (2012), iii-vii, http://www.kauffmanfellows.org/journal_posts/designing-culture-a-kauffman-fellows-perspective/.

Three Traits Common to the "Greats"

In the Kauffman Fellows Program, we have been focused on developing these three traits for the past eight years, which we think are common to all the "greats."

Radical Self-Belief

Along with many other traits, accomplishments, and skills, we recruit people based heavily on their personal journeys. We like to see challenges, successes, failures, and great narratives. But more than anything, we like to see "ownership" of the journey—and specifically, an ownership that ties clearly to who that person is. While it's common for a candidate to have been going too fast to see this connection clearly, after five thousand applications and interviews, we often can.

A big part of the two-year Kauffman Fellowship is to dive much deeper into that sense of self, particularly in terms of personal genius and passions. Our hope is that this radically increased level of self-knowledge—and the support and inspiration of outstanding peers—will take each Kauffman Fellow to a level of confidence where they will embark on that effort to find the job they are uniquely qualified to do. In other words, we'd like to help accelerate their personal journey in the future.

This radical self-belief can be seen in novel fund creations by Jason Green (Charter Class), Susan Mason (Class 2), Adele Oliva (Class 3), and Trevor Thomas (Class 17). But it manifests just as clearly, and with equal impact, in the civic and philanthropic innovations by Bob More (Class 2), Victor Hwang (Class 12), and Winslow Sargeant (Class 11).

Novel Thesis Development

An old adage in venture capital is that "You're only as good as your next big investment." This chestnut implies that the best of venture capitalists are constantly watching the horizon for macro trends, and constantly reinventing themselves. The significant leaders in venture capital are never afraid to follow their radical self-belief—their genius and passion—and they often move counter-intuitively against the grain at either the fund or the individual investment level: hardware when everyone else says it's dead, software as a utility when no one believes it's enterprise-ready, micro venture when everyone is going upstream.

Everyone will tell these visionaries that they're crazy for five years—until the outsized successes start rolling in, at which point everyone starts copying the very thing they critcized. This results in a common mistake among young investors who fast-follow the moves and beliefs of the greats. Our experience shows this follow-the-leader trend is a one-way ticket to the average in an industry that only rewards the top 10-25%.

Talent Environments

Self-belief and great ideas are worthless in venture capital without the key ingredient for success: amazing people to invest in and partner with. Of course, a stellar group begins with leadership teams, but it also includes syndicate partners in other funds, sector consultants, corporate innovators, search and legal experts, and others. Typically, the more rapidly you can build out these talent networks, the more likely you are to make the world-changing investment.

Building these human networks entails at least three critical ingredients: design thinking, reputation, and relationship management. A venture capitalist has to be able to map out the network to meet the challenge at hand. Accessing the right folks at the right speed cannot be done alone; one must lean on existing relationships to access insights and introductions to thought leaders. To be significant, the venture capitalist must bring not just self-awareness to new relationships, but also empathy and skills in alignment, influence, and conscious leadership so as to optimize the partnership. That same venture capitalist has to acknowledge the assistance from others—and be ready to mobilize their own genius proactively in return.

Forget "Superpowers"—There's No Magic Here

Regarding these three novel characteristics of venture capital greats, I have three important take-aways from years of helping to design classes of Fellows that exceed our expectations, year after year.

Every significant leader started as a diamond in the rough.

These traits do not appear out of thin air. While they are core to great leaders, they are likely to be undeveloped and need polishing and improvement. As a result, the recruiting process for the Kauffman Fellows has been putting greater weight on identifying emerging leaders with these potential strengths.

We have found that one angle of investigation—a deep examination of the personal journey—is particularly good at revealing the three traits, however undeveloped. Over the years, we've refined a number of questions useful in identifying candidates in terms of their life's travels. Here's a brief sample:

- What directions have you taken in your life and why?
- Did you own those decisions personally?
- What kinds of resistance did you get from loved ones and how did you manage that energy?
- What were your successes and failures? (How do you even define those words?)
- What was the outcome of any non-intuitive decisions?
- Who was most influential in your life?
- Who have you influenced?
- What descriptors would these colleagues use to help us better understand and appreciate you?

These traits are revealed through a potential leader's narrative.

At Kauffman Fellows, we'd argue that innovation is all about narrative, as the success of any "moon-shot" venture depends on alignment around an exciting vision. The more we study these three traits, the more they jump out in the narratives of great fund and individual investors. In particular, the stories of potential leaders include leading with what they believe in (radical self-belief), laying out what excites them about those beliefs (novel thesis development), and emphasizing the criticality of and methodology behind building and optimizing long-term relationships (talent environment).

One of my favorite "diamond in the rough" narratives belongs to Charlotte Hubbert (Class 14). Once a world-class pianist, she went to Duke University for a Ph.D. to change her life focus from concerto precision to expansive healthcare ideas, before spending time in a life sciences accelerator. Charlotte is now a leader for the Gates Foundation's $1.5B global venture capital initiative.[2]

Significant leaders positively influence those around them.

Leaders who possess these three traits are "infectious." In any of the great firms that have managed generational succession, one can see how these traits are developed in the new generation of leaders. On one level, Sequoia Capital's founder Don Valentine[3] and his successor, Michael Moritz,[4]

[2] A Program Investment Officer at the Gates Foundation, Charlotte was a Women in Life Science Honoree in July 2016 and gave an interview on her work at the Gates Foundation. See Life Science TV, "Women in Life Science Honoree: Charlotte Hubbert, PhD, Gates Foundation Venture Capital" (video), Life Science Washington, uploaded 12 July 2016, https://youtu.be/S5r0A83fsgc.

[3] Joyce Rouston, "Sequoia's Don Valentine: What Problem Are You Solving?," *Insights by Stanford Business*, 1 October 2010, https://www.gsb.stanford.edu/insights/sequoias-don-valentine-what-problem-are-you-solving.

[4] Sam Altman, "Maintaining Success for the Long Term," *The Macro* (Y Combinator essays), 26 February 2016, http://www.themacro.com/articles/2016/02/michael-moritz-sequoia-success/.

couldn't be more different as people, but both share depth in these three indicators.[5]

In younger firms, like Emergence Capital Partners,[6] there is an emphasis on recruiting and developing strong individuals who will eventually take over and lead the firm. In my experience, most firms need to see evidence of the three characteristics when grooming leaders—and from there, they broaden their outlook to cultural fit. Some firms want mavericks because they value dissent, while others value consensus and so harmony becomes a factor. It's generally agreed, though, that all are looking for new approaches, ideas, and talent networks.

Beyond the "Secret Sauce"—Developing the Next Generation of Leaders

So, yes there is a "secret sauce"—and no, it's not about finding people with "superpowers." Yes, culture is key at the organizational level—and no, it's not about choosing the right office layout or management structure. To influence culture and success at the organizational level, Kauffman Fellows focuses on identifying candidates in whom we can already see the raw traits of a significant venture leader, and then accelerating their polishing and development of those traits through our 2-year program.

In particular, we pride ourselves on creating opportunities for truly diverse candidates to enter the industry and make their mark. We believe the results speak for themselves, and invite you to explore the 474 members of the Kauffman Fellows Society at kauffmanfellows.org. If you know of someone you believe has the makings of a great leader, encourage them to apply for the next class of Fellows.

Phil Wickham

Phil is Executive Chairman of Kauffman Fellows and co-founder of Sozo Ventures, a $325M family of funds focused on leading IT companies targeting global expansion. Phil was a Charter Class Fellow and helped to found the Kauffman Fellows Program spinout from the Kauffman Foundation. Previously, he was a General Partner at JAFCO America Ventures and Copan. His investments include Twitter, Ikanos, Web Methods, MatrixOne, Com21, Lotame, Square, Palantir, ServiceMax, MongoDB, and Pley. He holds a BSME and an MBA. pwickham@sozo.ventures

[5] Don was a sales engineer who came up through the ranks of Raytheon and Fairchild Semiconductor in Silicon Valley before founding Sequoia. Mike Moritz is a Welsh classics-major from Oxford who spent his career in technology journalism; he took over Sequoia a decade ago and has had a similar amazing run.

[6] http://www.emcap.com/.

Disrupting Healthcare: No Experience Needed

Matt Otterstatter

Class 18

This research started with a personal twist. After a highly successful career in the software industry, my father, Jon Otterstatter, co-founded Preventice,[1] a company that applies data analytics to the healthcare industry by remotely monitoring outpatient heart rhythms. What started as a hobby rapidly became much more, and he decided it was time to raise money to grow the company.

Although he had been a successful entrepreneur with a prior IPO of Showcase Corporation,[2] multiple venture capitalists told him that Preventice was too risky because he had no prior healthcare experience. Preventice did ultimately raise a few rounds of venture capital, and after a few years of high growth, Merck acquired a controlling interest in the company for an undisclosed, albeit significant, multiple.[3]

While proud of my father and happy for his success, I perceived a problem in the funding ecosystem. While my father is a tireless worker with a great business mind, he is not a rare genius forging a path no one else could follow. I wondered how many other entrepreneurs had built successful companies in the healthcare industry—without prior industry experience.

Numerous blogs and articles[4] suggest that entrepreneurs without relevant background experience are at a significant disadvantage for raising venture funding. This preference for entrepreneurs with domain expertise seems to be prudent in established industries with conventional ways of doing business; however, how do you define relevant experience in an emerging subsector of that industry? Specifically, what about an emerging sector that is the intersection of two other industries (healthcare and IT)? I set out to answer the following question: "How important is prior healthcare experience for an entrepreneur starting a healthcare IT company?"

1 http://www.preventicesolutions.com/.

2 *Minneapolis/St. Paul Business Journal*, "Showcase Plans IPO," 29 April 1999, http://www.bizjournals.com/twincities/stories/1999/04/26/daily14.html.

3 Aditi Pai, "eCardio, Preventice Merge, Merck GHI Fund Majority Stakeholder," *MobiHealthNews*, 9 September 2014, http://mobihealthnews.com/36397/ecardio-preventice-merge-merck-ghi-fund-majority-stakeholder.

4 Mark Suster, "The Four Main Things that Investors Look for in a Startup," *Both Sides* (blog), 6 October 2010, http://www.bothsidesofthetable.com/2010/10/06/the-four-main-things-that-investors-look-for-in-a-startup/; John Rampton, "25 Reasons I Will Not Invest in Your Startup," *Entrepreneur*, 15 September 2014, http://www.entrepreneur.com/article/236999; James E. Gaskin, "Painful Truth on Why Venture Capital Firms Reject Startups," *IT World*, 15 June 2012, http://www.itworld.com/article/2722650/it-management/painful-truth-on-why-venture-capital-firms-reject-startups.html.

Researching Successful Healthcare IT Startups

While studying this question, I was introduced to Jonathan Norris, a managing director at Silicon Valley Bank (SVB) who happened to be doing his own research on healthcare investments. He had recently published an article called “Strong Momentum in Healthcare: Trends in Mergers and Acquisitions.”[5] In the article, Norris made a broad assessment of the healthcare industry by looking at overall investment amounts, sector performance, and exits from 2005–2012. He was able to dig deeply into the SVB database, a very reliable source of information given the firm’s platform. SVB is centrally positioned in the venture industry, leveraging relationships with many top-tier venture firms and startups; they see a lot of financing deals, manage many of the mergers and acquisitions, and so are well positioned to analyze the state of venture markets.

Norris’s report provided macro-level insight into the entire healthcare industry. My goal was to understand more about the emerging healthcare IT industry, and collaboration with him on this dataset allowed me to examine that subsector in more detail. Specifically, there were 50 startups from 2005–2012 characterized as healthcare IT that had successful exits (defined here as venture-backed companies with an IPO or acquisition of at least $50M). The data on company exits is particularly important to me, because although understanding new investment trends might indicate potential, analyzing exits indicates ultimate success—the key outcome I needed to answer my fundamental question.

Digging Deeper: Interviews with Founders

Looking at the data set of 50 successfully exited healthcare IT startups, I knew I needed to dig deeper into the specific traits and background experiences of the entrepreneurs behind these successful companies. I reached out to all of the entrepreneurs, and ultimately was able to conduct interviews with the founders of 14 of the 50 (28%). Given the relatively small size of this subsector as of 2012, composing only about $20B of the $3T total healthcare market,[6] and its new arrival into the larger healthcare industry, other data is limited or lacking.

When requesting interviews, I made no reference to what question I was exploring—I simply informed the entrepreneurs that I was doing a research project for the Kauffman Fellows Program and I wanted to interview successful entrepreneurs in healthcare. Bias was therefore minimized because I did not previously know any of the subjects, nor did I perform any filtering on people available for interviews. Finally, by not disclosing the questions prior to the interview, I did not induce any responder bias that would skew the results.

The True Value of Prior Experience

First and foremost, the data on experience yielded some very interesting results. I asked for their total prior professional experience, as well as how many of those years were in the fields of healthcare, biotechnology, or life sciences.

In terms of the overall number of years of prior working experience, there was a diverse age range of entrepreneurs. The stereotype may be the young college drop-out; however, the data from numerous studies[7] show that entrepreneurs come from all walks of life. The 14 entrepreneurs I interviewed, who had successfully built healthcare companies and sold them, were

5 Silicon Valley Bank, “Strong Momentum in Healthcare: Trends in Mergers and Acquisitions,” presentation slides, July 2013, http://www.svb.com/pdf/healthcare-report-2013-presentation/.

6 Bernie Monegain, “Big Growth Forecast for Health IT Market,” *Healthcare IT News*, 30 December 2013, para. 1, http://www.healthcareitnews.com/news/big-growth-forecast-health-it-market; Dan Munro, “U.S. Healthcare Hits $3 Trillion,” *Forbes*, 19 January 2012, para. 1, http://www.forbes.com/sites/danmunro/2012/01/19/u-s-healthcare-hits-3-trillion/#55fa60172f67.

7 Vivek Wadhwa, “Why Middle-Aged Entrepreneurs Will Be Critical to the Next Trillion-Dollar Business,” *VentureBeat*, 31 October 2014, http://venturebeat.com/2014/10/31/why-middle-aged-entrepreneurs-will-be-critical-to-the-next-trillion-dollar-business/; Krisztina ‘Z’ Holly, “Why Great Entrepreneurs Are Older than You Think,” *Forbes*, 15 January 2014, http://www.forbes.com/sites/krisztinaholly/2014/01/15/why-great-entrepreneurs-are-older-than-you-think/; Kauffman Foundation, “The Anatomy of an Entrepreneur,” 8 July 2009, http://www.kauffman.org/what-we-do/research/2010/05/the-anatomy-of-an-entrepreneur.

similarly diverse in terms of age, as can be seen by the x-axis of figure 1.

However, the results for amount of experience inside the healthcare industry were shocking (figure 1). Of the 14 entrepreneurs interviewed in this study, 71% (*n* = 10) of the founders of healthcare IT companies with successful exits had *no prior healthcare experience at all*. On the other end of the spectrum, only 1 entrepreneur (7%) had what could be characterized as deep domain expertise, defined here as having more than 10 years of experience. The remainder (21%, *n* = 3) had some healthcare experience, about 4 years on average.

Figure 1. Prior Experience Among Successful Healthcare IT Entrepreneurs—Generally and in Healthcare Specifically. Author's figure.

Inspiration from the Outside

I asked my interviewees if their inspiration came while working in the healthcare industry, or while they were on the outside looking in at a problem. All of them save one (93%, *n* = 13) could be characterized as industry outsiders (figure 2). And of the 4 with prior healthcare experience, 3 shifted to a completely new area within the healthcare industry.

So, 13 successful founders all had recognized opportunities to innovate outside their primary area of expertise. Only one person in the study (7%) had dedicated a lifetime of research and development activity in preparation for tackling a particular problem in the healthcare industry.

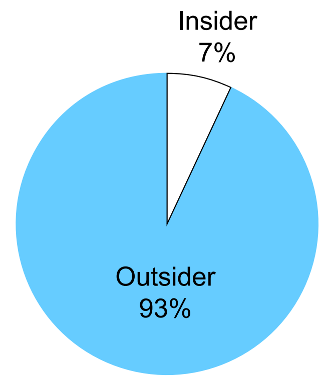

Figure 2. Prior Relationship to the Healthcare Industry. Author's figure.

Success in Other Industries

The VCs who declined to invest in my father's company felt that his prior success as an entrepreneur didn't apply because it wasn't in healthcare specifically. So, I asked my interviewees whether this was their first experience with a startup. The majority (71%, *n* = 10) did have experience with startups in other technology domains prior to their foray into healthcare (figure 3).

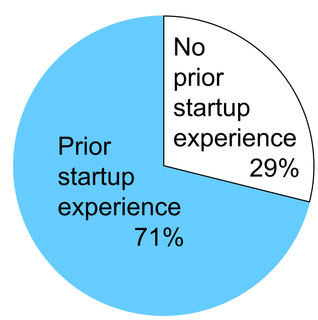

Figure 3. Previous Experience Founding a Startup. Author's figure.

Founder's Role in Early Sales

All 14 founders said they had personally acquired "all" or "nearly all" of their early customers, as opposed to hiring a sales force or using an outside channel. Therefore, according to this study of exits, the largest predictor of success in healthcare IT companies was the founders' own ability to find customers (see Lak Ananth, "High-Tech Exceptionalism: From the Front Lines"). This may seem like a cliché, as it is obviously important for early-stage companies to find customers; however, the effect seems to be more pronounced in healthcare IT where the path to revenue is more difficult to navigate than in traditional IT companies. Rather than simply selling directly to consumers or businesses, healthcare IT companies often need to deal with numerous regulations and unique payment systems and organizations.[8]

Prior Healthcare Experience Is Irrelevant—And in Fact May Hinder Success

This study provides strong evidence that prior healthcare experience is not required to build successful healthcare IT companies. Of course, 14 of 50 is a relatively small sample size and those interested in validating or questioning these findings should do further research. That being said, the overwhelming nature of the responses to certain questions provides a strong degree of statistical confidence that the trend holds even with a small number of samples.[9]

Why might reality contradict the common VC assumption that healthcare experience is vital? I believe the unique challenges of healthcare have largely been exaggerated, resulting in an overemphasis on the value of experience.

In fact, I argue that it can potentially be a disadvantage to have too much prior healthcare experience. When entrepreneurs from one industry bring their ideas and methodologies to a new sector, they often spark new innovations because of their unconventional approach. History has shown that this transitional tactic can create a strong competitive advantage, with examples ranging from Nike using automotive shock-absorbing technologies in their footwear to aerospace companies mimicking the wing profiles of birds.[10] A recent example in healthcare IT is the application of jet engine failure algorithms to predict cardiac health.[11]

I suggest that healthcare insiders are not developing these innovations as frequently as outsiders because of their unconscious assumptions about the status quo. Studying the history of the U.S. healthcare system, one can see the "level of thinking" that has created today's problems. Every change made to public policy, every new benefit added, and every political maneuver has simply been a reactionary "Band-Aid" addressing a specific problem at the time. The result is an inefficient system, lacking an integrative design. People who spend their careers becoming proficient at navigating the minutia of healthcare standards and regulations might find it challenging to conceive of a radically different world.

In this research, 93% (*n* = 13) of the successful healthcare IT entrepreneurs founded a company in an area outside their expertise and 71% (*n* = 10) had no healthcare experience, which supports my theory that prior healthcare experience may be a hindrance. People who have spent a lifetime in any system become blinded to alternatives by their own patterns and experience, and have difficulty challenging assumptions that are so deeply ingrained that they are no longer conscious thoughts. One cannot think outside the proverbial box, if the box is all one knows.[12]

8 Donald F. Lee III, "What It Takes to Be a Successful Healthcare Entrepreneur," *Algonquin Studios* (blog), 6 May 2015, http://blog.algonquinstudios.com/2015/05/06/what-it-takes-to-be-a-successful-healthcare-entrepreneur/; Nat Turner, "Why Aren't There More Traditional Tech Entrepreneurs in Healthcare?" *NatSTurner.com* (blog), 2011, http://www.natsturner.com/post/23138977178.

9 For example, the question regarding prior healthcare experience had a yes/no answer, so a binomial distribution was used (computing the upper and lower limits via the probability mass function). With a 90% confidence interval, the upper and lower bounds are calculated to be 87% and 51%, respectively. In other words, even with only 14 data points, because of the one-sided nature of their outcomes, it can be stated with 90% statistical confidence that the majority of successful healthcare IT entrepreneurs did not have any prior healthcare experience.

10 Ellen Enkel and Oliver Gassmann, "Creative Imitation: Exploring the Case of Cross-Industry Innovation," *R&D Management* 40, no. 3 (2010), doi: 10.1111/j.1467-9310.2010.00591.x.

11 Garrett Reim, "PhysIQ Raises $4.6 Million to Monitor Human Health with Predictive Analytics," *Built In Chicago*, 28 July 2014, para. 4, http://www.builtinchicago.org/2014/07/28/physiq-raises-46-million-monitor-human-health-predictive-analytics.

12 George Dvorsky, "The 12 Cognitive Biases that Prevent You from Being Rational," *io9*, 9 January 2013, http://io9.com/5974468/the-most-common-cognitive-biases-that-prevent-you-from-being-rational.

Entrepreneurs who come to healthcare IT from the software world are accustomed to an environment where anything is possible—the beauty of software is that virtually any product can be built if given enough time.[13] This completely fungible and also limitless potential can rapidly affect an entrepreneur's worldview and may increase ambition for attacking large problems like healthcare that others wouldn't dare to touch.[14]

For Healthcare IT Success, the Revenue Model Must Be Ironclad

A story from World War II offers a very relevant lesson for healthcare IT innovation. Airplanes often returned from battle riddled with bullet holes, and the natural response of the mechanics was to improve the armor in those areas and send the planes back into service. After a while, an observant mechanic noticed that most of the bullet holes were concentrated in relatively unimportant areas, and he wondered if these minor repairs were the best use of material. He concluded that the areas without damage were actually the most critical and needed the most armor—a single bullet there must be a fatal blow, since planes with damage in those areas did not return. When they applied armor in this seemingly counterintuitive way, the survival rate of the planes dramatically increased (figure 4).[15]

Analogously, investors are constantly assessing their "fleet" of investment companies for weaknesses. Here a "bullet hole" is a flaw in the company, which could occur in operations, strategy, management, or another area. Many companies crash and burn because of these faults, while a few come back safely in the form of a successful exit. Investors learn from those experiences and apply "armor" by spending extra time on diligence in select areas they identify as needing to be robust and "bullet-proof."

However, the WWII story demonstrates that the goal should be for VCs to spend time and resources applying defenses in the most fatal areas. Traditional venture funds have been applying "armor" to the domain-experience criterion, making sure that their healthcare entrepreneurs have prior industry experience. The results of this study show that lack of healthcare experience is an easily survivable bullet hole, while a lack of startup experience is a more serious but not completely fatal flaw. However, the ability to find paying customers and figure out the revenue model in healthcare was a unanimous trait among these 14 entrepreneurs: there were no surviving "aircraft" with a bullet hole in their revenue model. This finding suggests that a flaw in the revenue model is a fatal blow to the viability of a company in the complex airspace of healthcare IT.

Opening the Doors to Outsiders in Healthcare IT Innovation

The results of this study have implications for three main stakeholder groups who are exploring healthcare IT products and services in some

Figure 4. Grumman F6F-3 Hellcat with over 200 bullet holes, circa 1943.[16]

13 Steve Denning, "Why Software Is Eating the World," *Forbes*, 11 April 2014, http://www.forbes.com/sites/stevedenning/2014/04/11/why-software-is-eating-the-world/.

14 Diana Ransom, "Why Steve Case Says Future Entrepreneurs Will Need Greater Support," *Inc.*, 4 May 2015, http://www.inc.com/diana-ransom/why-itll-take-a-village-to-startup.html.

15 Annie Tête, "SciTech Tuesday: Abraham Wald, Seeing the Unseen," *The National World War II Museum*, 13 November 2012, http://www.nww2m.com/2012/11/scitech-tuesday-abraham-wald-seeing-the-unseen/.

16 Extensive research was unable to determine the photographer's name or the rights holder for the picture. As the image is used widely across the Internet, the photograph is used here as part of the common domain.

way or another: VCs, traditional healthcare companies, and healthcare entrepreneurs.

Importantly, these findings strongly suggest that VCs should not immediately rule out entrepreneurs because of a lack of healthcare experience. VCs have essentially been fishing in the top right sector of the experience box in figure 1, when the data show that most of the fish are on the bottom (i.e., have little or no healthcare experience). Investors should also view the startup team holistically, and recognize both the strengths of an outside technical background and the potentially game-changing perspective outsiders bring to healthcare problems. If the VC's concern is operational risk, one simple answer is that healthcare expertise can be imported to the team in the form of a chief medical officer or regulatory consultant.

Secondly, traditional healthcare companies or systems looking for innovation might consider opening the door to non-traditional (i.e., outside) candidates. For example, a big medical device company might have entrepreneurs in residence or internal R&D teams that need an infusion of new ideas. Rather than seeking new people with 20 years in healthcare, they might consider hiring people from software startups with little to no healthcare experience, who have other valuable perspectives and enjoy new challenges.

Finally, entrepreneurs should not shy away from tackling healthcare problems because of a lack of healthcare experience. Clearly, some entrepreneurs have not been discouraged by naysayers, and my father is a great example of one who persevered and succeeded. Hopefully his personal story, combined with these research findings, provides encouragement to entrepreneurs who might have been on the fence about pursuing an opportunity as a healthcare outsider.

If these three groups do expand their set of considerations, I believe the long-term implications will be very positive for society. A greater quantity and quality of innovations will be funded and tested. The pace of disruption in healthcare will be expedited—which is badly needed given the systemic problems. We will all benefit from improved health outcomes, affordability of healthcare, and overall quality of life.

Matt Otterstatter
Matt is a partner at Vilicus Ventures, an early-stage VC firm based in Minneapolis, MN. He has no experience in healthcare, although he invests in entrepreneurs seeking to disrupt it. Prior to cofounding Vilicus, Matt was a program manager and senior engineer of rocket propulsion systems at Aerojet Rocketdyne in California. He's a big nerd with a big heart. Matt has launched a nonprofit for Minnesota entrepreneurs called Accel.MN, which leverages the Kauffman Fellows model of a trusted cohort in a setting applied to collaboration among founders. Matt is also a Techstars mentor across multiple programs and serves on the board of universities advising their entrepreneurial curriculum. He and his wife have 3 boys who love LEGOs. Kauffman Fellow Class 18.
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Kauffman Fellows

Kauffman Fellows joins the Kauffman Foundation in celebrating the life and legacy of Ewing Marion Kauffman on the 100th anniversary of his birth.

"I think the greatest satisfaction I have had, personally, is helping others, doing something that either inspires them or aids them to develop themselves in their future lives so they'll not only be a better person but be a better productive citizen of the United States."

–Ewing Marion Kauffman

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The Future of VC in Spain: Time for a Track Record

Liz Fleming

Class 19

As a resident of Madrid since May 2011 and an active member of the startup ecosystem in Spain,[1] I have witnessed the maturation of the country's entrepreneurial community and have seen significant growth in its venture capital (VC) industry. At South Summit,[2] one of Europe's largest startup events, we have seen finalists from our startup competition raise over €450 million in the last three years, with the majority of this investment coming from international VC firms. These funding rounds are representative of what has been happening in the Spanish VC industry as a whole: VC in Spain has nearly tripled since 2013.[3]

I am excited about the rapid growth of internationally competitive technology companies in Spain (e.g., Scytl, Alien Vault, Carto, Cabify, and Typeform[4]) and I am curious about how the local VC industry will react. To date, international VC firms have been plugging the funding gap in later stages of these exciting Spanish tech companies. Will we see local VC firms get more involved in the game? Who are the investors backing the VC firms in Spain, and why?

This study looks at VC in Spain today and compares it with VC in Europe and the United States, in order to map the potential of VC in Spain. By comparing the annual reports of the National Venture Capital Association (NVCA), Invest Europe, and the Spanish Venture Capital and Private Equity Association (ASCRI), I was able to gauge where Spain lies in terms of VC investment volume and deals backed.

To get a better understanding of current investors, I interviewed limited partners (LPs) in public entities and private equity funds, and also asked Spanish VC firms about their LPs. First, I talked to Óscar Farrés, Investment Manager at the European Investment Fund (EIF),

1 Since arriving in Madrid, I have served as the Deputy Director of IE Business School´s Startup Program Venture Lab and as the Director of Venture Network (a weekly pitch slam event). I also opened the Area 31 IE Business Schools Startup Incubator; ran the Spain Startup Co-Investment Fund—a €40M co-investment fund run by IE Business School and Enisa, a government agency tasked with financing innovation in SMEs; am an active member of Chamberi Valley (a networking group of Madrid´s top tech founders); and was also responsible for content and investor relations at South Summit, one of Europe´s largest startup events. I recently joined Adara Venture Partners as part of the investment team.

2 https://www.southsummit.co/.

3 ASCRI 2015, 24; ASCRI 2016, 24. To improve readability, data sources are abbreviated in footnotes; see the appendix of this article for full references.

4 Scytl develops state-of-the-art electronic voting and electoral modernization solutions. https://www.scytl.com/en/.

Alien Vault is a leading provider of unified security management and community-powered threat intelligence. https://www.alienvault.com/.

Carto is a leading location intelligence and data visualization platform. https://carto.com/.

Cabify is a mobile private driver platform. https://cabify.com/.

Typeform provides online surveys, forms, and quizzes with an engaging user- and mobile-friendly experience. https://www.typeform.com/. For more information about these companies, see figure 9.

and Guillermo Jiménez, Managing Director of FOND-ICO Global, two of the most important public investors in the European and Spanish VC industries, respectively. To compliment this public LP perspective, I also interviewed Gonzalo Verdera, head of Investor Relations and Business Development at Altamar, and co-founder of Galdana Ventures, Spain´s first private fund-of-funds dedicated to VC; Pedro Michelena, CEO of Qualitas, one of Spain´s only private equity funds to invest in technology deals; Santiago Satrústegui, CEO of the Madrid-based wealth management firm Abante Asesores; and Borja Durán, CEO of Wealth Solutions, a leading multifamily office with approximately €20 billion of private capital under management. Finally, I gathered data from 14 Spanish VC firms on the type of LPs within their investor base. Together, these data provide a snapshot of who is investing in VC in Spain today.

State of the Nation

There is room for growth in the European venture industry—and in Spain in particular. VC in Europe as a percentage of GDP is about 1/10 that of the United States[5]—but not because Europe is "smaller." In fact, Europe and the United

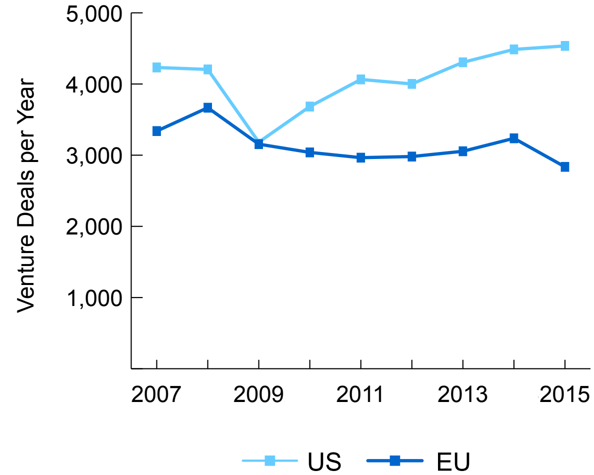

Figure 1. Venture Capital Investment in Europe and the United States, 2007–2015 (no. of deals). Author's figure; US data from PwC/NVCA; EU data from Europe Tables.

States have similar GDPs,[6] and the population of Europe is 56% larger than that of the United States.[7] The number of VC-backed companies in Europe and in the United States are reasonably similar: approximately 3,000 and 4,300 per year, respectively. So, Europe is backing a comparable number of companies with significantly less capital (see figures 1 and 2).

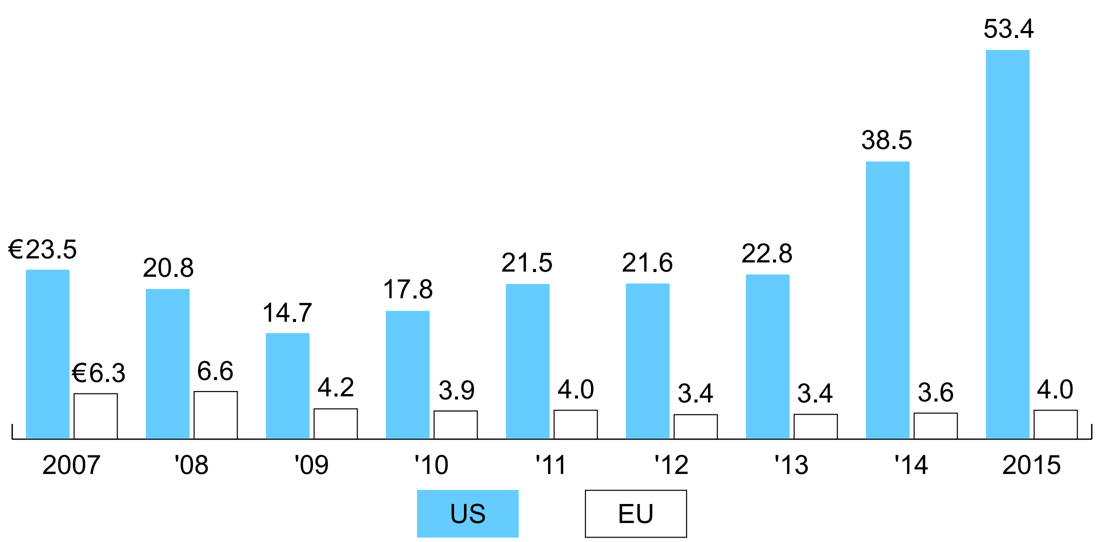

Figure 2. Venture Capital Investment in Europe and the United States, 2007–2015 (billions of Euros). Author's figure; US data from PwC/NVCA; EU data from EIF 2016 Outlook, 29 fig. 23.

5 GDP information from Eurostat and US GDP. US VC data from PwC/NVCA; EU data from EIF 2016 Outlook, 29 fig. 23.

6 Eurostat and US GDP.

7 Worldometers.

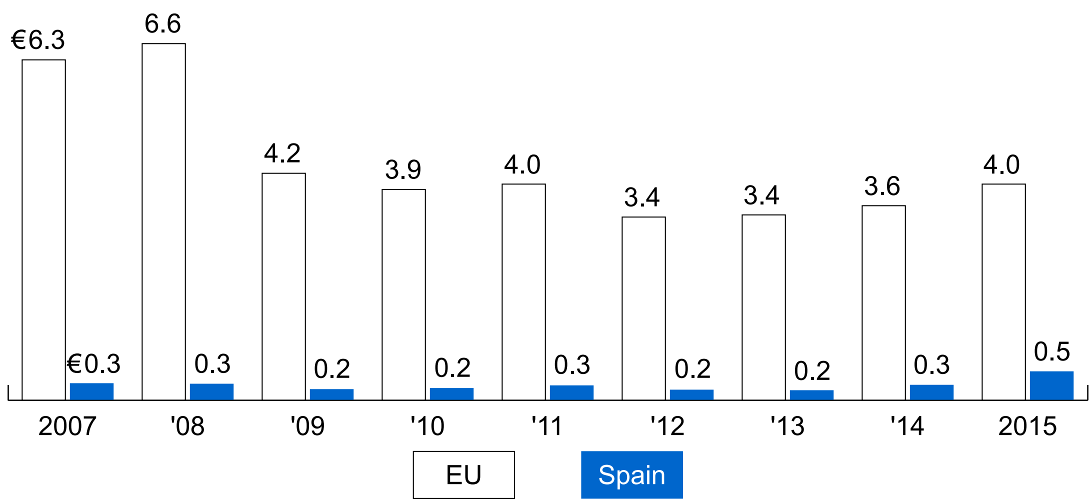

Figure 3. Venture Capital Investment in Europe and Spain, 2007-2015 (billions of Euros). Author's figure; EU data from EIF 2016 Outlook, 29 fig. 23; Spain data from ASCRI 2016, 24; ASCRI 2015, 46; ASCRI 2011, 42; ASCRI 2009, 30.

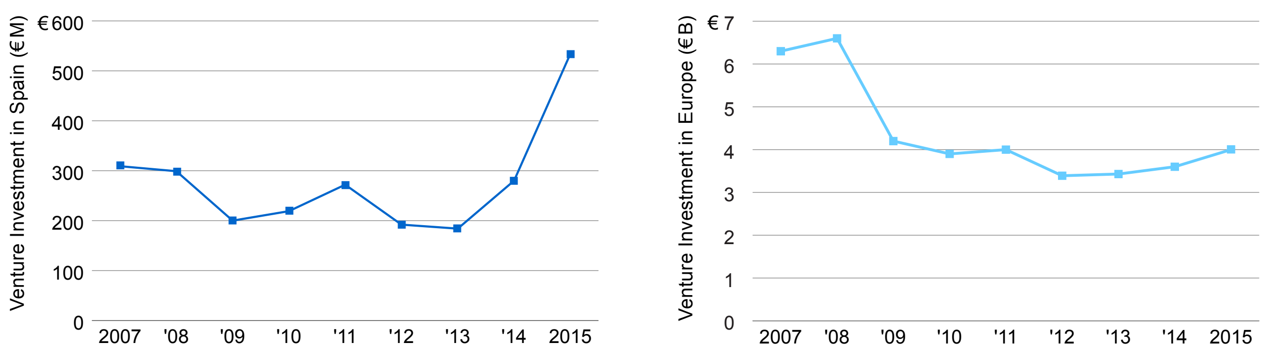

Figure 4. Venture Capital Investment in Europe and Spain, 2007-2015. Author's figure; ibid.

Venture capital in Spain, in turn, is a small fraction of VC in Europe (figure 3); however, VC in Spain has nearly tripled since 2013, while Europe has grown only 13% during that time. The difference in growth rates can be seen more clearly when the two trends are viewed on region-specific scales (figure 4).

Government Funding Predominates

Government agencies are the single largest LP investor in VC in Europe, representing 31% of all funds invested into the asset class in 2015.[8] At the regional level, the European Investment Fund (EIF) is a massive player: it has invested over €4.4 billion into the European VC industry since 1997, investing in more than 260 VC firms.[9] The EIF has a similar purpose to the Small Business Investment Company (SBIC) Program administered by the Small Business Administration (SBA), which helped to establish the first regulated high-quality PE and VC firms in the United States.[10] In addition to the EIF, many governments have specialized agencies at the national level contributing to VC investment.

In Spain, public source investment levels are also quite significant. The majority (86%) of VCs in Spain have a public investor in their LP base, and in half of these cases, that public investor represents more than 30% of the fund.[11]

8 EIF 2016 Outlook, 35.

9 Óscar Farrés (Investment Manager, European Investment Fund), interview with author, 14 March 2016.

10 U.S. Small Business Administration, "History," n.d., https://www.sba.gov/about-sba/what-we-do/history.

11 Based on author´s VC questionnaire; see further detail in "Spain's LP Landscape: A Deeper Look."

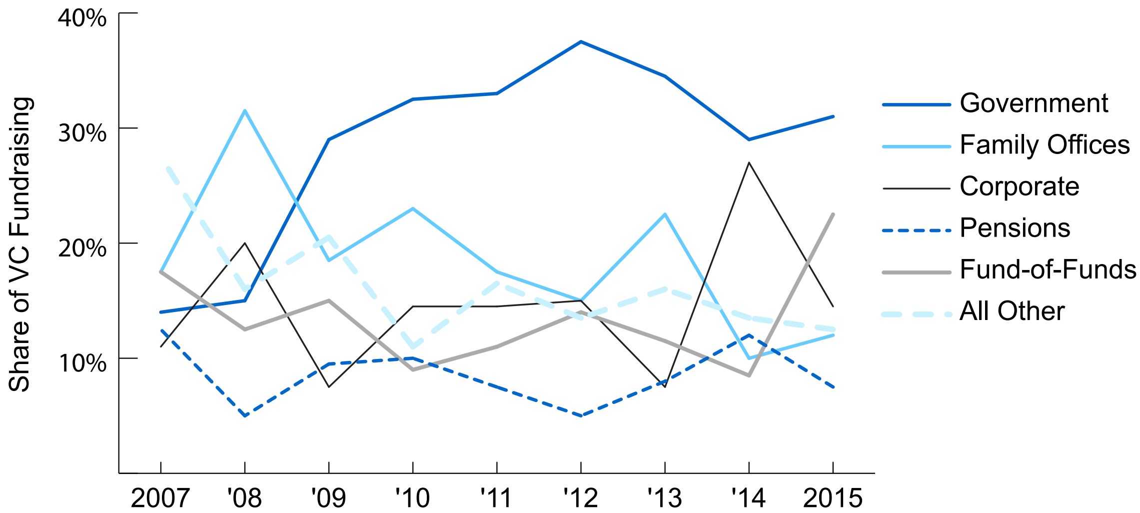

Figure 5. Sources of Funding for VC in Europe's LP Ecosystem, 2007–2015. Author's figure; data from EIF 2016 Outlook, 36 fig. 28.

The EIF has played a vital role in the development of Spain's venture market. In 2006, in collaboration with local government agency CDTI (Centre for Development of Industrial Technology), the EIF created a €183 million fund-of-funds called NEOTEC, which invested in 14 VC firms in Spain, building the foundation of the country's venture capital industry.[12] In addition to the EIF and CDTI, Axis became another major public sector player in Spain's VC industry. In 2013 Axis launched FOND-ICO Global, a €1.5 billion fund-of-funds[13] established to strengthen Spain's VC and PE industry during a time when Spain was still in deep recession as a prolonged effect of the global economic recession of 2008.

While government agencies are significant investors in Europe's VC industry, they contribute less investment than governments in established innovation hubs such as the United States. The EIF ratio for leveraging federal funds in Europe is approximately 1:3,[14] almost inverse of the SBA's original 4:1 ratio.[15] The lower ratio of leveraged funds puts a greater onus on European management teams to raise more private capital. Does the fact that the EIF offers significantly less capital (than the SBA originally did) to European firms make these firms weaker or make them more resilient? If there is a greater need for European fund managers to raise private (non-government) capital—and government funding dominates the venture industry—then where does that private capital come from?

Relationship between Public and Private Funding

The VC industry in Europe today has a far greater dependency on government agencies as a source of investment than it did in 2007-2008 (figure 5). As mentioned above, 31% of funding in the European VC industry came from government agencies in 2015—more than double the proportion in 2007. This funding is typically from the EIF as well as national-level government fund-of-funds. Pension funds, family offices and private individuals, corporate investors, and fund-of-funds make up most of the other 69%.

12 European Investment Fund, "NEOTEC Resources," 2016, http://www.eif.org/what_we_do/resources/neotec/.

13 Guillermo Jiménez (Managing Director Axis; fund manager, FOND-ICO Global), interview with author, 10 March 2016. See also Axis, "FOND-ICO Global: What Is It?," 2016, http://www.axispart.com/our-funds/fond-ico-global/what-is-it/?lang=en.

14 Óscar Farrés, "EIF Presentation," slides presented at the South Summit, 7–9 October 2015, Madrid, Spain, 9.

15 Arun Rao, "Graybeard Funders: Venture Capital in Its Clubby Days (1955–78)," in *A History of Silicon Valley: The Largest Creation of Wealth in the History of the Planet—A Moral Tale*, 2nd ed., by Arun Rao and Piero Scaruffi (Palo Alto: Omniware Group, 2013), http://www.scaruffi.com/svhistory/sv/chap80.html.

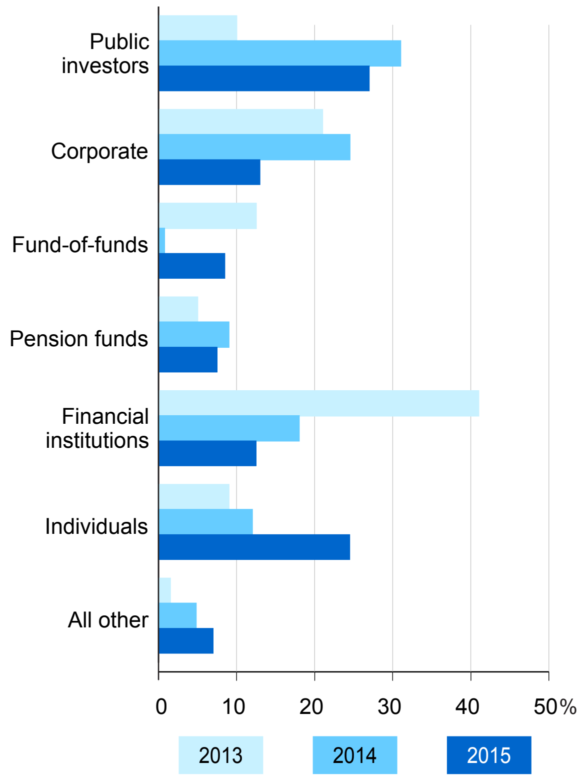

Figure 6. Sources of Funding for Spain's Venture Capital Ecosystem, 2013–2015.
Author's figure; data provided by ASCRI. "Individuals" includes high-net-worth individuals and family offices.

Considering the timeline, this growth in public funding is related to the macroeconomic crash of 2008. Public sources of financing, particularly from the EIF, were increased to shore up the market,[16] filling funding gaps created by the lack of private sources of capital during the crash.

In Spain, government agencies accounted for 27% of all investment into the venture industry in 2015, having grown substantially from only 10% of the total in 2013 (figure 6); it is now much closer to the EU level, which has been close to 30% or more since 2009 (figure 5). High-net-worth individuals and family offices are the next-largest contributing group in Spain, providing 25% of capital, and having also grown rapidly from their 10% base in 2013. It is interesting to note that financial institutions have significantly dropped their contribution to VC in Spain from 41% of the total in 2013 to 12% in the latest figures.

16 EIF 2016 Outlook, 35.

Private Equity Allocations

Zooming out to look at the larger private equity industry (of which VC is a part), one sees that Spain´s dependency on public financing halved from 22% in 2014 to 11% in 2015,[17] coming into line with Europe as a whole (14% in 2015[18]). While Spain´s LP landscape for the PE industry is becoming a balanced combination of public and private investors, it still lacks a more significant contribution from pension funds when compared to Europe as a whole. Pension funds were the single largest contributor to the PE industry in Europe in 2015, investing 22%[19] of all funds raised, while in Spain pension funds only accounted for 11%.[20] In Spain, national pension funds tend to have a private equity allocation significantly lower than their international counterparts, contributing less than 2% of total funds invested into PE versus an average of 15%-20% of funds raised internationally.[21]

As noted by Javier Ulecia, Chairman of ASCRI, the majority of pension-fund contributions to the PE sector in Spain come from international rather than local pension funds. Ulecia suggests greater contribution from national pension funds is needed in order to see a more balanced LP base for Spanish PE. Ulecia explains that lower levels of PE allocation in Spain's pension funds relate to the fact that PE funds in Spain are often too small to satisfy the minimum ticket sizes of pension funds; additionally, there are concerns about the "waterfall effect" of management fees (when management fees increase because there is an accumulation of fees from each PE fund in which the pension fund invests). Ulecia believes Spain should introduce tax incentives for LPs investing in PE to increase allocations in

17 ASCRI 2016, 33.
18 Invest Europe 2015,13.
19 Ibid.
20 ASCRI 2016, 33.
21 ASCRI 2015, 13 fn. 6.

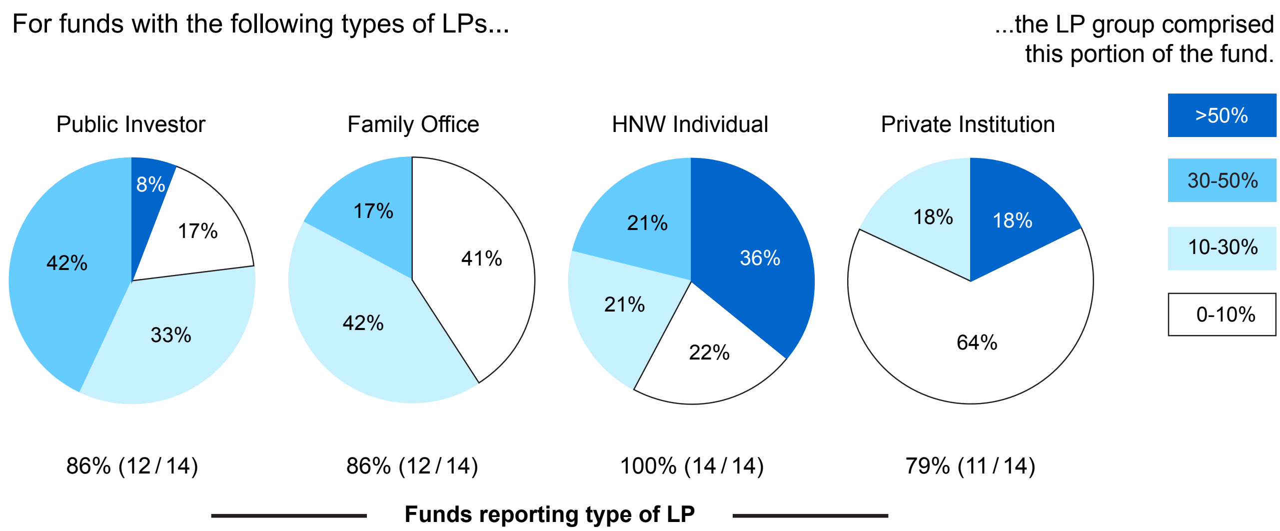

Figure 7. Understanding Spain's LPs: Funding Level and Involvement of Various LP Types. Author's figure.

that area; it already provides tax relief for LPs investing in pension funds.[22]

The increase in public funds investing in PE is also a direct result of FOND-ICO Global, the Spanish government's €1.5 billion fund-of-funds described above. FOND-ICO plans to support 40 new funds, mobilizing €5 billion with matched funding for investment. To date FOND-ICO has allocated €800 million to 35 funds; therefore, we can expect a plentiful supply of public funding for new and existing VC funds—and it will be interesting to see whether the private sector investors get more involved.[23]

Spain's LP Landscape: A Deeper Look

In order to map the LP landscape in Spain, I collected and aggregated the LP breakdown of 14 Spanish VC firms; these firms represent over €600 million under management. The data was collected via an online survey. The results provide a more definite perspective on the LPs investing in Spain and the importance of each type of LP for the country (figure 7).

The dependence of the Spanish VC industry on public funding is clear: 86% of VCs who completed the questionnaire (12 out of 14) have public investors in their LP base. The public investor has an important role in fund formation as well, with half of the public investors contributing 30% or more of the total fund.

Family offices (FO) also play an important role in Spanish VC: 86% of VCs completing the questionnaire (12 out of 14) have a family office in their LP base. In the majority (59%) of the firms with family office investors, the group represented more than 10% of the total fund.

All of the VCs who completed the questionnaire (14 firms) had high-net-worth individuals (HNWIs) in their LP base, showing this group to be significant contributors to Spain's VC funds. For 57% of the firms, the HNWIs accounted for more than 30% of the total fund.

A surprisingly large number of the VCs who answered the questionnaire have institutional investors as LPs in their fund, with 79% of respondents (11 out of 14 firms) being backed by institutions. The majority (64%) of these institutional investors, however, represent less than 10% of the fund.

This study is the first time that comprehensive data on the LP landscape for venture capital in Spain has been collected, aggregated, and analyzed. Figure 7 allows a visualization of exactly who is investing in VC in Spain and in what proportions. Being able

[22] Javier Ulecia (Chairman, ASCRI 2015), interview with author, 18 January 2016.

[23] Guillermo Jiménez (Managing Director, Axis; fund manager, FOND-ICO), interview with author, 10 March 2016.

to gauge the composition of the LP base is an important first step toward ensuring the maturation and longevity of the industry.

What do HNWI and FO Investors in Spain think?

One finding of this research is that a significant amount of private capital bolsters Spain's VC industry (figures 6 and 7). All of the public funding initiatives have matching requirements that aim to reduce the investment risk for the private investors they invest alongside. Since HNWIs and FOs are playing an sizable role as LPs in Spain's VC landscape, it is important to know whether this participation will grow when thinking about the future of Spain's venture industry.

To investigate this question, I interviewed four wealth managers, three LPs, and two GPs—and found that although investment by HNWIs and FOs in VC is not common, it is fundamental to Spain's VC industry. Their interview responses provide some explanation as to why this is so, and what might be needed for change.

I first spoke to Borja Durán of Wealth Management Solutions, a wealth management company that manages approximately 60 FOs. They have €20 billion under management—and zero allocation to VC investments. Durán explains,

> FOs and wealth managers don't invest in VC because they don´t understand the J-Curve type growth of the portfolio companies. VC is a long-term, low-liquidity asset that is simply not worth the effort for wealth managers or FO members.[24]

Durán estimates that the private wealth industry in Spain has some €300 billion under management, but its allocation to alternative assets, principally private equity and venture capital, is less than 5%, and many of the PE vehicles in Spain have ticket allocations that are too small to make sense for wealth managers.

Santiago Satrústegui, CEO of Abante Asesores, a wealth management company in Madrid, explains that the small allocations from HNWIs and FOs to alternative assets, PE and VC, are due to structural issues in the Spanish financial markets.

> The alternative asset market in Spain is not as mature as in the US or the UK; it requires more professional regulation and better functioning capital markets to be able to provide liquidity options for investors. Unlike in the US, in Spain there is little distinction between institutional and retail investors and few specialized funds and fund managers. Some specialization is happening in funds focusing on property or capital markets, but it is still early days for specialization in PE and VC.[25]

Gonzalo Verdera is CEO at Altamar, a financial advisory firm specializing in alternative assets. He shares that they have seen an appetite from the private sector—institutions and FOs—to invest in VC, but on a very selective basis.

> This is why we created Galdana Ventures, Spain's—and possibly Europe's—first private fund-of-funds designed to invest in VC worldwide. There is an interest in the asset class, just not an interest in investing in Spain. VC globally is an asset class where the top percentile of firms take the lion's share of returns. FOs and wealth managers know this, and it's why they are not interested in investing in Spain. There are very few firms in Spain with a proven track record in VC. Also, the industry in Spain is too small to generate the investment volumes and returns required by institutional and FO investors—that is why we are only focused on investing in the best VC firms globally.[26]

Qualitas is a PE firm in Madrid that has created a growth fund to invest in earlier-stage companies, addressing a gap they saw in the market for companies looking for growth capital to expand. As CEO Pedro Michelena explains,

> Our clients were aware of the growth capital opportunity in Spain, so when we presented them with this new fund they were willing to invest. FOs do not have a strategic approach to investing in VC. They like to invest directly, and it is often

24 Borja Durán (CEO, Wealth Solutions), interview with author, 21 January 2016.

25 Santiago Satrústegui (CEO, Abante Asesores), interview with author, 8 February 2016.

26 Gonzalo Verdera (CEO, Altamar), interview with author, 21 January 2016.

Breeding Unicorns: Europe versus the United States

"Unicorns"—tech companies valued at $1 billion or more—are rare enough. But as I looked deeper into Spain's venture capital present and future, I began to wonder about the performance of these rare companies. In particular, I examined European (EU) and U.S. unicorn production, to compare their respective capital efficiency and returns.

While Europe and the United States have similar GDPs, European VC as a percentage of GDP is one-tenth that of the United States.[1] Despite this significant difference in investment distribution, European venture investment backs 65% as many companies as the United States—with one-twelfth the capital.[2]

The United States produces more unicorns than Europe, but Europe makes better use of its capital. From 2010 to 2015, 33 unicorns emerged in Europe,[3] while 128 emerged in the United States. In that same period, Europe invested 12% as much capital ($28 billion[4]) as in the United States ($222 billion[5]), but produced 26% of the total number of unicorns. In other words, VC in the United States produced one unicorn for every $1.7 billion invested 2010–2015, while Europe produced one unicorn per $840 million invested—making European VC roughly twice as capital efficient.

On the other hand, the United States grows much bigger unicorns. Thirteen U.S. tech companies have reached valuations of more than $10 billion,[6] while Europe did not see one emerge at a similar benchmark within the same timeframe (2010–2015). Spotify is Europe´s most likely candidate to break the $10 billion threshold; the company's valuation was $8.5 billion as of June 2015,[7] without taking into consideration the $1 billion convertible debt the company secured in March 2016.[8]

The challenge now for Europe is to continue investing more VC in its efforts to scale up European tech companies and create a more robust ecosystem. Meanwhile, the European venture capital industry may offer ways for the United States to improve capital efficiency overall.

1 Eurostat and US GDP.
2 In 2015; EU data from Europe Tables; US data from PwC/NVCA.
3 Unicorn Data.
4 Europe Tables.
5 PwC/NVCA.
6 The 13 companies are Uber, AirBnB, Palantir Technologies, Whatsapp, Snapchat, WeWork, Workday, SpaceX, Palo Alto Networks, Pinterest, Service Now, Dropbox, and Twitter.
7 Ingrid Luden, "Sweden's Telia Sonera Confirms $115M Investment in Spotify, Now Valued at $8.53B," *TechCrunch*, 10 June 2015, para. 2, http://techcrunch.com/2015/06/10/swedens-telia-sonera-confirms-its-investing-115m-in-spotify/.
8 Josh Constine, "Spotify Raises $1 Billion in Debt with Devilish Terms to Fight Apple Music," *TechCrunch*, 29 March 2016, para. 2, http://techcrunch.com/2016/03/29/stream-with-the-devil/.

> opportunistic because they like the deal and like to be close to the company. We offer our clients the opportunity to co-invest alongside the fund in the deals they are particularly interested in. We are a growth-stage fund that dedicates approximately 30% to technology deals. We are invested in technology right now because there is good growth in the sector and a lack of growth-stage capital in the market. We are comfortable investing in tech deals at the later stage when they can demonstrate growth and have a track record.[27]

After speaking with these four wealth managers, it is clear that most family offices are wary of venture capital investing. Interviewees reported that (a) FOs prefer to invest directly into companies in an opportunistic way, usually derived from a personal relationship to the company founders; (b) the low liquidity of the asset is a deterrent; and (c) Spanish VC is not perceived as having an attractive track record.

27 Pedro Michelena (CEO, Qualitas), interview with author, 19 January 2016.

Steps for the Future in Spain

As discussed previously, Spain has a large dependency on public funds to fuel and finance the VC industry. Investment from individual private investors has grown from contributing less than 10% of total funds raised in 2013 to 25% in 2015 (figure 6). While private investors play a key role, they are generally reluctant venture investors. There is a resounding level of conservatism and caution in the investment strategies of private-sector funders—

Company	Sector	Funds raised	Backed by	Founded	Exit
Privalia	Fashion ecommerce	€167M	Cabiedes, Nauta, Index, General Atlantic, Highland	2006	€500M to Vente-privee 2016
Ticketbis	ecommerce	€20M	Active Venture Partners, Fabrice Grinda, Jose Marin	2009	€150M to eBay 2016
idealista	Property listings	N/A	Bonsai, KutzaBank, Tiger Global, Apax	2000	Partial exit to Apax ~€150M 2015[a]
Mil Anuncios	Classifieds	N/A	N/A	2005	€50M to Schibsted Media Group 2015[b]
Trovit[c]	Real estate, search	€690K	Cabiedes	2006	€80M to Next Co. 2014
Nevera Roja	Food delivery	€10+M	La Caixa, Next Chance Group, Ad4Ventures	2011	€80M to Rocket Internet 2015
Wallapop	Mobile classifieds	~€120M[d]	Antai, Caixa, Bonsai, NEA, IVP	2013	Merger with Letgo 2016

Figure 8. Significant Exits in Spain's VC Industry since 2014. Author's figure; data from CrunchBase unless otherwise noted. N/A: data not available.

[a] Jaime Novoa, "Apax Buys Controlling Stake in idealista, Reportedly Valuing the Company at €150 Million," *Novobrief*, 27 July 2015, https://novobrief.com/idealista-investment-apax/.

[b] Schibsted Media Group, "SCM Spain Agrees to Acquire Milanuncios" (press release), 13 February 2014, para. 2, http://www.schibsted.com/en/Press-Room/News-archive/2014/SCM-Spain-signs-agreement-to-acquire-Milanuncios/.

[c] Jaime Novoa, "One More 'Real Estate Exit' for Spain: Trovit Acquired for €80M by NEXT Co.," *Novobrief*, 7 October 2014, para. 1-2, https://novobrief.com/trovit-acquisition/.

[d] Jaime Novoa, "Barcelona's Best Kept Secret: Wallapop's $40 Million War Chest," *Novobrief*, 28 April 2015, https://novobrief.com/barcelona-best-kept-secret-wallapop-40-million-war-chest/; Mike Butcher, "Wallapop Is Poised to Disrupt Classifieds, as Accel, Insight, Fidelity Pack Its War Chest," *TechCrunch*, 19 May 2015, http://techcrunch.com/2015/05/19/wallapop-is-poised-to-disrupt-classifieds-as-accel-insight-fidelity-pack-its-war-chest/; ASCRI, "El capital riesgo NEA entre en Wallapop," 8 October 2015, http://www.ascri.org/el-capital-riesgo-nea-entra-en-wallapop/.

understandably so, considering the lack of experience in and knowledge about investing in VC.

In general terms, the perception among investors is that there is no VC track record in Spain. In order for wealth managers to consider VC as a viable asset class and to pique private sector investor interest, the sector must demonstrate consistent positive returns.

The good news is that this track record might be right around the corner. There has been an evolution in the exit landscape for Spain's tech companies, with significant exits such as Privalia (€500 million), Ticketbis (€150 million), idealista (partial exit to Apax ~€150 million, not confirmed), Trovit (€80 million), Nevera Roja (€80 million), and Mil Anuncios (€50 million) all taking place in the last 18 months (figure 8). In addition, a growing breed of rising stars has attracted significant capital from international investors: Cabify (€100 million led by Rakuten), Carto (€30 million led by Accel), peerTransfer (€37 million led by Accel), and Typeform (€15 million led by Index) (figure 9).

Company	Sector	Funds raised	Backed by	Founded	Exit
Scytl	eVoting	€100M	Nauta, Balderton	2000	No
Alien Vault	Cybersecurity	€100M	Adara, Trident, KPCB, GGV, IVP	2007	No
Cabify	Private drivers	€125M	Hit Forge, Seaya, Rakuten	2011	No
Carto	Data mapping & visualization	€27M	Vitamina K, Kibo, Earlybird, Accel, Salesforce	2012	No
peerTransfer	Payments	€37M	JME, Kibo, Accel, Spark, Bain	2009	No
Typeform	Surveys	€15M	Point Nine, Connect, Index	2012	No

Figure 9. Rising Stars—Promising Startups in Spain's VC Industry. Author's figure; data from CrunchBase.

Spain has not yet had a unicorn, but there are some promising companies on an exit path. eDreams IPOed in 2014 at a near $1.5 billion valuation;[28] however, 5 months later, the share price had dropped 75%.[29] Privalia, backed by Cabiedes, recently exited via trade sale for €500 million. Scytl, backed by Nauta, and Alien Vault, backed by Adara, have both raised over €100 million and are positioning to IPO on Nasdaq in 2017.[30] If those two IPOs are successful, they could have a profound impact on Spain's tech ecosystem by delivering an impressive track record for Spain's entrepreneurs and the VCs who backed them.

Spain needs to materialize positive returns on the €1 billion in capital that has gone into the market in the last three years. If the ecosystem can produce these positive returns—and the signals suggest it can—private LPs including institutions and FOs will likely show increased interest in backing local VC firms.

As the economy in Spain recovers, I also expect to see greater investor confidence and more liquidity in the market to facilitate further VC investment. With €800 million committed by FOND-ICO Global yet to be deployed, there will be no shortage of capital available for Spanish tech entrepreneurs in the next two years. The key factor is whether the quality of emerging Spanish tech companies will continue to improve: if exits keep creating more success stories and company role models, while upskilling a whole generation of tech entrepreneurs and an entrepreneurial workforce, the future will be bright for Spanish tech companies.

It is time to establish Spain's positive track record. If one believes that success breeds success, we can expect to see a new batch of globally competitive tech companies emerge from Spain in the next 3 to 5 years. What remains to be seen is just who the VCs backing them will be—I intend to be one of them.

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Liz Fleming

Liz has been investing in early-stage tech companies and entrepreneurial development in Dublin and Madrid since 2008. In Madrid, since 2011 Liz has served as Deputy Director of IE Business School´s startup program Venture Lab; launched Area 31, IE Business Schools startup incubator; and ran the Spain Startup Co-Investment Fund—a €40M co-investment fund run by IE Business School and Enisa, a government agency tasked with financing innovation in SMEs. Liz is an active member of Chamberi Valley (a networking group of Madrid´s top tech founders) and recently ran content and investor relations at South Summit, one of Europe´s largest startup events. Liz is now part of Adara Ventures, investing in enterprise software: cloud services and infrastructure, cybersecurity, data analytics, and IoT. With $100M under management, Adara invests in Series A startups targeting a global market with disruptive technologies.

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"...above all, I think it's a people factor that will be the secret of the success of your business in the future."

–Ewing Marion Kauffman

Amending the First Commandment of the Capitalist World: A Call to Action

Yoel Cheshin

Class 20

The very first assumption of the business world, as we have inherited it, is that the purpose of the corporation is to maximize shareholder profits. I argue that this principle, which is as robust as a biblical commandment and as old as the Industrial Revolution, has been misinterpreted and distorted for many decades, and urgently needs an amendment.[1] In this article, I propose a new vision (a re-visioning) of this first commandment of capitalism, and describe two approaches to pursuing it.

Dismantling the Myth of Profit-Seeking

The current criterion for success in business is as simple as a soccer game: the more often you score—in other words, the more profit you make—the more successful the team is. Individually, great scorers earn fame and glory. So, Wilt Chamberlain's and Warren Buffett's claims to fame are quite similar: both hold world records in scoring (different kinds of scoring, but in a way, quite similar). Our admiration rests on their ability to be more successful than others—and a successful CEO is one who makes the corporation's shareholders richer.

Whether a given CEO damages the environment or employs laborers working in sweatshop conditions, or is in charge of a kind of product that is not healthy for consumers—these are the kinds of uncomfortable inquiries one might try to ignore or suppress. If by some chance we as entrepreneurs, as investors, or even as consumers feel some kind of guilt, we hide behind the first commandment of the capitalist world: Make maximum profits. "It's not my rule," one reassures oneself. "It's Adam Smith's[2] rule, or it's the neo-liberals' rule—they know what they are talking about. I'm just a follower."

Living in a world dominated by corporations whose ultimate purpose is to maximize profit sounds quite depressing. This somber outlook is probably one of the main reasons for the

[1] I want to thank Naftali Shimrat, my mentor, a modern Socrates who helped me discover that business could be the most fascinating spiritual evolution; and Arale Cohen, 2B Angels Managing Partner, whose ability and passion to evolve are of great inspiration. I want to thank Gil Canaani (Class 17) for encouraging me to write this article; my Kauffman mentor Izhar Shay (Canaan Partners Israel) for proving that the love for investment and the love of writing could be synergetic; Laura, Anna, and Leslie from *Kauffman Fellows Report* for helping me put the article on the ground; and Hana Yang (Class 20) for being the primary reason for the article.

[2] Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, ed. E. Canaan (London: Methusen, 1904; first published 1776), http://www.econlib.org/library/Smith/smWN.html.

emergence of new forces such as the impact investment industry[3]: a new sector led by pioneers and visionary entrepreneurs who sense the danger in a globe ruled by such a narrowly focused materialistic principle. Their aim is to bring to life a new kind of corporation, in which the objective to make profit for shareholders is accompanied by a second commitment to the promotion of social goals. One example of a fund adopting this kind of principle is Palo Alto-based DBL Partners,[4] which maintains (as its name indicates) a double bottom line: social responsibility as well as financial profitability.[5] Looking at the positive changes led by DBL companies—including but not limited to outstanding returns to shareholders—is inspiring by any measure. DBL is a role model and an inspiration for us at 2B Group, described below.

The emergence of both the impact investment world and those forces emphasizing the purpose of maximizing social good alongside profit is of great importance to the evolution of our collective consciousness. Nonetheless, the concept of a dual purpose is still based on the premise that the purpose of the corporation (whether the only purpose, or as a part of a dual or triple purpose) is to maximize profits. And this premise, I argue, is completely false—it's a myth, an outstanding manipulation of the mind. The (very simple) truth is that maximizing profits, just for the sake of making profit is not, and has never been, a purpose at all. We should give Adam Smith more credit.

Isn't it the ultimate purpose and justification of the corporations of the world to maximize the welfare of all, whether through generating capital, creating jobs, or manufacturing a product that society needs to be a better iteration of itself? Justification for the profit-maximization rule rests on the belief that under a profit-oriented structure, the corporation is in the best position to maximize the welfare of its entire community—in other words, all the corporation's stakeholders.

Take this example: as VCs, our promise to LPs to make them profits puts us in a position where we are committed to track the best startups, those with strong entrepreneurs who have novel visions and strong execution abilities. If we pick startups skillfully and fund the right ones, then we increase the potential for creating relatively stable new jobs, strengthen the value chain of the corporation and its business ecosystem, and contribute toward manifesting a product or service that solves a particular problem for many people at the most reasonable price. On the day of exit, we give our share to the rest of the community through the tax system and move on to build the next corporation.

This example demonstrates the importance of VCs and investors to the world at economic, cultural, and moral levels. Our ambition to be great investors and to maximize profit for our LPs holds, at least potentially, a promise for a better world. However, this better world can only happen as long as we see the maximization rule as a means to an end, not as an end in and for itself.

In fact, I maintain that a corporation does not have a double bottom line. There is only one bottom line: maximizing welfare for all the corporation's stakeholders. So, a more accurate amendment to the first commandment is not a dual commandment, as impact investors suggest, but rather a holistic commandment—one that puts the profit-maximization rule into the right proportion as being one important rule among others. When

3 See also Brian Trelstad (Class 12), "Patient Capital in an Impatient World," *Kauffman Fellows Report* 1 (2010), http://www.kauffmanfellows.org/journal_posts/patient-capital-in-an-impatient-world/; and Jocelyn Brown (Class 13), "Confessions of a Reluctant Impact Investor," *Kauffman Fellows Report* 2 (2011), http://www.kauffmanfellows.org/journal_posts/confessions-of-a-reluctant-impact-investor/.

4 http://www.dblpartners.vc/.

5 Sarah Max, "Venture Capital Firm Invests in Start-Ups with a Social Mission," *New York Times*, 24 October 2014, http://dealbook.nytimes.com/2014/10/27/a-track-record-for-making-money-and-making-a-difference/?_r=0. See also *Reuters*, "'Investing for Good' Gains Appeal Amid Rocky Tech Startup Market," *Fortune*, 25 June 2016, http://fortune.com/2016/06/25/altruistic-tech-startup-investment/.

the components of the complex entity called "corporation" are in place and aligned, the synergy among them creates a far greater benefit for all stakeholders.

This is, of course, not just a theoretical problem but also one of the most practical problems we face as investors in this era. When we allow ourselves to be deceived—when we believe that the capstone of the corporation is to maximize profit for profit's sake—we contribute to a culture where it's socially acceptable to poison consumers or to lead them to some kind of addiction, to ruin the environment, to exploit employees, to abuse animals, and so forth (or we deceive ourselves by being willfully ignorant of their existence).

When we fail to identify the true first commandment of capitalism, we may instead end up worshipping the materialistic golden calf, which, as in the biblical myth, leads to punishment. In our case, the punishment is so severe that the entire planet is at stake.

Overturning Profit-Only Capitalism

From this perspective, the challenge for our generation of investors and entrepreneurs is to amend the myth we inherited and instead build corporations that promote prosperity for all their stakeholders. Corporations whose product or service solves a true pain or problem. Corporations whose leaders are characterized by impeccable integrity, high ethical standards, and global awareness. As the profiles below indicate, this holistic commandment can be pursued at the organizational level and at the personal level.

Firm Profile: 2B Group

I've dedicated myself to pursuing the holistic commandment at 2B Group, a private investment platform I founded in 2010. At 2B we call organizations that work toward amending the first commandment "community corporations" or, more simply, "friendly corporations." 2B Group currently consists of four main vehicles: 2B Angels, a high-tech venture fund; 2B Community, an impact investment fund based on a model I developed a few years ago as an assistant teacher in corporate law; 2B Markets, an entity developing knowledge in capital markets; and 2B Friendly, an NGO with a mission to inspire and promote social consumerism in order to strengthen friendly corporations, leading to a change in the way we (whether as investors or entrepreneurs) understand business. Although the direction of the group is quite clear to me, the exact architectural structure of the vehicles and the connections between them is eternally evolving, as they should be.

My Kauffman Fellows Thought Leadership Project is for 2B Angels (our high-tech fund) to define the criteria for a friendly startup, an organization that will then evolve to become a friendly corporation. A friendly startup will generate outstanding returns, proving the effectiveness of friendliness. Don't get me wrong: friendliness does not mean that the startup is necessarily developing cures for cancer, or giving away the store. A profitable ad tech company is just as capable of being a friendly corporation as any other outfit. Friendliness, in this context, depends on the ways in which the corporation fulfills its holistic vision and manifests greatness in pursuing the vision. The criteria for friendliness will not be narrow, but they will have clear boundaries and be strictly adhered to.

My vision is that in the future, doing business will not be seen as distinct from or independent of doing good, but as a manifestation of doing good. In pursuing this vision, I believe I exhibit the zeitgeist, while doing my part to shape it.

Individual Profile: Hana Yang

Pursuing this holistic commandment at the organizational level is not the only way to effect change. One of my Kauffman Fellows classmates, Hana Yang, follows similar beliefs at a more personal level, supporting the greater involvement of women as investors and entrepreneurs in particular.

Hana and I met in June 2015 at the orientation module for Kauffman Fellows Class 20, and quickly discovered that we shared the not-so-hidden agenda of updating the first commandment of capitalism. Hana's story was recently profiled in *Impact With Wings* (Green Fire Press, 2015), along with those of five other prominent and successful women in venture capital. When reading Hana's chapter, I saw from the very first page that she not only sees the true purpose of the corporation, as Smith himself envisioned it, but also that she has internalized these principles.

A true entrepreneur, Hana forged an outrageously brave path forward: at the age of fifteen she left her Latin American hometown, alone, to try her luck in the United States. Thanks to her perseverance and passion, she became a first-tier investor in Silicon Valley, where she meets professional goals while fulfilling her inner call to broaden opportunities for others, in particular women and Latino/a Americans who may be navigating the challenges she herself faced.

Hana believes that crowdfunding is one of the more useful tools at her disposal to pursue her vision, which includes expanding the pool of stakeholders and making investing accessible to a larger population:

> I have become passionate about fund-raising, and in particular, crowdfunding, not only because it plays such a huge role in the ability of an organization to carry out its mission—through storytelling and the wide reach of the fundraisers' networks—but also because it encourages the marginalized to realize their dreams while democratizing funding and giving everyone an opportunity to tell their story. The playing field becomes truly leveled when anyone, regardless of age, race, gender, socioeconomic status, or religion, can provide as well as receive support.[6]

Her very astute analysis of the sector in *Impact with Wings* leads the reader step-by-step to understanding the revolutionary potential of crowdfunding, and I am impressed by her intuitive understanding that crowdfunding is a means of subverting the first commandment of capitalism.

Crowdfunding could become a paradigmatic example of putting the holistic commandment of capitalism into practice, which in turn could lead to a revolutionary shift in the investment world, from a VC-led aristocracy to a democracy. Crowdfunding makes the investment world accessible to millions who currently have minimal access, and the potential for profit can energize economic growth and the creation (it is to be hoped) of more friendly corporations.

Redefining Success: Your Role in the Revolution

If someone becomes really rich from implementing this new holistic commandment of capitalism, then that's great—it will prove that friendly corporations can be efficient. But as I indicated above, there are more benefits to be had. Building corporations so that the holistic commandment is part of their DNA puts them, I believe, in the best position to make LPs happy—happier, in fact, than they would be in any other position.

In other words, treating the corporation as a unified holistic body (as the etymological origin of the word indicates) is not a moral decision, but a rational one—the right decision to be made by a professional CEO. An argument of this kind deserves a different article, but one thing is for certain: in order for that magic to happen, the world needs a critical mass of friendly corporations. Only then can investors and business leaders open a space where morality and rationality merge together in the same practice.

In order to revise our foundational understanding of corporate success, we must educate professional investors to grow healthy, conscious corporations that bring value to all their stakeholders, solve world problems and inequalities, bring about prosperity, and narrow the gaps between philanthropy and doing

6 Hana Yang, "Leveling the Playing Field: Crowdfunding as a Stepping Stone to Angel Investing," in *Impact with Wings: Stories to Inspire and Mobilize Women Angel Investors and Entrepreneurs*, Kindle ed., by Suzanne Andrews et al., (Housatonic, MA: Green Fire Press, 2016), "How I Arrived Here," para. 11.

business. This is our most important task as Fellows, Hana and I believe. But we cannot do it alone, and that's where you come in.

To help speed along this work, I invite Fellows and Mentors from all classes to send me a description of your own work replacing the first commandment of capitalism with a holistic commandment that aims to increase both profits and the welfare of the community at large. Kauffman Fellows Press has offered to include an update in each volume of this journal, so we can share our efforts across the Society and with the broader investment community.

I look forward to hearing your stories.

Yoel Cheshin

Yoel is Founder and Chairman of 2B Group, a family office investment fund that consists of 2B Angels (a high-tech fund) and 2B Community (an impact investment fund), among others. He is also an LP in the Explore. Dream.Discover incubator, sponsored by Israel's Office of the Chief Scientist. Explore invests in seed-stage startups, matching government grants with private venture funding. Recently, he became an LP in Takwin Labs Incubator, focused on seed-stage startups led by Arab entrepreneurs targeting MENA markets. Yoel is an active member in the Israeli venture capital and entrepreneur community, and a frequent guest speaker at conferences and meet-ups.

Yoel served in a Special Forces unit in the Israel Defense Forces. He holds an LLB, *summa cum laude*, from The Hebrew University in Jerusalem, and was a research associate and lecturer at Tel Aviv University and The Hebrew University. He lives in Tel Aviv with his wife, daughter, and son. Kauffman Fellow Class 20.

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"All of the money in the world

cannot solve problems unless we work together.

And, if we work together, there is no problem

in the world that can stop us."

–Ewing Marion Kauffman

Midcontinent Venture Capital—Growing in Leaps and Bounds

Aziz Gilani, Class 14
Lauren-Kristine Pryzant

In my original *KFR* article in 2012,[1] I argued that venture capital in the midcontinental United States was poised for growth—a prediction that has been well supported over the past four years[2] (figure 1). Not only have Midcontinent pioneers Texas, Illinois, and Colorado enjoyed sustained growth in their innovation ecosystems, but two new states are quickly ascending the ranks. Ohio and Michigan—regions with a rust-belt heritage—have rallied to a refreshing start.

Nationwide, growth in angel and VC activity has been triggered by a variety of factors, including an increase in seed accelerators and a renaissance of angel investment activity.[3] Both seed accelerators and angel investors offer support at the earliest stages of the startup lifecycle and provide entrepreneurs with a catalyst (funding, knowledge, community, or a combination of all three) to overcome the initial challenges of starting a company. Thanks to co-working spaces and cloud computing resources, there is also a lower cost basis for startups.

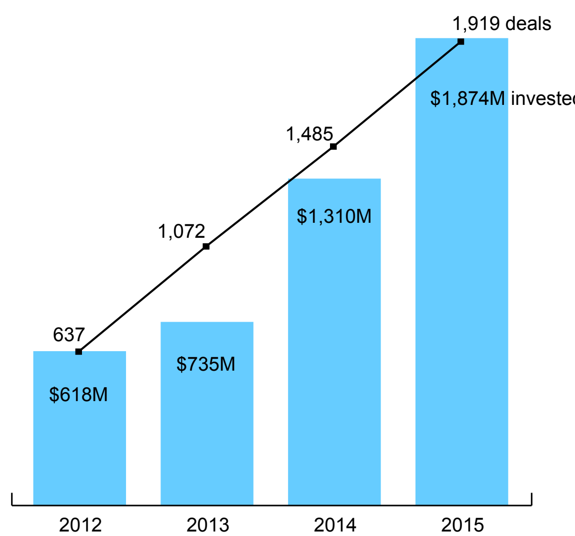

Figure 1: Deals and Capital Invested for Companies Headquartered in the Midcontinent that Received Pre/Accelerator/Incubator or Angel Funding, 2012–2015. Author's figure; Pitchbook data.

1 Aziz Gilani, "Successful Venture Capital…in the Midcontinent," *Kauffman Fellows Report* (Spring/Summer 2012), http://www.kauffmanfellows.org/journal_posts/successful-venture-capital-in-the-midcontinent/.

2 PwC/NVCA MoneyTree™ Report, Data: Thomson Reuters, https://www.pwcmoneytree.com/HistoricTrends/CustomQueryHistoricTrend; Jeffrey Sohl, *The Angel Investor Market in 2012: A Moderating Recovery Continues* (Center for Venture Research, 25 April 2013), https://paulcollege.unh.edu/sites/paulcollege.unh.edu/files/2012_analysis_report.pdf; and *The Angel Investor Market in 2015: A Buyers' Market* (Center for Venture Research, 25 May 2015), https://paulcollege.unh.edu/sites/paulcollege.unh.edu/files/webform/Full%20Year%202015%20Analysis%20Report.pdf.

3 According to Ian Hathaway at the Brookings Institute, the number of accelerators in the United States increased by about 50% per year between 2008 and 2014. See "Accelerating Growth: Startup Accelerator Programs in the United States," *Brookings*, 17 February 2016, "Startup Accelerators in the United States," para. 3, https://www.brookings.edu/research/accelerating-growth-startup-accelerator-programs-in-the-united-states/.

With more capital funding cheaper startups, an explosion of growth was inevitable.

Although the Midcontinent has benefited from this growth, it has been unevenly distributed, favoring localities that have embraced their startup communities and assisted them with seed accelerators, co-working spaces, and thriving angel networks. In 2012 I reported that Texas, Colorado, and Illinois led the Midcontinent in terms of entrepreneurial activity. In the last four years these regional leaders were joined by Ohio and Michigan to take an ever-increasing share of regional investment dollars and funded startups. In 2012 these five states accounted for 47% of the angel and pre/accelerator/incubator dollars invested into startups in the Midcontinent region, but this percentage increased to 62% by the end of 2015.[4]

All five of these states are growing at disproportionate rates thanks to engaged communities. Brad Feld thoroughly documented the "Boulder Thesis" in his book *Startup Communities*.[5] The Boulder Thesis is applicable to other cities across the Midcontinent where we have seen community participants band together to support entrepreneurs. Chicago and Austin have both grown their entrepreneurial communities substantially; Austin has benefited by the angel and co-working behemoth Capital Factory,[6] and Chicago has been aided by its showcase center of entrepreneurial activity at 1871.[7]

Whereas the previous three examples show successful communities becoming more successful, Ohio and Michigan's ecosystems have really come out of nowhere during this period (figure 2).

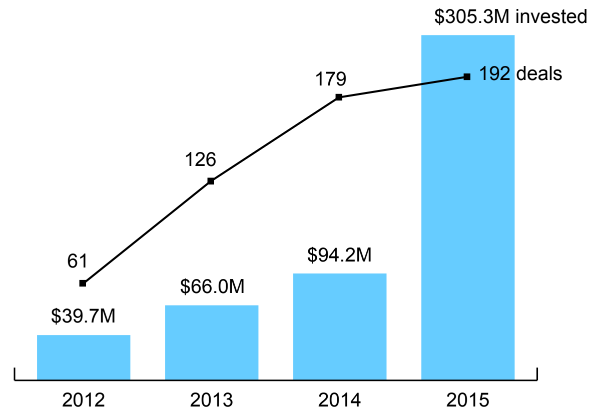

Figure 2: Deals and Capital Invested for Companies Headquartered in Michigan and Ohio that Received Pre/Accelerator/Incubator or Angel Funding, 2012–2015. Author's figure; Pitchbook data.

In Cincinnati a thriving community featuring The Brandery,[8] Cintrifuse,[9] CincyTech,[10] and the Queen City Angels[11] has aligned to promote a startup culture producing tangible results. A prominent example is the $410 million acquisition of Assurex Health by Myriad Genetics earlier this summer. The Cincinnati community supported Assurex Health from its inception; the company received initial funding from Queen City Angels and additional seed capital from local seed fund CincyTech.[12] In Michigan a similar constellation has formed with Techstars Mobility[13] and the University of Michigan's Center for Entrepreneurship,[14] girded by the state's commitment to venture investment through its Renaissance Venture Capital Fund.[15]

As investors in the Midcontinent, we are deeply supportive of these growing entrepreneurial ecosystems. We've seen our portfolio mimic the development of our startup

[4] Pitchbook data on companies headquartered within the Midcontinent that received pre/accelerator/incubator or angel funding (number of deals and total capital invested), 2012–2015.

[5] Brad Feld, *Startup Communities: Building an Entrepreneurial Ecosystem in Your City* (Hoboken: Wiley, 2012).

[6] https://capitalfactory.com/.

[7] http://www.1871.com/.

[8] http://brandery.org/.

[9] http://www.cintrifuse.com/.

[10] http://cincytechusa.com/.

[11] http://www.qca.com/.

[12] Anne Saker, "The Story Behind One of Cincy's Biggest Startup Exits," *Cincinnati.com*, 8 August 2016, http://www.cincinnati.com/story/money/2016/08/05/how-assurex-healths-deal-came/88074438/.

[13] http://www.techstars.com/programs/mobility-program/.

[14] http://cfe.umich.edu/.

[15] The Renaissance Venture Capital Fund (http://www.renvcf.com/) was started by Business Leaders for Michigan (https://businessleadersformichigan.com/) in 2008 to attract additional venture capital funding to Michigan and create jobs in the state.

communities, and witnessed firsthand the impact a startup community can have. We are encouraged by the communities in Colorado, Illinois, Michigan, Ohio, and Texas leading the way in the Midcontinent, and we hope other cities take note.

As Midcontinent economies seek further diversification and growth, robust startup activity becomes even more important. Looking to the future, we predict additional growth spurts in these regional leader states as startups successfully exit. Success breeds success, and these exits would mean capital returned and reinvested into the entrepreneurial community. In addition, exits create a new cohort of angels and mentors to further accelerate the next generation of Midcontinent startups. By fully embracing co-working, regional startup accelerators, and angel networks, the Midcontinent can continue to build and foster an environment where entrepreneurs thrive.

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High-Tech Exceptionalism: From the Front Lines

Lakshmikanth Ananth

Class 12

Prologue

In 1874, Studebaker was the largest vehicle house in the world, producing carriages for every customer segment from farmers to the White House—and in 1913, its automobile production was second only to Ford. Studebaker was the only carriage maker to transition from carriages to automobiles.[1] This nugget of business history illustrates two intriguing facets of high tech important to developing a successful strategy.

First, while the phrase "high-tech sector" typically refers to a collection of businesses driving innovation and growth, what constitutes "high tech" is always evolving. A century ago it was industrial, automotive, aviation, and electrical technology. Today, high tech employs sand, glass, data, and algorithms to create human experiences through computer technology.

Second, the successful high-tech businesses of one era rarely survive into the next. With few exceptions like Studebaker in the carriage-to-automotive transition and IBM in the mainframe-to-client-server transition, the history of high tech is littered with companies that failed to survive the end of an era. So, how can a company do what Studebaker did and survive those tectonic shifts in technology?

In this article, I propose a framework for building and sustaining a differentiated business strategy that not only withstands but thrives on technological shifts. First, I review the effects of past shifts. Then, I lay out a step-by-step process for engaging the details of this strategy and suggest a portfolio structure that sustains it over the long term, using illustrations from real-world implementations. I offer a perspective from the front lines, based on 20 years of experience as an engineer, investor, and strategist at the epicenter of technology—Silicon Valley. I've been privileged to work with the best minds in established large tech firms, startups that became the Next Big Thing, and top-tier venture capital firms.

Before getting into the nuts and bolts, however, a brief description of high-tech exceptionalism—a concept at the base of the strategy—is in order.

High-Tech Exceptionalism

High-tech companies that have been strategically successful over long periods of time have mixed track records, with tech stars rising and falling faster than in other industries. When tectonic

[1] Anecdote taken from Randall Stross's article, "Failing Like a Buggy Whip Maker? Better Check Your Simile," *New York Times*, 10 January 2010, http://www.nytimes.com/2010/01/10/business/10digi.html?_r=0.

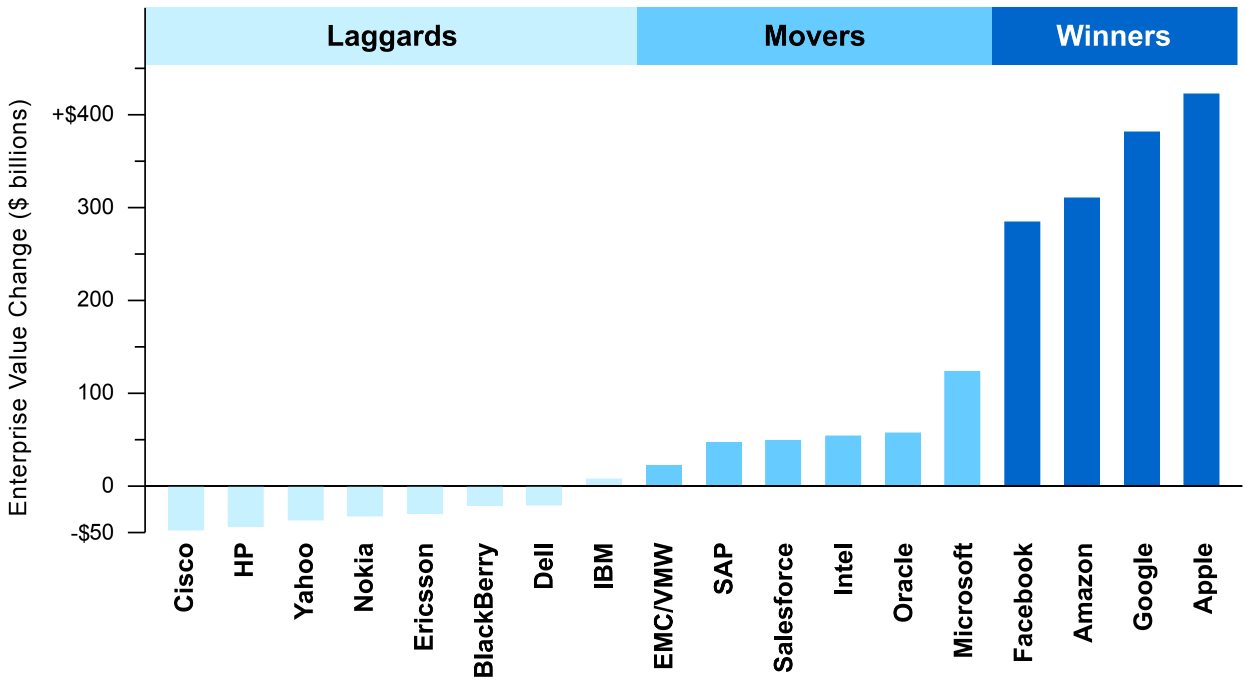


Figure 1. Impact of Cloud, Mobile, and Social on Enterprise Values of Large Cap High-Tech Companies, 2007–2015. Author's figure; data from CapitalIQ, 451 Research.

shifts happen, most of the outfits in the high-tech old guard do not survive. When the iPhone and Android were introduced, what became of BlackBerry?[2] Whither AOL, once broadband Internet became ubiquitous?

I argue for what I term *high-tech exceptionalism*.[3] High tech is inherently unique because innovations and markets continually and rapidly intersect to create discontinuities that don't fit well within traditional strategic-analysis models.

If high-tech exceptionalism exists, the question then becomes, "If high tech is different, what framework can we use to conceive, build, and execute a sustainable strategy?" So, with that question in mind, it's worth looking back at the tectonic shifts over the last decade and how these trends have changed fortunes.

Value Creation in High-Tech Shifts

In hindsight, 2007 was a seminal year. Amazon Web Services (AWS) launched S3 Storage and EC2 Compute at the end of 2006.[4] The iPhone was launched in June 2007. In October 2007, Mary Meeker noted in her annual Internet Trends report that 6 of the top 10 Internet sites were social and user-generated, surging ahead of portals like AOL and Go, and e-commerce sites like eBay and Amazon.[5] Cloud, Mobile, and Social had arrived. Figure 1 shows how market value has been added or removed for large-cap high-

[2] In a private meeting with Silicon Valley venture capitalists in October 2008 at the BlackBerry Developer Conference, Mike Lazaridis contended that they had effectively countered the rise of the iPhone and Android by launching the Blackberry Application Storefront. I remember asking him whether BlackBerry's enterprise productivity-oriented software platform and devices could win against the lifestyle- and consumer choice-driven iPhones, and his answer was, "iPhones will never be successful in the enterprise market. We know this market and what our customers want."

[3] "High tech exceptionalism" is my lighthearted play on "American exceptionalism," a term that refers to the special character of the United States as a uniquely free nation based on democratic ideals and personal liberty.

[4] Amazon Web Services (AWS) delivered the first storage service (Amazon S3) in the spring of 2006 and compute service (Amazon EC2) in the fall of that year. When AWS launched, observers initially thought that it was Amazon's effort to sell excess capacity not used by the retail website. However, AWS's CTO has since publicly dispelled the notion and said that AWS was intended to be a standalone business from the beginning. See Werner Vogel's Quora response to "How and Why Did Amazon Get Into the Cloud Computing Business?," *Quora.com*, 13 January 2011, https://www.quora.com/How-and-why-did-Amazon-get-into-the-cloud-computing-business.

[5] Mary Meeker, "Technology/Internet Trends," slides published 1 October 2007, http://www.kpcb.com/blog/october-2007-technology-internet-trends.

tech companies as these shifts have played out since 2007.

The winners—Amazon, Apple, Facebook, and Google—were at the forefront of the new trends and have added over $1.5 trillion of enterprise value since 2007. They executed on strategies that capitalized on the transition, and their success has been well chronicled.

It may be more instructive to study the "movers" and "laggards." Both groups were incumbents in high tech, with $1.2 trillion of combined enterprise value in 2007. Their strategies in response to the technological shifts, and how they executed behind their strategies, determined their different trajectories.

Microsoft is a good example of a mover. Their strategy has been to realign their enterprise product portfolio—operating system, system software, and office applications—to the Cloud. While their Mobile platform strategy has not been successful, their ability to execute as a fast follower in Cloud added $125 billion in enterprise value to their $263 billion starting position in 2007.

In contrast, Yahoo has gone through a succession of leaders and changes, without a clear strategy to address the fundamental shift in consumer time spent online from portals to social media and mobile. Consequently, their core business has lost over $30 billion in value. In 2000, Yahoo was worth $125 billion.[6] In 2008, it rejected a $44 billion acquisition offer from Microsoft.[7] Recently, it sold its core business to Verizon for $4.83 billion.[8]

A sound, sustainable navigation strategy shifts the outcome—and for high-tech incumbents in particular, their strategy determines whether they will be laggards, movers, or winners.

6 Emily Jane Fox, "Verizon Buys Yahoo's Core Business for $4.8 Billion," *Vanity Fair*, 24 July 2016, para. 2, http://www.vanityfair.com/news/2016/07/verizon-yahoo-sale.

7 Associated Press, "Yahoo Board to Reject Microsoft Bid as Too Low," 9 February 2008, http://www.nbcnews.com/id/23084127/ns/business-us_business/t/yahoo-board-reject-microsoft-bid-too-low/#.V-WgS7Wi4Qg.

8 Fox, "Verizon Buys Yahoo's Core Business for $4.8 Billion," para. 1.

Framework for Building and Living a High-Tech Strategy

I propose a practitioner's framework for building a high-tech strategy—a set of "Lego blocks" that can be selected and put together to suit the particular circumstances of *any* high-tech business. This approach addresses issues from the highest level of constructing big-picture context to the on-the-ground details of execution decisions such as selecting an organizational model (see figure 2). I have used and refined each of these elements on the front lines, so wherever possible, I share illustrative examples from real-life examples to make the framework and its components tangible.

There are four components to this framework: two concern constructing the big picture of industry shifts, from technology to markets, and the interplay of the two. The third component helps bridge a high-tech business's current state and its desired future state. Finally, the last component develops best practices for building toward outcomes. Each of these main components has further subcomponents and required inputs, which I describe and illustrate in this section.

Component 1: Assess Technology Shifts

The front end of constructing a big-picture context is a deep understanding of the underlying technology shifts that drive the industry. Every high-tech company should have a high-powered team constantly assessing technology shifts to foster this understanding, drawing from experts and practitioners of the specific technology's specialties, both inside and outside the company.

Underlying Moore's Law, the most talked-about technology curve, are three facets of a

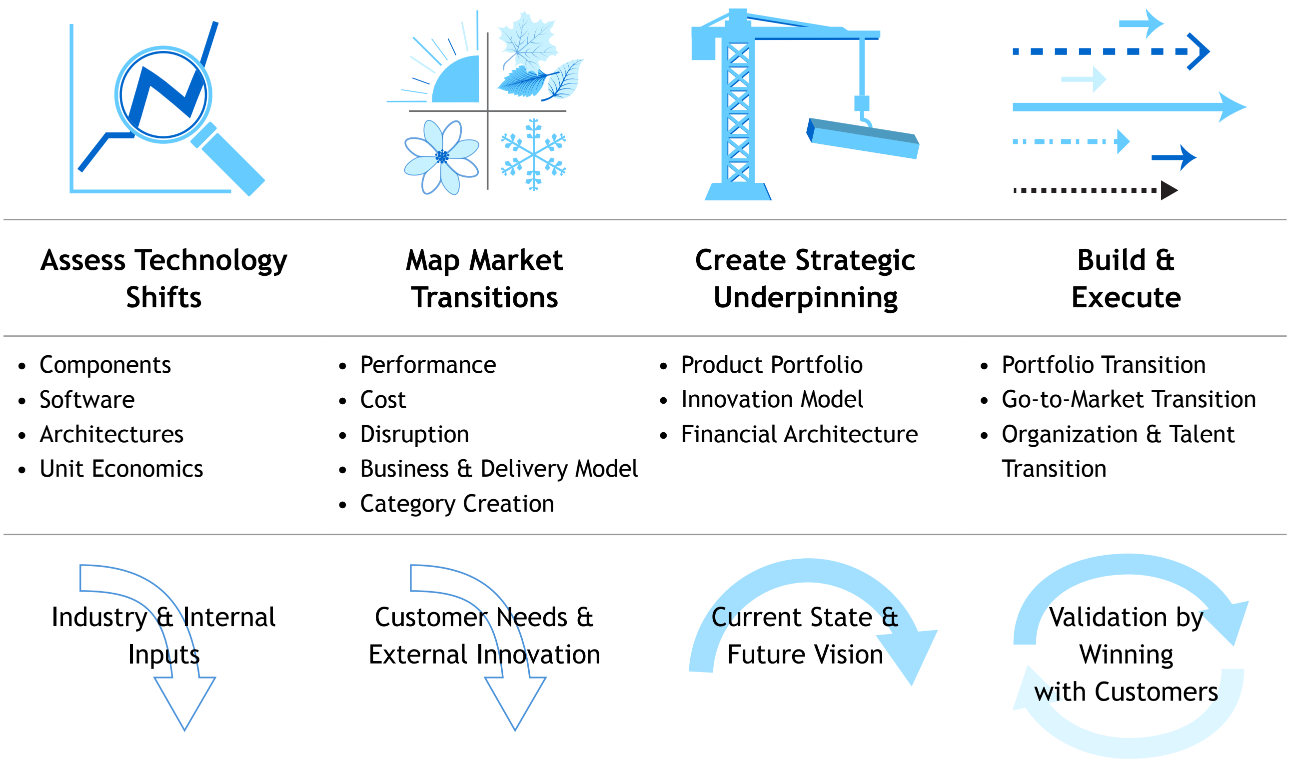


Figure 2. Framework for High-Tech Strategy. Author's figure.

technology shift: hardware components (e.g., optics, materials), software algorithms and models (e.g., data analysis, machine learning), and the architectures of specific business and enterprise solutions (e.g., iTunes and iPod, social media apps, SaaS). It's also important to understand technologies through unit economics.

At specific points, the vectors of these four curves intersect in interesting ways that allow step function innovations. For instance, when advances in processing power, battery technology, mobile data, and touch screens intersected in 2007, the smartphone was born.

Components

Advances in the physics of semiconductors, optics, radio, and materials have long been the bedrock of high tech. While each high-tech business needs to decide which of the subset of component shifts it is susceptible to, it may be useful to review an example to get a sense of what these shifts look like.

In 2005, Moore's Law took a deviation from the path that it had been traveling for over 35 years. Previously, improved processor performance was mainly due to frequency scaling, but when the core speed reached ~3.8GHz, frequency scaling became cost prohibitive due to the physics involved. Thus, processors began scaling by introducing more cores into each processor. This flattening out of speed and proliferation of cores had a profound impact over the next decade. Enterprises had to slice up each processor to utilize its full capabilities, which led to the rise of virtualization and VMWare. Large datacenter operators realized they needed to "scale-out" their capacity to serve more users and store more data, commoditizing each unit of capacity and supporting the rise of Cloud computing.

Software

Software builds on the relentless progress of the underlying components. At each new inflection point of hardware, two things become noticeable: first, the velocity of software development accelerates as software is further decoupled from hardware; second, new possibilities open up for breakthrough algorithm development. These two forces combine to create new software platforms.

In one such shift currently underway, the processing power and data capacity of hardware have enabled machine learning and artificial intelligence algorithms to be developed and run at scale. Being able to grow and change when exposed to new data enables computers to take on imprecise pattern-matching tasks that could previously only be done by humans.

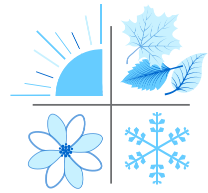
Architectures

In high tech, *architecture* is the concept of how the pieces of technology are assembled to solve a problem—at certain points, new arrangements of the pieces become viable and deliver a solution. For instance, the transition from mainframe to client server was made possible by the increasing computing power and software development potential in client computers. Likewise, the architecture for local logistics is now being redefined: shared vehicles and labor, smartphone apps, ubiquitous high-speed data, and software in the Cloud are paving the way for countless ride-sharing, delivery, and sharing-economy startups.

Unit Economics

The interplay of components, software, and architecture drives unit economics. In turn, the unit economics of technology enable new entrants to serve customers differently than incumbents, or allow them to create completely new categories, thus driving market transitions.

Case in point: when frequency scaling in processors started flattening out in 2005, it became significantly more economical to run large workloads in a collection of commodity machines than in one large machine. Without Moore's Law driving frequency scaling, Hewlett Packard ProLiant x86 servers were 10-20 times more cost efficient than Hewlett Packard Superdome servers on a per-transaction basis for a variety of workloads.[9] In simple terms, the unit economics of Cloud computing were an order of magnitude better, and drove the tectonic shift to Cloud.



Component 2: Map Market Transitions

When technology shifts meet customer needs at the right moment, buying and spending patterns change. In high tech, these periods of movement—when segments of the market change from one state to another—are called *market transitions*.

When market transitions happen, the new solution is initially attractive for a small portion of the total market; as the new solution is improved upon, it becomes more desirable to greater market segments. After the 2007 technology shift, for example, consumers switched from regular mobile phones to smartphones, at first in a trickle and then in a landslide.

Market transitions are critical in high tech, because market shares can move very quickly from incumbents to new entrants. The venture-backed entrepreneurial ecosystem has become hugely successful at identifying market transitions and building companies capitalizing on those transitions. For established companies, this same ecosystem can serve as a "canary in the coal mine" indicator of market transitions—and offer potential investment, partnership, and acquisition targets to address the opportunities created by market transitions.

Anticipating, discerning, and acting boldly on market transitions are the most important strategic imperatives for a high-tech business and its leaders. There are five canonical models for market transitions: performance, cost, disruption, and business and

9 Google researchers Luiz André Barroso and Urs Hölzle's ground-breaking 2009 paper, "The Datacenter as a Computer," sparked the mainstream understanding of Cloud computing. See Barroso and Hölzle, *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines* (Williston, VT: Morgan & Claypool Publishers, 2009).

delivery models focus on reinventing existing markets, while the category-creation model is about opening enormous new markets made possible by technology.

Performance

Offering a new product that is faster and better, for a premium or for a comparable price to an incumbent, is a well-established mode of high-tech competition. At certain points in technology curves and market adoption, performance provides enough substantial benefits for a customer segment that it overcomes switching costs and enables a new entrant to gain market share. Through performance shifts, Juniper took share from Cisco in telecom routing and Arista won with financial services customers in datacenter switching.

Cost

When a new entrant to a customer segment has a sustainably lower cost structure or incumbents are highly inefficient, there is an opportunity to drive market transition using cost as a differentiator. Typically, such entrants first win in an emerging geography or with a segment of underserved customers.

For example, Indian IT service providers had the advantage of an abundant, skilled, lower-cost labor pool. They originated the onshore-offshore paradigm of IT service delivery, and rode the cost model of market transition to win in the IT services market.

Disruption

"Disruptive" is popularly used to mean all kinds of technology innovation, market transitions, and, in the absence of substance, to hype something new. I prefer Clayton Christensen's original definition: a *disruption* happens when a new technology, which may be inferior to the market segment's best-in-class technology, is good enough for segments of the market and is adopted because it is cheaper, more open, or more accessible.[10]

Incumbents have a hard time reacting to disruption because of the limitations imposed by serving their existing customers, business model, and cost structures. Open source software is a classic example. When Linux first appeared in the market, incumbent Unix vendors dismissed it as a toy for hobbyists.[11] Early Linux users were hackers and software enthusiasts, many of whom worked in enterprise IT departments. Over time, contributions from the open source community hardened Linux to a point where it became the de facto operating system for Internet applications and found its way to other segments, such as devices, embedded systems, and mainstream enterprise.

Business and Delivery Model

In the business and delivery model, market shifts become possible when technology enables a different paradigm of reaching customers, a different form factor to deliver a product or service, or both. For instance, the founders of Meraki (a company I worked with very closely) identified an opportunity to sell WiFi networking into the underserved mid-market segment, and they innovated on both the business and delivery fronts. On the delivery side, they created a solution that took the control of WiFi access points from on-premise to the Cloud. On the business end, they introduced a subscription service that was more easily consumed by the mid-market. Meraki beat incumbent Cisco with this model, and was eventually acquired by Cisco for $1.2 billion.[12]

Category Creation

Category creation is often promised and seldom delivered. New categories are created when the right combination of technology innovation, unmet market need,

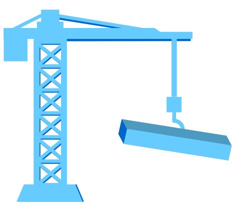
10 See Clayton Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Boston: Harvard Business School Press, 1997).

11 In September 2003, Scott McNealy, then CEO of Sun Microsystems, said that Linux was for "hobbyists," not enterprise IT shops, and that Linux's component approach to building a data center adds complexity and inefficiencies that run contrary to most business models. See Jan Stafford, "Sun CEO: Linux is for 'Hobbyists,' not Enterprise," *TechTarget*, 22 September 2003, http://searchenterpriselinux.techtarget.com/news/928789/Sun-CEO-Linux-is-for-hobbyists-not-enterprise. In March 2007, McNealy showed up in a Penguin outfit to Sun's annual meeting, indicating that Sun was throwing its lot in with Linux.

12 Josh Constine, "Cisco Acquires Enterprise Wi-Fi Startup Meraki for $1.2 Billion in Cash," *TechCrunch*, 18 November 2012, https://techcrunch.com/2012/11/18/cisco-acquires-enterprise-wi-fi-startup-meraki-for-1-2-billion-in-cash/.

amazing team, and picture-perfect execution come together—it requires a perfect storm. Bill Gurley, a top venture investor with Benchmark Capital, said that the defining attitude for category creation is understanding "what could go right" instead of obsessing over what could go wrong.[13]

We recognize category creation as it picks up steam, and often in hindsight. Think Google in search, Facebook in social networking, or eBay and Alibaba in marketplaces. Although there isn't a single recipe for category creation, my observation is that the ingredients necessary to create new categories are increasingly scarce in high-tech incumbents.



Component 3: Create Strategic Underpinning

The third component in the framework lays out how a high-tech business can pivot from its current state to capitalize on the opportunities presented in market transitions—while guarding against the gravitational pull of businesses that may be on the wrong side of shifts.

To drive a high-tech business forward amid incessant technological and market changes requires a robust, flexible strategic underpinning that guides and informs decisions. In the words of the wise Yogi Berra, "You've got to be very careful if you don't know where you are going, because you might not get there."[14]

The task here is to create a compelling vision of what the business might look like 3, 5, and 7 years in the future, drawing on the map of market transitions and technology curves created while working through the framework's first two components. Two critical preparatory steps are necessary for success. First, perform a data-driven baseline analysis and inventory of the current state of the business, including a product portfolio, go-to-market, financials, and operational metrics.

Second, construct the vision for the future of the business without constraint by the current state of the business—in other words, work backward from the desired future state. Too often, I have seen high-tech strategy discussions stall because forecasting from the current state leads to stakeholders seeing too many institutional, technological, and talent barriers. The focus should be on its future state, informed by market transitions and the desired winning position.

Once there is a vision based on the current and future states of the business, then lay the strategic underpinning by creating a product portfolio plan and innovation model, and setting up the financial architecture. Together, these three pillars provide a flexible platform on which to build and guideposts for executing toward the vision.

The strategic underpinning should be organized in time horizons to map the journey from current state to future state. To do this, let's meet our friends Sam (**s**teady **a**nd **m**aturing), Tom (**t**op **o**f **m**ind), and Bob (**b**unch **o**f **b**ets)—I have found these shorthand names valuable when guiding strategy discussions and decision-making.

Figure 3 shows an illustrative strategic platform with guideposts for product, innovation, and financial metrics organized by the Sam, Tom, and Bob constructs. "Sam" businesses are on the wrong side of market transitions. They tend to be large, profitable, and the centers of gravity of any high-tech company. "Tom" businesses are today's rock stars. They are at scale, growing, and straddling market transitions. A "Bob" is just one of many potential stars of the future; they're fueled by hope and, many times, scarce investment capacity.

[13] On March 1, 2015, Bill Gurley (@bgurley) tweeted, "My partner Bruce Dunlevie once asked 'what could go right?' This is the defining attitude needed in VC investing. When they work.... Wow." This quote continues to be used to inspire entrepreneurs to think bold and big to create new categories.

[14] See Baseball Almanac, Inc., "Yogi Berra Quotes," 2016, quote 30, http://www.baseball-almanac.com/quotes/quoberra.shtml.

	SAM *Steady and Mature*	**TOM** *Top of Mind*	**BOB** *Bunch of Bets*
Characteristics			
Market Size / Growth	$5B+ / <5% CAGR	$1-5B / 5-25% CAGR	<$1B / 25%+ CAGR
Current Position	Currently #1 or #2	Winning share, transition	Evaluating entry, hype
Customer Spend View	Refresh-driven	Priority, active buying today	Proof-of-concept, 2-5 years out
Product Portfolio	• Rationalize, simplify products • Rely on partnerships, alliances for sales • Orient to channels, leveraged distribution	• Build features to fill segments • Create partnerships for platform stickiness • Place value on selling, feedback from market	• Focus on transitions • Prepare to pivot, exit, accelerate • Engage in missionary selling
Innovation Model	• Target market consolidation • Redeploy best talent • Exit subscale businesses	• Exercise multiple build, buy, partner options • Acquire category leaders • Invest to build ecosystem	• Invest for early market insights • Emphasize tech, early product acquisitions • Prioritize talent acquisition and retention
Financial Architecture	• Harvest operating margin • Build balance sheet, cash flows • Maintain lean operations	• Invest opex to win • Trade off margin for market share • Use balance sheet aggressively	• Focus on opex investments • Spread balance sheet bets • Support non-standard operations

Figure 3. Illustrative Strategic Underpinning. Author's figure.

All of the current and desired future state businesses should be mapped and organized into Sams, Toms, and Bobs. Once that's done, focus on building the platform for decision-making in each time horizon across three subcomponents of creating strategic underpinning: product portfolio, innovation model, and financial architecture.

Product Portfolio

Products are the lifeblood of any high-tech company. Product portfolio discipline across time horizons is essential to navigating and winning market transitions, and there are several imperatives for managing the product portfolio.

Products that fall in the "Sam" bucket are the stars of yesteryear. Mainframe for IBM, relational database for Oracle, switching and routing for Cisco, and Windows and Office for Microsoft. Through their growth phases, these products tend to generate sprawl in product versions, pricing, and go-to-market investments. As they mature, the focus should be on maintaining and incrementally growing share, reducing product complexity, and switching to more low-touch selling through channels, partners, and eCommerce.

"Toms" should be the highest priority in the product portfolio. Aggressive product roadmaps that drive adoption in segments, verticals, and geographies should be the center of product execution. For example, Amazon Web Services is winning the market transition to public Cloud because they have been relentless in delivering customer-desired

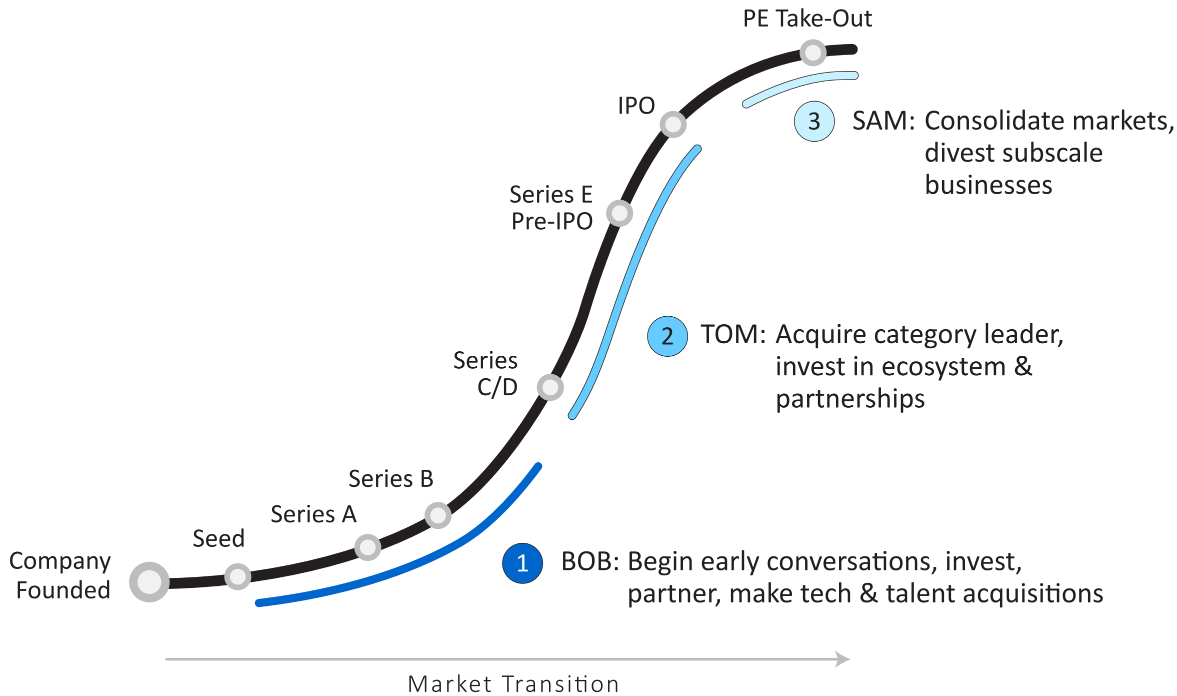


Figure 4. Pathfinder Model. Author's figure.

features[15] while driving pricing down[16] to spur market adoption.

"Bobs" are in training to be the Toms of the future. The product focus here should be on building small teams, maintaining speed, achieving product-market fit, and engaging in missionary, high-touch selling to early adopter customers. A portfolio of Bobs should be targeted at market transitions, and it should have a broader aim than just acquiring wins to build options for the future. Product leadership should constantly evaluate market, customer, and competitor signals to decide whether to accelerate, refocus, or exit specific Bob initiatives. Remember, Android was once a Bob at Google.[17]

Innovation Model

High-tech companies have to systematically plan for innovation across time horizons. By virtue, talent in engineering, research, and product development, most high-tech businesses can incrementally improve existing products and create very interesting point technology. Where these companies fall short is in setting up an innovation model that brings together the best of internal and external innovations, matches them to market transitions at the right time, and thus builds valuable businesses.

I use the Hewlett Packard Pathfinder approach here to walk through the innovation model. Pathfinder is a venture investments, partnerships, and strategy organization that I head at Hewlett Packard Enterprise. Figure 4 shows the role Pathfinder plays in market transition time horizons (Bob, Tom, and Sam), mapped to the evolution stages of innovative startups.

15 In April 2016, Amazon CEO Jeff Bezos wrote that AWS's constantly expanding roster of offerings was a key driver of the business unit's growth: "AWS is made up of many small teams with single-threaded owners, enabling rapid innovation. The team rolls out new functionality almost daily across 70 services, and that new functionality just 'shows up' for customers—there's no upgrading." See Gladys Rama, "Amazon CEO: AWS Is a $10 Billion Business," *AWS Insider.net*, 7 April 2016, paras. 6-7, https://awsinsider.net/articles/2016/04/07/aws-10-billion-business.aspx.

16 In January 2016, AWS delivered its 51st price reduction since its founding in 2006. See Joseph Tsidulko, "AWS Delivers More Price Cuts to Ring in 2016," *CRN*, 5 January 2016, http://www.crn.com/news/cloud/300079269/aws-delivers-more-price-cuts-to-ring-in-2016.htm.

17 Google acquired Android for about $50 million in 2005. Andy Rubin, the charismatic founder of Android, had both the vision and execution capacity to take Android from its humble beginning to today, when it powers billions of mobile phones.

In the early stages of a market transition, Pathfinder plots a map of the external innovation ecosystem. Since $50-100 billion in venture capital is deployed worldwide behind innovation and disruption, it is important for every high-tech company to deeply understand this ecosystem, build relationships, and compare internal progress on next-horizon activities to the external market.

As the market transition hits inflection and customer adoption accelerates, Pathfinder provides vital feedback to leadership on the state of play, charting the players and identifying category leaders to acquire. As markets mature, Pathfinder helps pinpoint consolidation opportunities. Through understanding the next wave of market transitions, Pathfinder helps the executive team decide which of the current Sams are subscale and most likely to be disrupted by the next wave. This information drives divestiture timing and decisions, maximizing shareholder value.

Financial Architecture

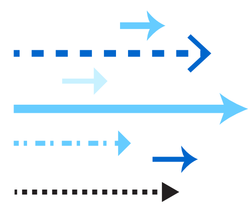
The mainstay of the strategic underpinning is financial discipline in allocating resources to the time horizons. Inertia in a large organization tends to drag resources into the largest businesses (Sams), underfund growth businesses (Toms), and smother next-horizon businesses (Bobs).

Sam businesses should be run at industry-leading operating margins. The goal here is to create opex (operational expenditure) capacity to fuel future growth, as well as balance sheet capacity for acquisitions and cyclical downturns. Usually the only correct acquisition is consolidation, with clear cost take-out plans to create overall market efficiency.

Tom businesses should be funded to grow to full capacity. If the answer to the question "What stops the business from growing faster?" is objectively "more resources" and not "customer demand," then leaders should look at all options to invest further. This investment can include a combination of internally providing more engineering, go-to-market, or operations capacity, and externally acquiring rapidly scaling new entrants.

Finally, Bobs require deft handling. Not every Bob is going to turn into a big business; therefore, resource allocation should be spread across bets, with constant calibration to divert capacity to the most promising Bobs. Well-thought-out tech and talent tuck-ins and small-scale acquisitions can help build the Bob portfolio, but these must be done with a longer time horizon in mind and at the lower end of balance sheet capacity.

Microsoft's ability to harvest resources from Windows and Office (Sams) and direct them to Azure (Bob) is an outstanding example of keeping the eye on winning market transitions while setting up the financial architecture to achieve the strategic imperative of winning in Cloud.



Component 4: Building and Executing

To build and execute for the future, a company requires appropriate leadership, discipline, talent, and ambition. While a framework such as this one cannot solve for these intangible qualities, of course, it is possible to present perspectives on the common issues faced by businesses in this phase and to develop empirical best practices.

The true North Star in this phase is winning with customers. In an ideal state, there is a virtuous loop of creating opportunities across time horizons, setting specific goals for execution, acting toward those goals, measuring feedback from customer success, and calibrating the next set of actions. Below, I share some of the practices that have worked in real life, and lessons learned from executing in the trenches.

Portfolio Transition

Product portfolio transitions happen with a series of measured actions over a market

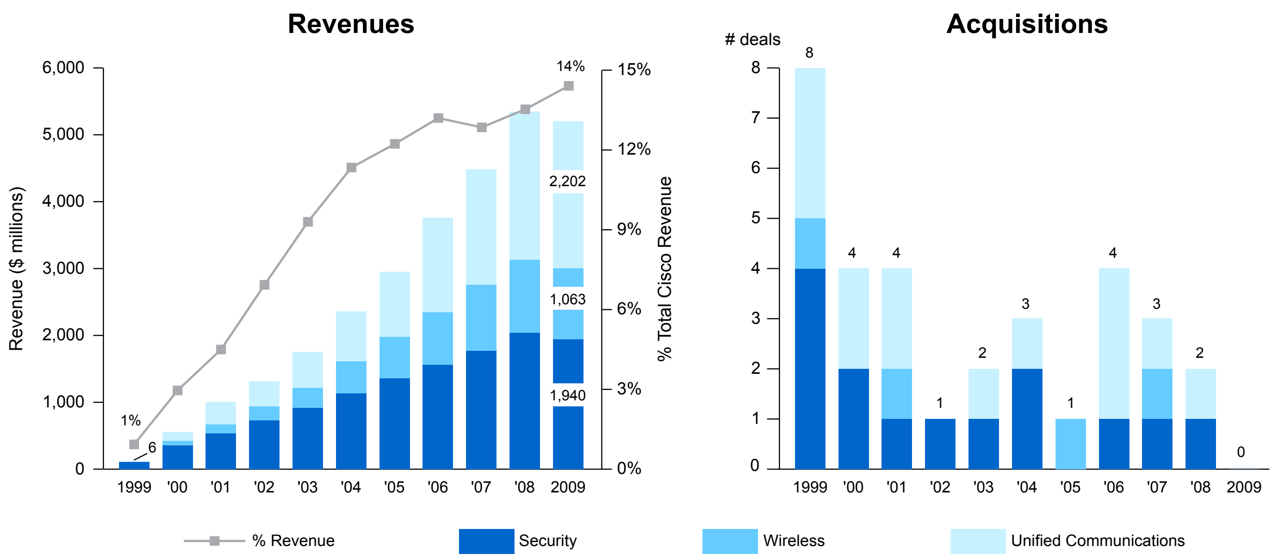


Figure 5. Portfolio Transition Example from Cisco. Author's figure; data from CapitalIQ, 451 Research.

transition cycle. Earlier, I mentioned Cisco's vision to transition up the networking stack with businesses in security, wireless, and unified communications, collectively labeled advanced technologies. How did they execute on the transition? Figure 5 shows how Cisco grew revenue over a decade in advanced technologies, backed by a consistent acquisition cadence.

Over the course of a decade, advanced technologies grew from single-digit millions in revenue to more than $4 billion, accounting for over 14% of Cisco's revenues, with a CAGR of 46% and over 30 acquisitions in these areas. This portfolio shift was aided by financial architecture in these new businesses that supported operating margins far below Cisco's overall average until each one reached a billion dollars in revenue.

I've learned a few lessons from living through portfolio transitions. First, any high-tech business should think about both build and buy options in its plans to maximize the opportunity offered by market transitions and stake out a winning position on the other side. Second, building new businesses will be margin-dilutive initially, so building must be funded by the productivity of the portfolio's Sams. Third, not every step toward the transition will be fruitful, so a vigorous innovation model is needed to persistently generate ideas and options to keep driving forward. Finally, long-term thinking is vital to transitions. When times turn tough, it is easy to kill the fledgling business because it does not have near-term impact, but it would be exactly the wrong thing to do.

Go-to-Market Transition

Go-to-market models in each of the time horizons are distinctly different. Sams require efficient generalist sales and partner-led distribution; on the other end of the spectrum, Bobs require missionary selling until product-market fit is achieved and a repeatable sales playbook is established. It is not uncommon for startup founders to spend more than half their time evangelizing their new offering to customers (see Matt Otterstatter, "Disrupting Healthcare: No Experience Needed"). High-tech sales models have also changed, shifting from high-touch to awareness, trial, and self-service models across both consumer and enterprise high-tech businesses. For instance, many Software as a Service (SaaS) startups use a combination of online marketing, product trial, and inside sales to sell to mid-market and small businesses.

Nevertheless, go-to-market motions have to match customer buying during market transitions. This means creating new pockets that can sustain the new type of selling—from product design, to the type of salespeople, compensation, and back-end systems. Ultimately, getting the go-to-market transition is just as important as the portfolio transition to building and executing, if not more important—go-to-market is customer facing.

Organization & Talent Transition

It is people, with all their quirks, who work in high-tech businesses; it's no surprise then that organizations (a) reinforce certain actions and discourage others, and (b) end up having distinct cultures. When new businesses are being built and when organizations are in transition, incumbents and newcomers collide.

Below is a series of sanitized, anonymized quotes from my conversations on the front lines of these constructions and changes, in large organizations and small startups.

> We contribute over half the profits of this company. Why are we constantly being milked to fund unprofitable new businesses? Let them fend for themselves.

> They just paid a billion dollars to acquire us. The first thing they do is take away the free Coke machines. Seriously.

> My sales team used to be able to see their bonus numbers weekly when I was the CEO. Now, they don't even get targets until half the year has passed. Many of the best have left.

> Our board member was part of a hot startup two decades ago. He has not evolved since then and he can't stop giving us advice based on how he used to do it.

> Let's buy this company now because it will be expensive later. Let's not worry about how it fits our plans. It is hot now and we have to chase it.

The common theme across these conversations (and countless others) is that people are affected by upheavals. High-tech businesses have to work very hard at bringing their finest talent along while refreshing the organization's DNA with the new talent required for a successful transition. Then they must create a desirable and challenging work environment that attracts and retains top-shelf employees, because the talent's easy alternative is to walk next door to the new, hot company.

During a conversation with a famous Silicon Valley CEO about strategy, she stopped me and asked,

> So, you want to build a leading position in this space. Nice charts and plans. Now tell me, of the top 10 people in the space, how many work for your company?

This incredible insight has stayed with me. To build and attain leadership in a high-tech business, one must win the talent war in the new space.

Building a Differentiated Strategy for Your High-Tech Business

High tech is prone to tectonic shifts. Significant value accrues to companies on the right side of these shifts, while those that do not move fast enough don't survive to the next generation. My experience in the front lines of the industry supports my belief in high-tech strategy exceptionalism. The right strategy makes a huge difference in the midst of shifts; however, traditional strategic constructs fall short.

The framework I have described here is a practitioner's hands-on toolbox for building and executing a sustainable strategy in high tech. We started with how to methodically construct the big picture by understanding technology curves, market transitions, and the interplay between the two. We also examined the importance of building in a systematic capability to continually refine the big picture and prep for step functions. We then considered how to build the foundation for pivoting a high-tech business to the future, dissecting the product portfolio, innovation model, and financial architecture. Finally, we drilled down on how to build and execute through transitions.

I believe that this framework will help leaders see beyond the limited perspectives of traditional strategic and planning models to build a differentiated strategy for their high-tech businesses. In this article, I highlighted the impact of cloud, mobile, and social using the framework. We are on the cusp of the next wave of shifts. Cyber-physical systems, in which physical, networking and software components are deeply entwined, are set to profoundly change industries. Self-driving cars, drones, and augmented reality are precursors to what is becoming possible. Artificial intelligence, in which machines mimic human cognitive functions such as learning and problem solving, is seeing practical applications: Amazon Alexa[18] and Google DeepMind[19] are early illustrations. Using this framework, high-tech businesses can—and should—plan for these huge shifts, and position themselves as movers and winners over the next 5 to 10 years.

Finally, I exhort you, high-tech leader, to use this framework to act. Do not stay comfortable with your Sams. Build and buy Toms. Place your bets on Bobs. Acting does not guarantee success, but not acting will consign your business to the high-tech scrapyard.

Lak Ananth

Lak leads the Pathfinder organization for Hewlett Packard Enterprise (HPE). He conceived and built Pathfinder, bringing together innovation strategy, venture investments, acquisitions, and partnerships. Pathfinder invests $100 million a year in startups. In recognition of his pioneering work building Pathfinder, Global Corporate Venturing included him in the Top 25 Powerlist 2016. Before leading Pathfinder, Lak was a Vice President in strategy and corporate development at HP.

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Lak holds an MBA with distinction from INSEAD, an MS in electrical engineering from Kansas State University, and a BE from Guindy Engineering College, India, where he was a Gold Medalist.
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18 Will Oremus, "Terrifyingly Convenient," *Slate*, 3 April 2016, http://www.slate.com/articles/technology/cover_story/2016/04/alexa_cortana_and_siri_aren_t_novelties_anymore_they_re_our_terrifyingly.html.

19 https://deepmind.com/about/.

Supporting an Innovation Mindset Among Estonian Youth: An "Entrepreneurs in Schools" Pilot Project

Marek Kiisa
Class 19

Ewing M. Kauffman, a U.S. pharmaceutical entrepreneur and philanthropist, once stated the following: "I think the greatest satisfaction I have had, personally, is helping others, doing something that either inspires them or aids them to develop themselves in their future lives so they'll not only be a better person but be a better productive citizen."[1] His passion was to help young people obtain an excellent education in order to assist them in reaching their maximum potential and thus improving their own lives, as well as the lives of the people around them. Inspired by Mr. Kauffman, I enlisted the Estonian entrepreneurial community to initiate a new program, "Entrepreneurs in Schools," to present and interpret the entrepreneurial life for young people.

My own background in entrepreneurship began at university, when I started my own company translating technical texts from English and Swedish into Estonian—helping to finance my university studies. I clearly remember the time when I sent my first invoice. I was so excited! That extraordinary feeling sparked my excitement to become an entrepreneur.

In high school, though, my personal attitude toward entrepreneurship was quite different. Given the political climate in the 1980s in Estonia, the thought or dream of becoming an entrepreneur was unrealistic. When I was a high school student (having graduated in 1987), there were only two options following high school or university: to work for the state or work for a public or state-owned company. While opportunities have expanded for today's high school grads, opinions and awareness of entrepreneurship have not changed among Estonian youth—a situation I set out to change.

Prior to becoming a Kauffman Fellow, I was one of the founders of the Future School Foundation [*SA Tuleviku Kool*],[2] established in 2010 in Estonia with the purpose of creating the world's leading combined primary and secondary school for innovation, technology,

1 Ewing Marion Kauffman Foundation, "Our Founder" (audio), 2016, 0:08, http://www.kauffman.org/who-we-are/our-founder-ewing-kauffman.

2 Tuleviku Kool (Future School Foundation), Facebook page [Estonian], 2016, https://www.facebook.com/TulevikuKool/.

and creativity. Recognizing that education in Estonia (and elsewhere) needs systematic reform to be relevant to the 21st century, the Future School Foundation seeks ways to create the first Knowledge-Innovation Community (KIC) for a primary and secondary school, in which diverse partnerships of education and IT sector companies co-exist in order to create a synergy of ideas and applications.

The Future School Foundation recognizes that Estonia's schools have not kept up with the pace of change in our society, even given their solid efforts toward integrating the educational and technological lives of our children. On the surface, students possess 21st century laptops and scientific equipment, but pedagogical practices steeped in the 20th century have created barriers—preventing students from applying their skills in a modern context. The leaders of tomorrow necessitate the daily practice of advanced thinking skills: analysis, evaluation, application, and creativity. It is essential that these skills are utilized in an authentic scientific and technological environment for collaboration.

Entrepreneurship in Estonia: The State of the Field

A new generation of Estonians, who have grown up online surrounded by ever-advancing technology, will soon be joining the workforce, but the country's educational systems have not adapted to the rapid societal changes resulting from the new economy.[3] Technological innovations have revamped how these young people study, socialize, and engage in career selection—to say nothing of the career options themselves.

Estonian students may be tech-savvy youth, but the majority are unable to realistically assess their own potential. In order to prepare students (including young ones) to be able to adapt to the new economy and to fulfill their potential, four key skills are essential: accomplishment, initiative, self-confidence, and self-awareness.[4]

In terms of technology, Estonia is an ideal climate for entrepreneurship. Once Estonia regained its independence in 1991, after a 50-year history of being occupied by the Soviet Union, the country made a massive leap in technology adoption, becoming one of the most "techie" countries in the world. According to the Estonia Startup Ecosystem Report by Startup Compass, Inc., Estonia is the fastest-developing ecosystem in the world: a growth index of 10 out of 10, in contrast to the European average of 3.7.[5] For example, all public services are performed online within minutes, from voting to submitting one's tax declaration. In addition, a company can be initiated and run online, independent of one's physical location. Recently, the government of Estonia (which is called e-Estonia) has received praise for its e-government solutions. Even non-residents are able to enjoy these technological advancements via becoming an Estonian e-resident or simply a virtual citizen.[6]

In spite of Estonia's innovation ecosystem outperforming its peers, two significant hindrances remain: insufficient entrepreneurial skills and negative societal attitudes toward entrepreneurship. A Global Entrepreneurship and Development Institute (GEDI) report suggested launching a program called "Entrepreneur at School" to help remedy this situation.[7] According to the report, Estonia ranks 111th among 120 countries based on the status entrepreneurs enjoy in their respective societies.[8] The negative attitude voiced by the general public toward

3 According to BusinessDictionary.com, the phrase *new economy* refers to the idea that the "notable advances in information technology of the 1990s and beyond, and specifically to the rise of the Internet as a business medium had changed fundamental economic rules." See WebFinance Inc., "New Economy," 2016, http://www.businessdictionary.com/definition/new-economy.html.

4 AIESEC, *Ettevõtliku noore teejuht* (Young Entrepreneurial Guide [Estonian], DVD, n.d.), https://osta-ee.postimees.ee/aiesec-dvd-ettevotliku-noore-teejuht-22831508.html.

5 Compass, *Estonia Startup Ecosystem Report* (January 2016), 5, available from http://startup-ecosystem.compass.co/ser2015/estonia/.

6 "Estonian e-Residency," n.d., https://e-estonia.com/e-residents/about/.

7 The Global Entrepreneurship and Development Institute (GEDI) and the Estonian Development Fund, *Towards a More Entrepreneurial Estonia: Call for Action*, November 2014, 7, http://www.arengufond.ee/wp-content/uploads/2014/11/GEDI_Estonia.pdf.

8 Ibid., 19.

being an entrepreneur is likely deterring Estonians from choosing entrepreneurship as a career; entrepreneurs are seen, particularly by older generations, as speculators rather than value-creators.[9] In addition, Estonia ranks 98th in risk acceptance, meaning that the fear of failure may also be preventing many individuals from becoming entrepreneurs—a "continued hangover" from the centrally planned economy of the Soviet era.[10] The report indicates that Estonia's educational system should play a key role in improving attitudes toward entrepreneurship to address these barriers. These report findings are consistent with my personal views and experience.

State statistics confirm that secondary school students in Estonia generally do not have positive regard for the prospect of becoming an entrepreneur, secondary to these societal attitudes. To be sure, there are a few young Estonians who desire to change the world with their business, but there could—and should—be more. While Estonians do recognize that they have very good opportunities for entrepreneurship, only one-tenth of the population is actually planning to act on these opportunities and become an entrepreneur.[11] Our young people need additional motivation, and the understanding that anyone can succeed.

The Estonian educational system has been severely criticized for not forming positive entrepreneurial attitudes. On a 5-point scale, Estonian entrepreneurs graded the current entrepreneurship educational effort as low as 2.6.[12] However, excellent extracurricular programs promoting the sharing of basic knowledge about entrepreneurship already exist. For example, ENTRUM,[13] started in 2010 by the state company Estonian Energy, is a youth entrepreneurship ideas contest and development program. In the past five years, approximately 2,700 students have been served by the program.[14]

The ENTRUM program includes monthly 1- or 2-day seminars that, over the course of a year, form a mini-incubator. Starting with participants' passions and inspirations, the sessions move through the basics of building a business: idea development, market research, developing a business plan, accounting, product pricing, obtaining capital, and the sales pitch. ENTRUM also connects participants with a one-on-one mentor, and introduces them to the entrepreneurial support system already available in Estonia. All events include sessions with entrepreneurial leaders as well as networking. The program culminates with a national business ideas contest; winners get additional support for implementing their projects.[15]

Another example of a student entrepreneurial program is Junior Achievement Estonia (JA Estonia), founded in 1991 to foster "entrepreneurial spirit in young people by giving them the ability to think not only economically, but also ethically."[16] The organization promotes entrepreneurial education by designing its own educational materials, running training programs for teachers, and sponsoring events for students. In 2010–2011, Junior Achievement Estonia programs and materials reached 661 primary and secondary classes—for a total of 12,441 students.[17]

Unfortunately, only a small percentage of young people are exposed to ENTRUM and JA Estonia, and this percentage remains low for two reasons: either the students themselves must be motivated to pursue these opportunities, or a school must be fortunate enough to have

9 Ibid., 43.

10 Ibid., 42.

11 Global Entrepreneurship Research Association, "Country Profiles: Estonia," n.d., Key Indicators (2014 data), http://www.gemconsortium.org/country-profile/60.

12 Estonian Development Fund, *Globaalne ettevõtlusmonitooring 2014: Eesti raport* (Global Entrepreneurship Monitor 2014: Estonia Report), October 2015, 65, http://www.gemconsortium.org/report/49505.

13 http://www.entrum.ee/en/.

14 European Commission, Directorate-General for Education and Culture, *Unleashing Young People's Creativity and Innovation—European Good Practice Projects* (Luxembourg: Publications Office of the European Union), 11, http://ec.europa.eu/youth/library/publications/creativity-innovation_en.pdf.

15 Entrum Foundation, "Curriculum," 2010, http://www.entrum.ee/en/curriculum/.

16 Junior Achievement Estonia, "About Us," n.d., para. 1, http://www.ja.ee/index.php?page=74&.

17 Ibid., para. 2.

inspiring teachers who encourage the students in the direction of entrepreneurship.

Mentorship as an Agent of Change

Even if these existing programs could be expanded, they are lacking a key ingredient: contact between students and adult entrepreneurs. Karoli Hindriks is an excellent example of how an entrepreneurial career can be started as early as high school. She was involved with Junior Achievement Estonia, resulting in her founding an Estonian company named Jobbatical, which closed a €2 million funding round from well-established UK VCs in early 2016.[18] Although Hindriks is only in her 30s, Jobbatical was not her first business endeavor. She was part of a student company in high school producing fabric safety reflectors, which became a remarkable success. In fact, she has been named the youngest inventor in Estonia. Hindriks has admitted that without proper mentoring initially, she would not be where she is today.[19]

If there is no entrepreneur in a young person's close circles, entrepreneurship is not viewed as a future career option; it appears unreachable. Simply stated, it is easier and safer to work for someone else. In addition, as the GEDI report reflects, the educational system plays a role here. Most teachers do not understand the benefits of entrepreneurship; hence, they are unable to communicate its value to their students.[20] This is in part because teachers and school administrators tend to be members of generations who received minimal exposure to the concepts of entrepreneurship during the Communist and post-Soviet eras. Among the more academically educated, in particular, a greater value continues to be placed on safe, paid employment over an entrepreneurial career.[21]

The most effective way to change Estonia's mentality toward risk and innovation is to put students in direct contact with aspiring entrepreneurs. Although Estonia's government is increasingly recognizing these deficiencies, reforms in such a complex arena as education simply necessitate much time and effort. In addition, it is not just a curriculum issue. Encouraging young people to create their own companies requires altering the attitudes of the nation, one person at a time. Entrepreneurs need to take the initiative in setting an example.

Entrepreneurs in Schools

To begin this process, the group of five supporters that I recruited initiated an Entrepreneurs in Schools program. Our initial goal was to enlist a minimum of 24 Estonian entrepreneurs willing to give an inspirational lecture to Estonian high school students as a pilot program with zero budget. We planned to spread this pilot program throughout Estonia, with the hope that even students living in the smallest, least inhabited rural areas would have the same opportunity as those residing in the capital city.

We targeted entrepreneurs who were representing the new economy, since we believed that their businesses were changing the world as we know it and thus would be the most inspiring to the students. We sought their involvement in a speaker program, giving lectures focused on their own success stories. Thus, we contacted top-50 startup company founders/CEOs to join our program, as we believed they would be those most familiar to those between 16 and 30 years old. Most of these entrepreneurs were already known to us, as my group of supporters and I had had business contact with them in the past through work with start-up leader clubs, Start-Up Estonia, and the Estonian Business Angels network.

At first, the process of launching our Entrepreneurs in Schools program was rather chaotic. On one hand, we were reaching out

[18] CrunchBase, "Jobbatical: CrunchBase Profile," March 2016, https://www.crunchbase.com/organization/jobbatical#/entity.

[19] Matt Gottesman, "Karoli Hindriks: Jobbatical" (Interview), *Hustle & Deal Flow Magazine*, 7 July 2015, http://www.hdfmagazine.com/karoli-hindriks-jobbatical/.

[20] GEDI, *Towards a More Entrepreneurial Estonia*, 44.

[21] Ibid., 43.

to entrepreneurs to join our project; on the other, we were simultaneously negotiating with students, teachers, and administrators to schedule the lectures. To our surprise, the system was functioning within just a couple of weeks. The most difficult task was to locate presenters willing to travel to more remote areas, where there was an absence of local volunteer entrepreneurs; nonetheless, some entrepreneurs even consented to drive 200 kilometers (125 miles). Consequently, many remote locations were included in the project.

The results actually exceeded our expectations. During Estonia's National Entrepreneur Week (established by the Ministry of Economic Affairs and Communication some years ago) in October 2015, a total of 71 entrepreneurs visited 65 schools, gave 100 lectures, and interacted with 4,000 students to share their experiences; this coverage represented 13% of all schools in Estonia[22]—a huge achievement. These entrepreneurs spent approximately one hour with young people between the ages of 15 and 19, sharing their experiences of how they became entrepreneurs and the lessons they learned in the process. The initial target group was composed of high school students in the 10th to 12th grades; 9th graders were also included in some locations.

The goal of this National Entrepreneurship Week drive was twofold: to motivate participating students to consider a career as an entrepreneur; and for entrepreneurs to share their stories of failures that eventually resulted in current success, in order to present a complete picture of what entrepreneurship entails. Listening to actual stories of entrepreneurs promotes the understanding that success does not simply occur overnight, nor at random. Failure is a valuable tool from which to learn and develop as an entrepreneur. Most successful entrepreneurs have survived multiple failures, resulting in invaluable lessons and experiences.

For example, Markus Villig, a young founder of a taxi fleet app named Taxify,[23] joined our program to demonstrate that any idea can result in a successful business with diligent work. Villig also believes that it is possible to reach success in just a few years after graduating from school.[24] Nevertheless, he underscored for our students that being an entrepreneur is not an easy life. He stated that if one wants to be independent in making decisions and is willing to take risks, then one may be well-suited for life as an entrepreneur.

As of this writing, it is premature to measure the long-term results of our first campaign and our visits to schools. Based on rough statistics gathered at the beginning of the entrepreneurs' lectures, approximately 15% of attending students admitted that they had considered becoming entrepreneurs, but after just one hour of lecture, that number increased to 30%.[25] Established business leaders were surprised and even astonished by the ideas that the young people conceived but had never considered fulfilling. The positive feedback from the students (shows of hands and thank-you letters from teachers) indicated that they found the lectures interesting and would value having additional practical cases in the school curriculum.

Moving Forward: Encouraging Entrepreneurship

The Future School Foundation's objective is to continue our mission in the coming years in Estonia, and to spread it throughout the world. We are passionate about expanding our program globally. In 2016, our goal is to reach every secondary school (~430 schools) in Estonia through the

22 Haridus- ja Teadusministeerium (Republic of Estonia Ministry of Education and Research), *2014/2015 õppeaasta numbriinfo* (2014/2015 Academic Year Inquiry), n.d., 6, https://www.hm.ee/sites/default/files/uue_oppeaasta_numbriinfo_0.doc.

23 http://taxify.eu/.

24 *Äripäev* (BusinessDay), "Vaata, kes osalesid aktsioonis 'Ettevõtlikkus Kooli'" ("Look Who Took Part in the Action 'Entrepreneurialism School'"), 5 October 2015, http://www.aripaev.ee/uudised/2015/10/05/vaata-kes-osalevad-aktsioonis-ettevotlikkus-kooli.

25 Estonian Development Fund statistics based on participants' feedback. October 2015.

Kauffman Foundation. We will also share the template for our Entrepreneurship in Schools program at no cost to other groups interested in implementing it.

Since Estonia has the advantage of being a small country[26] with players in the ecosystem who are already acquainted with each other, the ideas presented here were easy to implement. For example, it was possible to reach one-fifth of all students in the target age group in the entire country. Our suggestion for larger countries is to simply begin with one city and its connected circle of entrepreneurs. Through their contacts, it would be possible to engage enough supporters to cover the area. Remember, everything starts with just one small step.

While listening to talks by successful entrepreneurs is no substitute for developing actual entrepreneurial skills, these lectures have the potential to encourage young people to explore ways to learn those skills. It is the responsibility of current entrepreneurs and leaders to establish a firm foundation of mentorship—taking responsibility to be a mentor to our youth—in order to increase the number of young entrepreneurs. This process requires only a few hours out of entrepreneurs' schedules to promote an outcome that may include producing the next founder of Airbnb, Uber, or Dropbox.

We as entrepreneurs can—and should—step up to the opportunity to mentor. Kauffman Fellows are familiar with the benefits of mentorship, but every reader has either had, or can create, a positive mentoring experience by accepting this challenge to bring an entrepreneurial message to their own schools. For my part, the European Innovation Academy offered a 3-week course of "extreme"[27] international entrepreneurial education to over 500 college students representing 70 nationalities in Nice and Torino in July 2016. I am proud to be the first Kauffman Fellow mentor for this course.

I offer my heartfelt thanks to the members of our volunteer group: Rivo Riistop, Estonian Development Agency; Merlin Salvik, lawyer/partner at Hedman Partners; Gea Otsa, communication manager, Estonian Employers Confederation; Karin Künnapas, Estonian Business Angel Network; and Marcus Lukas Kiisa, high school student.

Marek Kiisa

Marek is a Managing Partner at Astrec Invest, a technology-oriented seed investment and VC firm, where he focuses on IT infrastructure and efficient system management. He tracks deal flow from Scandinavia and Baltic countries, and performs due diligence on incoming business plans and targeted companies. He is a board member of Astrec Baltic, the IT infrastructure system integrator. Marek also mentors portfolio companies that need an extra kick for raising the next round or reevaluating their prototype model.

Marek is a graduate of Royal Institute of Technology in Stockholm, Sweden; he holds an MS in combustion engineering and machine design and a degree in management from the Estonian Business School. He is a board member of the Future School Foundation and the Estonian Business Angels Association. Kauffman Fellow Class 19.

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[26] Estonia's population at the beginning of 2016 was approximately 1.3 million, which is roughly equal to the 2015 population of New Hampshire. See Statistics Estonia, "Revised Population, 2015," 4 May 2016, https://www.stat.ee/13054, and U.S. Census Bureau, "New Hampshire: 2015 Population Estimate" (table), n.d., http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml?src=bkmk.

[27] http://inacademy.eu/france/.

The Rising Tide: A "Learning-By-Investing" Initiative to Bridge the Gender Gap

Juliana Garaizar

Class 18

About one-third of all small businesses in the United States are founded by women and yet only 7% of venture funds go to startups led by female founders.[1] The Diana Project from Babson College examined possible reasons why only 15% of all venture-backed startups had women on their executive teams.[2] Was it their lack of preparation—or motivation—to run high-growing businesses? Not at all: companies with women on the executive team are just as successful (if not more successful) than companies with no women on their teams.

Since the women entrepreneurs themselves are not the problem, what can we do to change the attitudes of investors? As women grow in terms of wealth creation and control (in the United States alone, women control $11.2 trillion, or 39%, of the country's investable assets[3]), their interest in helping other women shows up in their investment decisions.

Women tend to invest more in women than men do. In fact, VC firms with women partners will invest in startups with a woman on the executive team at a rate that is nearly 3 times that of venture firms with only male partners (34% vs. 13%), and they are nearly 4 times as likely to invest in companies with women CEOs (58% vs. 15%).[4] The Kauffman Foundation found that women are also more likely to get further engaged by taking a board role in the companies in which they invest.[5]

As women invest in greater numbers, the number—and kinds—of companies headed up by women will also rise. According to the CEO of Womenable, Julie R. Weeks, "adding women to the equation certainly broadens the view of what's worth investing in."[6] In this article, I outline one way for the investment community to take steps toward more equal participation for women—through angel investing—and then describe my

1 Alison Wood Brooks, Laura Huang, Sarah Wood Kearney, and Fiona E. Murray, "Investors Prefer Entrepreneurial Ventures Pitched by Attractive Men," *PNAS* 111, no. 12 (2014): 4427, para. 4, http://www.pnas.org/content/111/12/4427.full.pdf.

2 *Diana Report, 6.* To improve readability, data sources are abbreviated in footnotes; see this article's appendix for full references.

3 Sylvia Ann Hewlett and Andrea Turner Moffitt, *Harness the Power of the Purse: Female Investors and Global Opportunities for Growth* (Center for Talent Innovation, 2014), 3, http://www.talentinnovation.org/assets/HarnessingThePowerOfThePurse_ExecSumm-CTI-CONFIDENTIAL.pdf.

4 *Diana Report*, 11.

5 Ewing Marion Kauffman Foundation, *Women and Angel Investing: An Untapped Pool of Equity for Entrepreneurs* (April 2006), http://sites.kauffman.org/pdf/women_and_angel_investing_100906.pdf.

6 Meghan Casserly, "Tipping The Scales: Women Angel Investing Reaches All-Time High," *Forbes*, 25 April 2013, para. 6, http://www.forbes.com/sites/meghancasserly/2013/04/25/tipping-the-scales-women-angel-investing-reaches-all-time-high/.

own efforts to do so through the Rising Tide initiative.

The White Space: Angel Investing

Angel investing is currently in growth-mode and has become an attractive source of capital for women- and minority-owned firms that do not necessarily have the high-profile connections to pursue venture funding. Almost 305,000 angels invested $24.6 billion in 71,100 companies in United States in 2015[7]—over 40% of the total money that venture capitalists invested in the same year.[8]

Angels are far more likely to invest in seed-stage and startup companies than traditional VCs, and since women entrepreneurs have a tougher time connecting with venture capital, closing the angel investment gap can help close the funding gap faced by female founders. In *Harness the Power of the Purse*,[9] Andrea Turner Moffitt interviews women entrepreneurs: as these entrepreneurs become successful and begin engaging in investing, angel investing allows them to select, support, and guide women-fronted organizations.[10]

Unlike venture capital's track record with women, the new angel numbers are extremely promising. For nearly all metrics, the numbers hit record heights in 2014 and 2015: the number of female angel investors showed a 33% increase from 2013 to 2015 versus their male counterparts' 5% decline (figure 1).

Overall, the total numbers of women seeking and receiving angel funding both increased substantially in recent years, particularly in comparison to men (figure 2, next page). Women's gains on both the entrepreneur and angel sides of the equation, however, did show a slight dropoff in 2015.

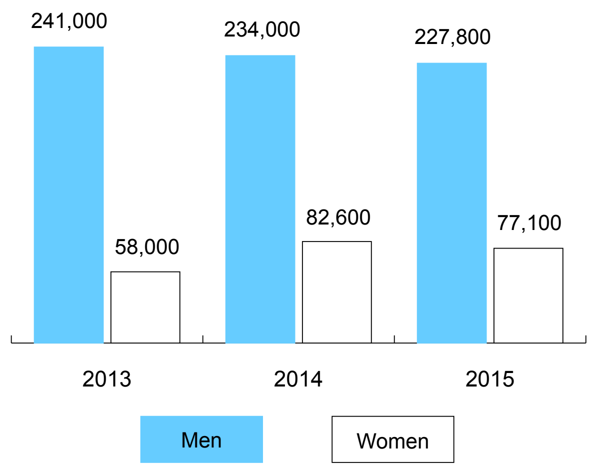

Figure 1. Male and Female Angel Investors, 2013–2015. Author's figure; data from *Angel Market 2014*, 1-2; and *Angel Market 2015*, 1-2.

Looking back over the decade of 2005 to 2015 reveals these positive trends in women's investing and entrepreneurship even more strongly, with 4 times the number of women angels as a decade ago (figure 3); on the startup side there are now 6 times the number of women entrepreneurs seeking deals, and triple the number of women receiving funding (figure 4, next page).

This staggering growth in women angels and women receiving funding over the last 10 years is the perfect setting for new initiatives striving to increase women's presence in investing—

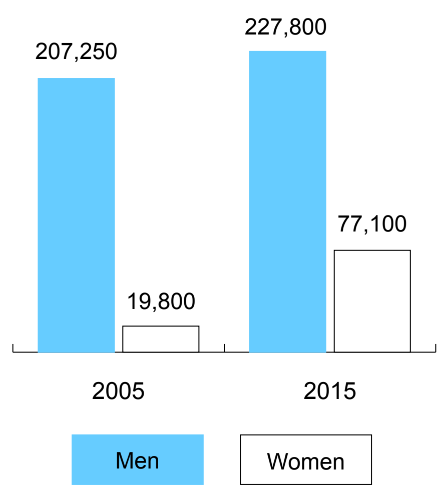

Figure 3. Male and Female Angel Investors, 2005–2015. Author's figure; data from *Angel Market 2005*, 1-2; and *Angel Market 2015*, 1-2.

7 *Angel Market 2015*, 1.

8 National Venture Capital Association (NVCA), "2016 NVCA Yearbook Captures Busy Year for Venture Capital Activity" (press release), 8 March 2016, http://nvca.org/pressreleases/2016-nvca-yearbook-captures-busy-year-for-venture-capital-activity/.

9 Andrea Turner Moffitt, *Harness the Power of the Purse: Winning Women Investors* (Los Angeles: Rare Bird Books, 2015).

10 Geri Stengel, "Angels Change the Ratio for Women Entrepreneurs," *Forbes*, 27 May 2015, 2 para. 4, http://www.forbes.com/sites/geristengel/2015/05/27/angels-change-the-ratio-for-women-entrepreneurs/.

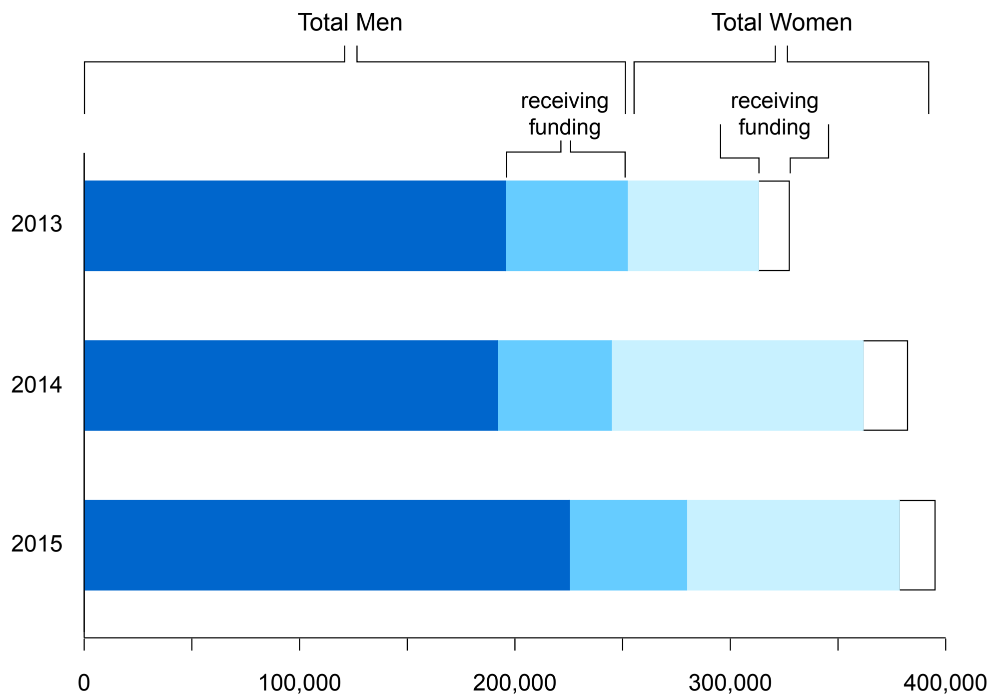

Figure 2. Male and Female Entrepreneurs Seeking and Receiving Angel Funding, 2013-2015.
Author's figure; data from *Angel Market 2014*, 1-2; and *Angel Market 2015*, 1-2.

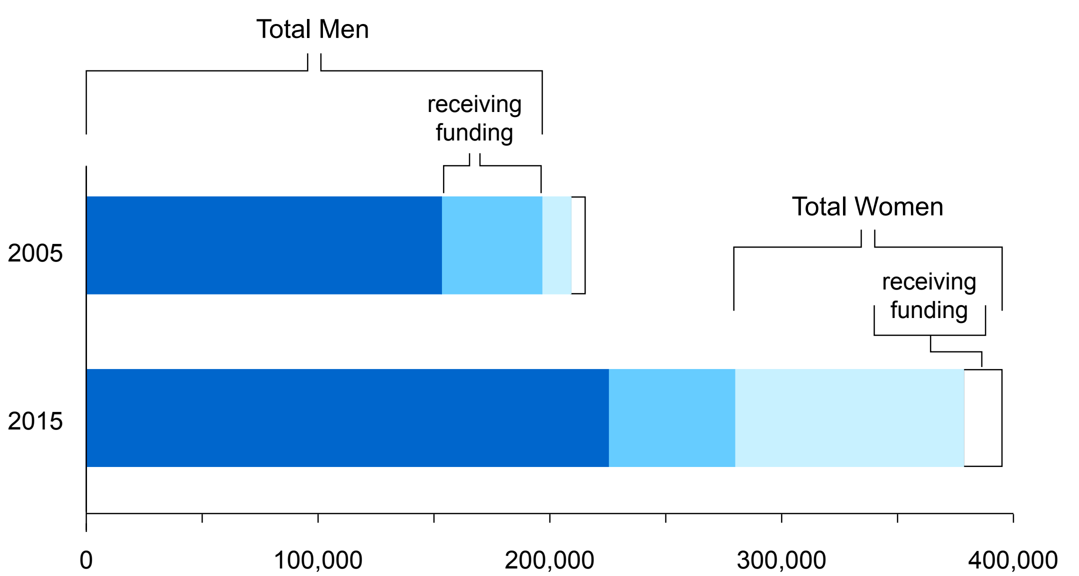

Figure 4. Male and Female Entrepreneurs Seeking and Receiving Angel Funding, 2005-2015.
Author's figure; data from *Angel Market 2005*, 1-2; and *Angel Market 2015*, 1-2.

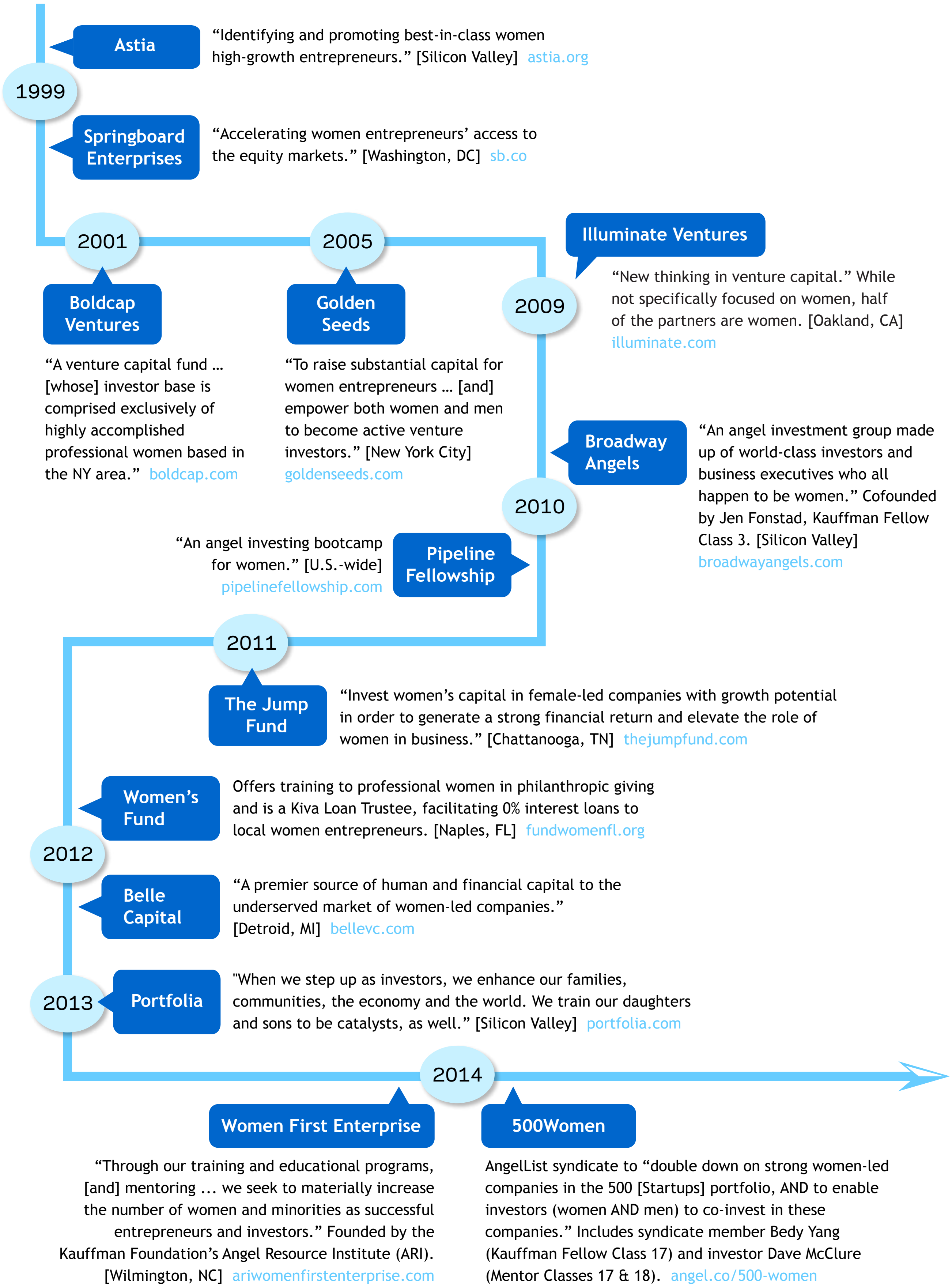

Figure 5. Women-Led and Women-Focused Investment Initiatives, 1999–2014. Author's figure.

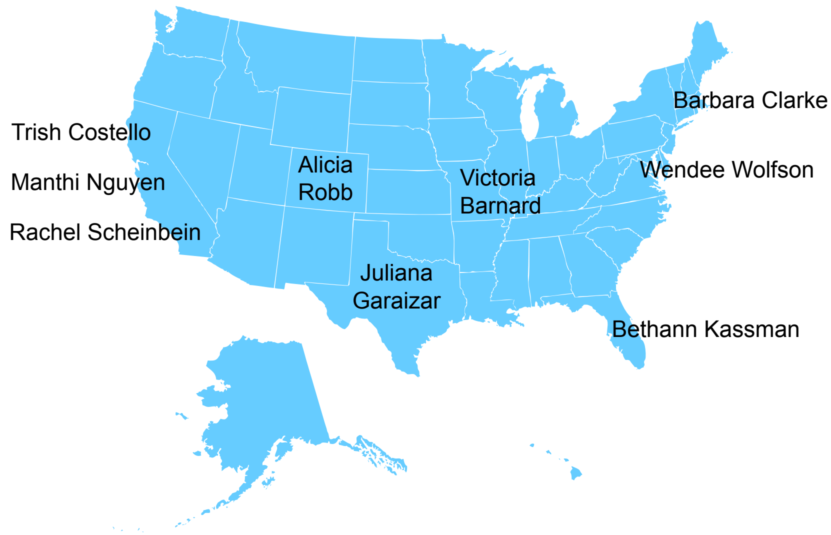

Figure 6. The Nine Senior Advisors for Rising Tide USA. Author's figure; data from Next Wave Ventures, "The Nine: Lead Angels for the Rising Tide Program—United States," 2015, http://nextwave.ventures/the-nine/.

and by correlation, funding more female entrepreneurs.

Investigation: Why Women Do Not Invest

Despite the many women-led and women-focused investment initiatives since 1999 (figure 5, previous page), we have not yet moved the needle in bridging the gender gap seen in figure 1. So, in 2015 when I joined a group of senior women investors interested in solving the angel investing gender gap, we began by investigating this vital question: why don't more women invest?

Through our preliminary research, we identified six main reasons why women's investing remains low:

- They don't know about angel investing and its opportunities
- They are not solicited to invest
- They feel ill-prepared for angel investing
- They are risk-averse and avoid this risky asset class
- They do not have the right network of angel investors
- They are not exposed to vetted deal flow[11]

Armed with this understanding, we set out to design a way to address each item in the list.

[11] Next Wave Ventures, "A Brief Summary of the Rising Tide Angel Program," 2015, http://nextwave.ventures/#post-risingtide.

A New, Improved Initiative: The Rising Tide

The Rising Tide Program draws on the results of the research published by Alicia Robb in *The Next Wave: Financing Women's Growth-Oriented Firms*[12] and on the best elements of prior initiatives. This interesting new fund structure was launched in parallel in September/October 2015 in the U.S. (San Francisco) and Europe (Zurich).

The U.S. fund is sponsored by the Kauffman Foundation and managed by Alicia Robb (NextWave Ventures and Senior Fellow, Kauffman Foundation) and Trish Costello (Portfolia, Kauffman Fellows Founding CEO). Its nine Senior Advisors represent different angel groups/funds across the United States and include Barbara Clarke (Astia Angels, Massachusetts), Manthi Nguyen (Band of Angels, Sandhill Angels, Sierra Angels, California), and a group of leading women angels (figure 6)—including yours truly (Houston Angel Network, Texas).

Rising Tide's investment model is pretty simple by design; the intent is for it to be

[12] Susan Coleman and Alicia M. Robb, *The Next Wave: Financing Women's Growth-Oriented Firms* (Stanford: Stanford University Press, 2016).

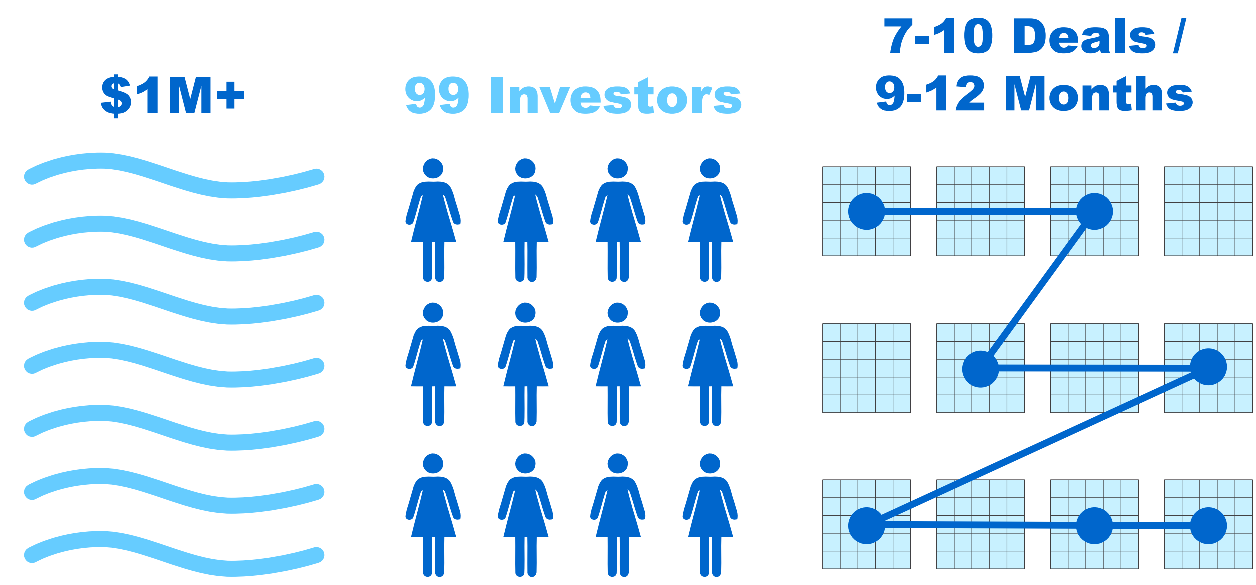

Figure 7. The Rising Tide Fund Model. The European Rising Tide group's financial target is €1+ million. Figure from Next Wave Ventures, "Rising Tide Program," http://nextwave.ventures/.

easily replicated for scalability and the capital easily deployed: 99 women LPs (90 + 9 Senior Advisors) invest a minimum of $10,000 each so that $1+ million is invested over 9 to 12 months (figure 7).

The nine Senior Advisors are women with significant angel investing experience in each geography who want to support the next generation of women angel investors and Rising Tide leads for subsequent funds. The other 90 investors are women who are mostly new and emerging angel investors, although some are prominent figures such as Sue Preston (Women First Enterprise) and Marianne Hudson (Angel Capital Association).

The nine lead investors are in charge of due diligence and ultimately decide on the group's 7-10 investments (not necessarily women-led firms).[13] Figure 8 shows the group's U.S. investments to date. This "Learn by Investing" fund provides online access for the 90 LPs on the Portfolia platform in a password-protected area. There they can watch pitches (live and recorded), review due diligence materials, and have deal room access. Monthly feedback about the deals is solicited from the 90 LPs, who can get involved in the due diligence and deal selection processes.

Online training materials are available to all investors in the program. Additional training is provided to program participants through online podcasts, webinars, "ask me anything" Q&A sessions, angel investor hours, and in-person quarterly regional workshops. All webinars are recorded and placed on the Portfolia platform (except for the ask-me-anything sessions, as their purpose is to provide a safe space for each attendee to ask any kind of question).

The Rising Tide Fund (RTF) seeks to narrow the gender gap in angel investing by providing women with the education[14] and mentoring they need to become angel investors or fund managers, while offering them a unique learning opportunity that allows them to build a diversified portfolio of investments in terms of sector, investment

[13] Next Wave Ventures, "Selection Process," 2015, http://nextwave.ventures/selection-process/.

[14] Next Wave Ventures, "Education and Training," 2015, http://nextwave.ventures/education-and-training/.

Company	CEO	Sector	Location
RenovoRx	Shaun Bagai	BTB - Medical devices	Los Altos, CA
Tenacity	Ron Davis	BTB - SaaS	Seattle, WA
Poshly	Doreen Bloch	BTB - Big Data	New York, NY
Sandstone	Karen Drexler	BTC - Medical devices	Livermore, CA
Unaliwear	Jean Anne Booth	BTC - Hardware / wearables	Austin, TX
Envoy	Justin Lin	BTC - SaaS / consumer services	Mountain View, CA
OtoSense	Sebastien Christian	BTB - AI	Cambridge, MA

Figure 8. Rising Tide United States Investments to Date. Author's figure.

stage and geography,[15] as well as to establish a personal network. Both European and U.S. programs culminate with an RTF investor summit in San Diego in October 2016, one year after their launch. The summit is the perfect opportunity for the 198 women investors from the United States and Europe to meet, share best practices, and plan the next Rising Tide Funds—by region or by sector. Another RTF summit to further develop new Rising Tide initiatives that arise in San Diego will take place in San Francisco right after the Angel Capital Association Summit in April 2017.

The Rising Tide Effect in the VC Industry

Some initiatives like Rising Tide Africa and Rising Tide Europe II are already in place, while others, like Rising Tide Asia and Latin America, are emerging. Other funds within the Rising Tide ecosystem have also been launched by some of the 90, such as Sara Brand's True Wealth Innovations.[16] In the United States, the goal is to scale the Rising Tide. According to Trish Costello,

> Five million women are accredited investors … either they make more than $200,000 a year or have $1 million in assets. … Collectively, these 5 million women own about $10 trillion in private investable assets. So when we look at these numbers—if women just began to put a very small amount of their investable wealth behind the [women-led] companies they want to see come to market, we could greatly shift what is happening in entrepreneurial world.[17]

Still, men will also be involved, and not only by supporting and spreading the word about this initiative and others like it. As we expect Rising Tide U.S. and Europe to be successful, we will bring together another group of investors, both men and women, into parallel co-investment funds or special purpose vehicles to syndicate with the main Rising Tide funds.

Investing in Women: Returns for Investors and for the World

Building a base of female investors is important. More women investors means more women-led companies funded—and the investment pays off.[18] Privately held tech companies headed up by women "are more capital-efficient, achieve 35% higher return on investment, and, when venture-backed, bring in

[15] Next Wave Ventures, "Goals of Program and Investment Thesis," 2015, http://nextwave.ventures/goals-of-program-and-investment-thesis/.

[16] http://truewealthinnovations.com/.

[17] National Women's Business Council, "Spreading the Wealth: Getting Venture Capital to Women Entrepreneurs" (webinar), 11 September 2015, 47:13, https://www.nwbc.gov/content/spreading-wealth-getting-venture-capital-women.

[18] Granger, "A Wave of Angel Investing Organizations Focuses on Women," para. 4.

12% higher revenue than male-owned tech companies," according to research presented at a 2013 Women 2.0 conference.[19] A whitepaper by Illuminate Ventures also shows that venture-backed high tech companies led by women are good custodians of the funding they receive, using their capital more efficiently and making higher annual revenues than companies led by men.[20]

On top of being more efficient, women also bring a strong sense of social responsibility. Women-led businesses often have a social impact (e.g., Kiva, Zipcar, and Taskrabbit, among others).[21]

In fact, microlending initiatives such as the Grameen Bank[22] are based on the premise that women are more effective at managing money and pulling their families out of poverty. If microlending has such an effect, imagine how larger investments by and for women can impact their communities, and even their nations' economies. The need to scale up, in turn, means that promoting and supporting women entrepreneurs and investors should become a national priority, backed by funding and policy.[23]

I ask your help in scaling the Rising Tide movement to create a real tsunami of worldwide impact. Spread the word to potential LPs or senior advisors interested in participating or forming a Rising Tide Fund in any geography. Promote or sponsor likely initiatives that Rising Tide could syndicate with, and advocate for policies supporting diversity in entrepreneurship and investments. Let's keep the tide rising.

Juliana Garaizar
Juliana is the Managing Director of Houston Angel Network and Senior Advisor of the Rising Tide Fund. Juliana was the Manager of the French Riviera's Sophia Business Angels network, the Business Innovation Centre in Sophia Antipolis, and Project Manager of several European Commission Projects. Previously, Juliana worked for 5 years in Singapore: as an international trade consultant for the Spanish Trade Commission and then as a project manager for Citigroup's Asia Technology Office.

Juliana obtained an MBA at the London Business School. She is President of Sophia Business Angels sidecar fund SBA ISF Holding, an Expert Committee Member of Success Europe, a member of the UT Horizons Fund External Advisory Committee, as well as an International Founding Member of Istanbul's Galata Business Angels. Kauffman Fellow Class 18.
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[19] Karen E. Klein, "Women Who Run Tech Startups Are Catching Up," *Bloomberg*, 20 February 2013, para. 1, http://www.bloomberg.com/news/articles/2013-02-20/women-who-run-tech-startups-are-catching-up#r=hpt-fs. The research was done by Vivek Wadhwa (Singularity University) and Lesa Mitchell (Vice President, Kauffman Foundation).

[20] Illuminate Ventures, *Whitepaper: High Performance Entrepreneurs Women in High Tech* (n.d.), available from http://www.illuminate.com/whitepaper/.

[21] Cortese, "Filling the Funding Gap for Women Entrepreneurs," para. 6.

[22] http://www.grameen.com.

[23] Barclays Wealth Management, *Unlocking the Female Economy: The Path to Entrepreneurial Success*, January 2013, 8, https://wealth.barclays.com/content/dam/bwpublic/global/documents/wealth_management/unlocking-female-economy.pdf.

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GE Ventures

Kathryn Doyle
Draper Richards Kaplan Foundation

Andrew Goldner
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Shintaro Kaido
Drexel Ventures

Kevin Lockett
Kansas Bioscience Authority

Jan-Maarten Mulder
Summer Capital

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