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





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Kauffman Fellows on the Science of Capital Formation

Phil Wickham

Charter Class

Conceived in 1993, the idea of the Kauffman Fellows Program was controversial from the start: **prevailing wisdom said that what happened inside venture capital was a “black art”—it could not be understood scientifically and it certainly could not be taught.** The Kauffman Foundation visionaries who started the program believed otherwise, and we have proven them right many times over.

This June, we celebrate our 20th birthday. It's been a period of reflection for Kauffman Fellows as an organization, looking back at riding the Internet bubble up, spinning out to independence from the Kauffman Foundation, and surviving first the crash of the Internet and, later, the global financial system. Reviewing our two decades, we can see that the skills and networks of the 400+ Kauffman Fellows in the world have been accelerated through their engagement with the program, to the benefit of entrepreneurs around the world. In this article, I share a model for our understanding of the science of capital formation, with the intention

of opening a dialogue with industry participants around the world.

Two Questions about Kauffman Fellows

In my seven-year tenure as CEO, I get asked two questions more than any others. The first evokes the history of Kauffman Fellows, and that history provides the answer to the second question.

“Why? Why did the Kauffman Foundation create this program?”

The answer to “Why?” stems from Mr. Kauffman’s focus on the role of the capital food chain in the United States. **Capital had to be available for startups at all stages of growth—at the laboratory and university level, through the angel gap, and into growth mode. Capital is also needed to function in alignment with the entrepreneur’s vision.** Mr. K also observed that the biggest and most exciting growth stories were associated with the top venture capital funds. At that time, the next generation of investors in those funds were often recruited from banking and consulting, bringing

with them the transactional mindset that was critical to success in their previous fields, but that ran against the culture and needs of a startup.

The Kauffman Fellows Program was designed to bring a new cadre of leadership to the venture capital field—one that better reflected the entrepreneurial community and society as a whole. This outcome would help the Kauffman Foundation better codify venture capital best practices; give the venture funds new talent with a structured, accelerated training; and prove that scientists, doctors, operators, women, and under-represented minorities could contribute and thrive in the venture capital industry.

The founders of the program relate how Mr. K believed that if the Kauffman Fellows Program could help optimize the cornerstone of the capital food chain—venture capital—we would then go on to leadership roles across the entire food chain. These two decades have proven him right. We have spawned educational, government, corporate, and entrepreneurial leaders including the following:

- Thomas Darden (Broad Superintendent Academy; Co-founder, Reliant Equity),
- Winslow Sargent (Chief Counsel for Advocacy at the SBA, an Obama appointee),
- Azita Sharif (Founder/CEO of Daedalus Software, BINDS),
- Risa Stack (Head of new business creation at GE; partner at Kleiner Perkins),
- Jens Eckstein (CEO of SR One, TVM Capital),
- Jana Nieto (Former Assistant Undersecretary of the Economy, Mexico; head of innovation, 3M, Latin America),
- John Pacifico (CEO of ORTHOCON, Abyrx; Founder/Chairman of Kairuku; partner at Canaan Partners),
- Jeff Stein (Founder/CEO of Trius Therapeutics; Sofinnova Ventures), and
- David Lowe (CEO of Aegelea Biotherapeutics; partner at Skyline Ventures).

"What is your distinctive contribution to the ecosystem?"

At Kauffman Fellows, we focus on the health of the “capital food chain,” that is, the stakeholders who practice the art and science of “capital formation.” Few people really have a working model for these terms. To the novice, capital is seen as money; however, while financial capital is certainly an important type of capital for a startup, it is only one among many equally important forms of capital.

To clarify the developmental biology of a startup, it helps to consider it like that of a child. A new human is conceived, incubated, birthed, and brought to independent adulthood (hopefully). Capital is to a startup what nutrients are to a child—and what we “feed” a child goes far beyond just food and water. We nurture our children with safety, education, physical fitness, health care, discipline, and stimulation, among many others. Providing the best nutritional food chain for a child involves deep expertise for each of the child’s stages of life. The skillset of an obstetrician varies from that of a pediatrician, a preschool teacher’s challenges contrast starkly with a middle-school teacher’s, and a 5-year-old and a 14-year-old are coached differently in tennis or soccer.

Extend this metaphor to the birth and development of a new startup; we argue that new companies also consume a spectrum of capital “nutrients,” and that the best outcomes are attained when these nutrients are administered by experts at each stage of growth. This range of experts includes advisors, lawyers, accountants, laboratory managers, technology licensing officers, accelerator advisors, angel investors, seed investors, venture investors, venture banks or lenders, corporations, mezzanine investors, investment bankers. These stakeholders, along with stock exchanges and institutional capital, comprise the capital food chain.

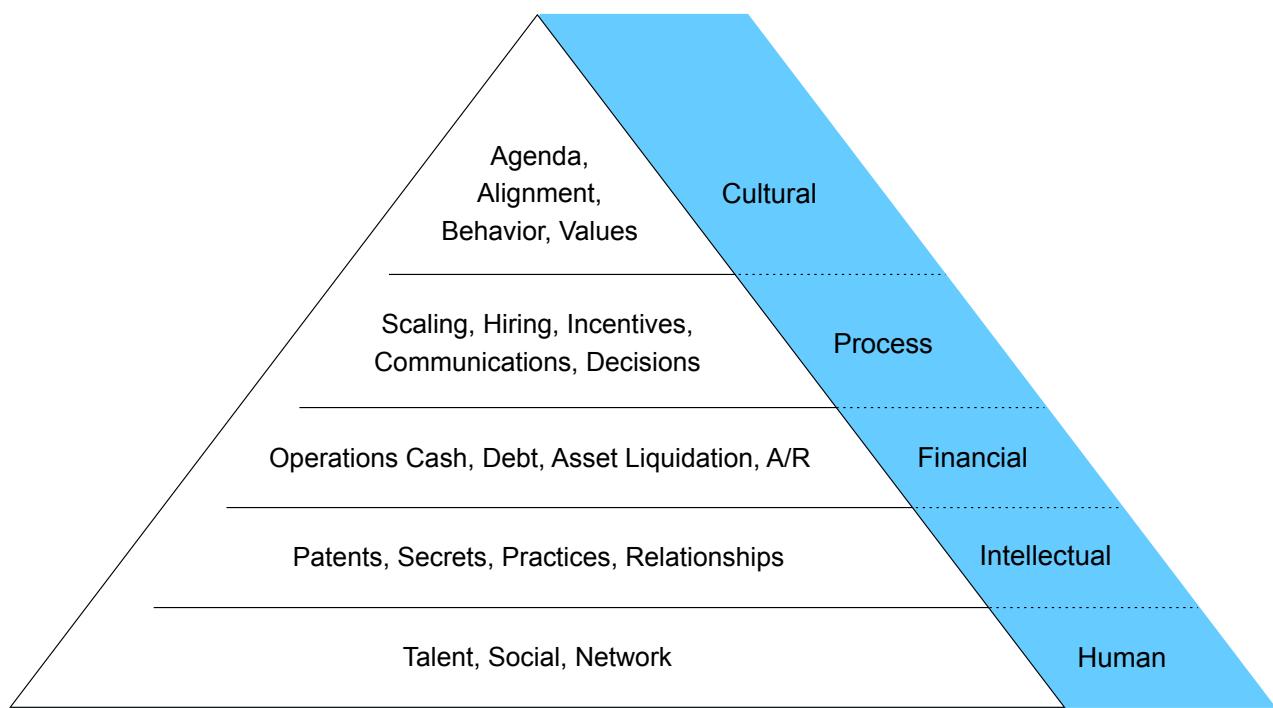


Figure 1. The Startup Capital Hierarchy of Needs: (At Least) Five Types of Capital for Success.
Author's figure, drawing on psychologist Abraham Maslow's hierarchy of needs (see footnote 1).

This chain works best when it defaults to the needs and vision of the entrepreneur. Mapping, building access to, and mobilizing all of the different forms of capital on behalf of entrepreneurs is the practice of the science of capital formation.

An Introduction to Shadow Capital

These observations raise the question of what are the different forms of capital (i.e., startup nutrition) that companies require for optimal health? In the rest of this article, I share a rough draft of observations we have made over the years. This is a working model, and one we welcome feedback on.

Channeling U.S. psychologist Abraham Maslow,¹ we have developed what in effect is a "startup capital hierarchy of needs" (figure 1). Resting on a base of societal challenges sits a pyramid of at least five types of capital. In concert, these different types of capital are equally important to optimize a new company's chances for success.

¹ NetMBA, "Maslow's Hierarchy of Needs," 2010, <http://www.netmba.com/mgmt/ob/motivation/maslow/>.

While all five are needed, the majority of media, entrepreneurs, and venture capitalists focus only on financial capital. We have coined the term *shadow capital* to describe these other valuable-but-often-overlooked startup nutrients.

Human Capital

In volume 1 of this journal, I laid out a working definition of innovation as the systematic, sustainable delivery of a solution to a market in need.² To deliver that solution, one must build a remarkable new organization—remarkable because it has to go against the prevailing wisdom of the time, and because it has to last. Innovation (and new organizations) begins with **human capital: essentially the founding team, including advisors**

² Phil Wickham, "A Note on Innovation, Capital Formation, and the Role of the Society of Kauffman Fellows," *Kauffman Fellows Report* 1 (2010):3-6, http://www.kauffmanfellows.org/journal_posts/a-note-on-innovation-capital-formation-and-the-role-of-the-society-of-kauffman-fellows/.

and investors. Human capital can also be defined one layer deeper as the characteristics of those people: factors such as IQ and EQ (emotional intelligence), as well as complimentary skillsets, preferences, values, and character traits in particular.

Companies like Google are legendary for their recruiting and integration of new talent so that new employees both meet the standards for the job in the moment but also fit in with the original culture of the company. This selection and onboarding process should extend beyond employees, to all new investors, partners, and advisors. Investors make funding decisions they must live with, but with the right skills they can also help with optimizing the founding team's dynamic and ensuring that new talent for growth is accessed, identified, filtered, and integrated in a systematic way.

Intellectual Capital

To address a market in need, a startup team will build their solution around intellectual capital: individual expertise, trade secrets, patents, technology trends, and business model innovation and practices. The deeper and more sophisticated the blend of intellectual capital, the greater the sustainable competitive advantage over time. Pivoting is mistakenly thought to happen only when a door closes on a possible market, but it is just as likely to happen when intellectual capital comes together in a surprising way and opens up unforeseen opportunities (think Post-its, Kevlar, Viagra). Investors can help with access to past patterns of success across hundreds of companies.

Financial Capital

The most commonly known type of capital, financial capital, is more than just funding—fueling a startup with cash is an art form. Timing, amount, and type of financing must be considered; it is common to see a mix of equity, operating

debt (venture debt), asset lending, and accounts receivable lines. Entrepreneurs have to weigh the costs of capital, the risks of taking on too much venture equity (which has to be repaid first upon an exit), the possibility of raising conservatively and confronting challenging conditions later, and the balance of the lower cost of debt against the cash burden of interest payments. At Veeva, for example, Emergence Capital and Gordon Ritter (Mentor, Class 15) helped management run extremely lean on equity to achieve an IPO in 2013 (\$4M in venture investment; \$4.4B in valuation³). On the other hand, Gilt Groupe is an example of perhaps too much capital and too many ideas intoxicating a young company, to its detriment.⁴

Process Capital

The best founding teams are laser-focused on bridging the gap between the societal problem (the “market”) and the IP (the product or service that will make them successful). However, scaling the organization to enable big success requires process capital, which is not always the most exciting for executive leadership: hiring, accounting/audit, 409a valuations, litigation, incentive structures and compensation, copyrights/trademarks, branding, and internal and external communications. With these kinds of challenges, investors can often help the most, both with pattern recognition and wisdom as well as access to the best lawyers and specialist hires or consultants.

Cultural Capital

Culture is the highest and most powerful form of startup capital, but for many it is the most elusive. Scott Kriens (co-founder of The 1440 Foundation) relayed to our Fellows that, in his experience in growing Juniper Networks as CEO for over 12 years, a trust-based culture is marked

³ Ari Levy, “Veeva IPO Generates 300-Fold Return for Emergence Capital,” Bloomberg 16 October 2013, <http://www.bloomberg.com/news/articles/2013-10-16/veeva-ipos-generates-300-fold-return-for-emergence-capital-1->.

⁴ Jillian D’Onfro, “Four Years Ago Gilt Groupe Was the Hottest Startup in New York – Here’s What Happened,” *Business Insider*, 21 February 2015, <http://www.businessinsider.com/gilt-groupe-story-2015-2>.

by its “generative” energy. A culture lacking in trust is, in contrast, “toxic.”⁵

Culture should be designed, executed, managed, and protected—when it is ignored, an arbitrary culture just happens. In practice, an arbitrary culture is never what management hopes for. Facebook is renowned for dropping in a “culture team” from headquarters for up to 18 months in a new office, to ensure that the right culture is established through the hiring and onboarding of new employees.

About Fellows: Developing Smart, Connected Capitalists

Kauffman Fellows identifies emerging leaders in venture capital and accelerates them to positions of global authority.

We identify potential Fellows using a multi-layer design process that moves through credentials, proven skills, appetite for and success with calculated risk, and most importantly, ethical and behavioral traits. As we develop Fellows, we want them to see the capital-formation process laid out in [figure 1](#) as a framework for developing and applying their most critical tools as venture capitalists.

We accelerate them by first helping them to achieve an extremely deep understanding of their individual “powers and passions” (thanks to Lisa Solomon⁶), and then mapping those powers to unique and exciting VC “white spaces” where high-potential entrepreneurs are underserved. The global peer network of the Kauffman Fellows Society becomes a trading platform for the key currencies to help Fellows help accelerate new fund ideas and execute them. Our most traded currencies are typically insights, opportunities, and resources.

I have heard VC legend Dave Marquart say, “Entrepreneurs distinguish themselves by

⁵ For some of his thoughts on corporate culture, see Alan Weissberger, “Juniper CEO Scott Kriens Thoughts on Leadership and Corporate Culture Transformation,” *Viodi View*, 21 January 2008, <http://viodi.com/2008/01/21/leadership/>.

⁶ <http://lisakaysolomon.com/about-lks/>.

how they build, VCs by how they buy.” There is no doubt this is true, but since success in the modern world of venture capital depends so heavily on brand within the entrepreneurial world, one has to believe that a class of investors plays a material role in supporting entrepreneurs to build success. Success requires more than fulfilling the adage, “first, do no harm.”

The earlier the stage of human development, the more critical the mix, dosage, and timing of nutrients. **We encourage Fellows to see capital as an array of different types of inputs that nourish startups.** We encourage them to focus on how and when to provide particular nutrients, and to strive daily to increase their expertise in and access to capital in all its forms. As with humans, capital formation is most important at the earliest stages of startup life.

Adding Value as a VC

Our view of the world is that everything begins with the founding entrepreneurial team. They feed off a base of societal challenges and become motivated to address a particular challenge by turning a problem into a market. To create that market, they must develop a solution to the problem and people must be willing to pay for the solution, use it, and (hopefully) promote it to others.

We tend to discourage a belief that Fellows can add value in product or service developments and iterations—that is the domain of the startup team. **The simple adage prevails that “if you, the investor, can actually help your founding team with product or service issues, you have backed a bad team.”**

Another dynamic in capital-formation that cannot be ignored is the atmosphere (commonly called “the ecosystem”) in which entrepreneurs operate. This ecosystem can include government factors such as tax structures, regulatory processes, immigration policies, and law

enforcement. It can also include social forces such as media bias, religious influences, and family or community prejudices.

Investors, often through larger organizations, can have a material impact on government policy and regulations. Through the NVCA, Kate Mitchell⁷ worked with the JOBS Act to convince the SEC to lighten regulatory oversight of smaller venture funds.⁸ VCs can also help and encourage the media to better tell and celebrate the stories of successful entrepreneurs as a way to educate society and inspire future generations. However, this sort of broader regulatory or media push is a side effort best left to those, like Kate, who have achieved many years of success in the industry and are working to have bigger impact.

Developing This Model Further

This analysis leaves me asking questions that I will continue to work on. The first is the existential question: do investors really add any value post-investment, and are there clear limits if they do? From there, **I wonder whether the management and investors in the great successes in Silicon Valley would agree with this analysis.** Did they mobilize all these forms of capital in the right ways, and did that contribute to their eventual success? Conversely, could we as an industry reflect on high-potential disappointments and find discrete examples where there was a key capital “hole” that contributed to an unnecessary and costly failure?

Finally, **if this is a useful framework for the business of venture capital post-investment, could Kauffman Fellows fluent in this approach use it in the “buy” process and as a framework for due diligence?**

I look forward to following up on these questions with experts in the Kauffman Fellows Society and elsewhere. Whether you agree or disagree with this model, we want to know about it.



Phil Wickham

Phil is President and CEO of Kauffman Fellows and a co-founder of Sozo Ventures, a \$150M fund 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, Com21, Lotame, Square, Palantir, ServiceMax, MongoDB, and Pley. He holds a BSME and an MBA. phil@kfp.org

⁷ Kate was a Kauffman Fellows Mentor for Class 11 and volume 2 author; see Kate Mitchell, “Venture Capital 2011: How the Past Informs the Future...Today ,” *Kauffman Fellows Report 2* (2011):10-14, http://www.kauffmanfellows.org/journal_posts/venture-capital-2011-how-the-past-informs-the-future-today/.

⁸ James Freeman, “Kate Mitchell: How Silicon Valley Won in Washington,” *Wall Street Journal*, 6 April 2012, <http://www.wsj.com/articles/SB10001424052702303299604577326270090887812>.

A Hybrid Venture Capital Model for the Middle East

Tarek Sadi

Class 17

Youth unemployment in MENA, according to the Skoll Foundation, is around 26% and among certain demographics it goes up to 65%.¹

Governments and large corporations are doing everything they can to create jobs, but more is needed. It is crucial that an efficient and successful venture capital industry be created to fuel further economic growth, and therefore employment. The first venture capital funds were launched in the Middle East and North Africa (MENA) in 2010, a promising beginning. At Endeavor, a global nongovernmental organization committed to transforming world economies by supporting the world's most impactful entrepreneurs, we believe more can be done to build a successful venture capital industry in the MENA region.

To understand the challenges for venture capital and the best way to unlock its value in the region, I conducted a series of interviews with three distinct groups of stakeholders to understand their perspectives:

¹ Jamie McAuliffe, "Addressing the Youth Unemployment Crisis in the Middle East," *Skoll World Forum*, 9 April 2013, <http://skollworldforum.org/2013/04/09/addressing-the-youth-unemployment-crisis-in-the-middle-east/>.

1. Ten active family offices in the Middle East.
2. Five entrepreneurs who have raised capital in the region and beyond.
3. Four venture capitalists who have been actively looking for opportunities in the region.

Having had the good fortune of being an entrepreneur and an investor across three continents before joining Endeavor, I have no doubt of the power that entrepreneurs and investors have when their interests are aligned. In this article, I use the interview data to explore how to accelerate the creation of new venture capital funds in the Middle East, so that entrepreneurship can achieve accelerated job creation and economic growth.

The Situation on the Ground

Interviewees revealed three main challenges to venture capital in the Middle East and North Africa.

Lack of LPs

None of the potential LPs whom I interviewed view venture capital as a viable asset class in the region (even though four of the five are limited partners in U.S. funds, and understand the asset class). Venture returns are unproven in MENA, while returns from more

traditionally non-liquid assets in the region, such as real estate, are high—yielding in some cases 3x in two years.² This investment environment increases the opportunity cost for investors, making local VC funds a less attractive asset.

All three family offices I interviewed also raised the concern that there are few credible VC investors in the region. According to the CEO of one of the largest family-run industrial groups in Saudi Arabia,

We see great fund managers when we invest as LPs in the U.S. and Europe, but in the region I have not come across fund managers that we could back....VC is not in the culture that we have in the Middle East. Bring me someone who worked for 10 years at Sequoia and I will back him.³

Lack of Venture Capital Diversity

As of this writing, there are 15 venture capital funds active in MENA. By country, these funds are distributed as follows: Lebanon (3), Jordan (4), Saudi Arabia (3), UAE (3), and Egypt (2). Only three of these funds invest significantly on a regional level (Wamda, MBC Ventures, and STC Ventures). **The relatively small number of funds operating in each country allows for active cooperation among the funds, to the detriment of entrepreneurs.**

Entrepreneurs can face a barrier when raising capital, as term sheets are often standardized across the funds and therefore very tough. According to Ghaith El Yafi of ScoopCity, a daily deal website and online retailer targeting a high-end demographic, the term sheet they got while raising their Series A round was punitive. When they tried to negotiate, it was made very clear that there was no room to maneuver: Either they accepted the provision to guarantee the returns to the VCs through a put option, or they would not get the investment. The second fund they went to did exactly the same.⁴

² Interview with CEO of leading family-run business in Saudi Arabia, 22 April 2014.

³ Interview with CEO of leading family office in the Middle East, 22 April 2014.

⁴ Ghaith El Yafi (founder of ScoopCity), interview, 15 May 2014.

Once the investment is made, entrepreneurs usually find little value-add from their VCs. According to Rabih Nassar of Element N, “I saw my investors on the day we signed, and since then I get a call every few months asking me how things are going; beyond that, there is no interaction.”⁵ This was a recurrent theme across the five interviews I conducted with entrepreneurs. This VC situation de-motivates entrepreneurs and can act as a deterrent to launching new businesses.

Limited Pipeline

Although there is increasing momentum in entrepreneurship in the Middle East, **quality startups and scale-ups in the market are few.** Since 2007, there have only been three major success stories—the acquisition of Maktoob by Yahoo! in 2009 at an estimated \$164 million,⁶ the acquisition of Diwanee by Webedia for an estimated \$30 million (including \$5 million in capital increase),⁷ and the acquisition of Talabat by Rocket Internet for \$170 million.⁸ International investors have also made two sizable Series C investments (Sooq.com, Marka VIP).

Five years after Yahoo acquired Maktoob, Webedia recognized that Diwanee was a well-run business with a clear vision and strategy, and that at the time, it was MENA’s only digital-content business run at a global standard. The core of Diwanee’s successful acquisition (i.e., the global standard) existed because of the rich experience of the company’s founders and team. This is a rare case in the region, as **most entrepreneurs have only a few years of experience before launching their own businesses.** In another of these five successes—Marka VIP—the

⁵ Rabih Nassar (CEO of Element N), interview, 9 May 2014.

⁶ CrunchBase, “Yahoo! / Maktoob,” 26 February 2010, <https://www.crunchbase.com/acquisition/0be25f0c9e835122ae9d68b3980fdf48>.

⁷ Nina Curley, “Majority Stake in Diwanee Acquired by Paris-based Digital Publishing Company Webedia,” Wamda, 19 March 2014, para. 2, <http://www.wamda.com/2014/03/diwanee-acquired-by-paris-based-digital-publishing-company-webedia>.

⁸ Lucy Knight, “Rocket Internet Acquires Kuwait’s Talabat for \$170M, Largest MENA Tech Acquisition since Maktoob,” Wamda, 11 February 2015, para. 1, <http://www.wamda.com/2015/02/rocket-internet-acquires-kuwaitas-talabat-for-170m-largest-mena-tech-acquisition-since-maktoob>.

founder had seven years experience at Zazil in the Bay Area before returning to the Middle East.

Local MENA funds I talked to argued that without a stronger pipeline, it is hard for them to give better terms and be more hands-on with their portfolio companies. According to Antoine Boustany of Saned Investments,

We want to support our investments more actively, but investing in a large number of small early-stage opportunities makes it very difficult to do so from the start. As we start seeing outliers, we start honing our efforts on them.⁹

Interviewees revealed that governance in the funds I spoke to is often weak, and GPs do not have to demonstrate to their LPs how much effort they put in to supporting portfolio companies. With more engaged LPs, however, this relationship will change.

Leverage Points for Change

The interview data on **barriers to successful venture capital growth in the region** can be summarized as follows.

1. LPs do not see VC as a strong investment compared to other opportunities.
2. LPs would prefer to back more experienced VCs.
3. VCs do not find quality opportunities that they can easily exit, so they protect their capital by over-structuring.
4. Entrepreneurs are generally not experienced.
5. Entrepreneurs often get poor deals because there is not enough VC diversity to create a competitive funding marketplace for them.

To accelerate job creation and innovation in the region, venture capital firms need better access to both capital and opportunity. While most potential LPs are reluctant to invest in venture in the region, an added incentive to compensate for the lack of current returns could unlock this capital.

As most of these LPs are family offices tied to businesses that specialize in specific sectors, **VCs should build funds that are relevant to these family businesses in order to add a strategic component** that will

⁹ Antoine Boustany (Managing Director of Saned), interview in Beirut, Lebanon, 14 May 2014.

compensate for the lower returns they are currently perceived to yield. In other words, GPs should position themselves as “outsourced” corporate VCs to these family offices, with transparent investment structures and incentives for the VCs and the entrepreneurs. Entrepreneurs will benefit because of the support they can get from these groups and from more specialized VC funds.

Of the 10 family offices that I spoke to, 7 mentioned that they already invest in and acquire opportunities relevant to their core businesses. On the other hand, all view startup investment opportunities as too small and too much work to make a difference to their core business. When asked whether they would back a fund that would help grow companies relevant to their core industries, however, four of these family offices said they would be interested.

It is important to note that some of these groups have acquired companies in Europe to gain their technologies, which they then use in their core businesses. Investing in young companies with specific intellectual property is therefore not a foreign concept to these corporations, and blending this strategy with a VC approach is worth exploring.

In the usual structure, LPs are mainly mutual funds, pension funds, and insurance companies—very different from the private equity funds and strategic buyers that venture funds seek to exit to. **In the Middle East**, however, there is a challenging conflict of interest. **The same groups that are potential LPs are also the exit strategy for investments in the region.** Successful venture capitalists must recognize and accept this reality, and address the potential conflicts of interest.

A Hybrid Corporate VC Model for the Middle East

At Endeavor, we believe successful entrepreneurial ecosystems are created around core competencies that are found locally, leveraging local expertise and demand. Most MENA startups to date have been clones of successful U.S. and European models that focus

on consumers, with less attention given to local market dynamics. While companies such as Marka VIP and Souq.com (both in e-commerce) are making around \$100 million and \$400 million in revenue per year, respectively, no other digital businesses in MENA have yet reached that level of scale in terms of revenues or subscribers.

The VCs and entrepreneurs I interviewed stated that this lack of momentum is due to limited exit opportunities. As discussed above, exit routes are unclear in the region, making it difficult to find additional funding beyond Series A. According to Antoine Boustany of Saneed Ventures, a pan-regional seed stage investor, a number of their portfolio companies are limited in their follow-on investment options, straining the resources of seed investors trying to finance their growth. This barrier to scale-up in turn limits the creation of new companies, and thus the momentum around entrepreneurship is less than desired.

A model that aligns startups with the needs of the region would also align innovation with the requirements of the large corporations in MENA who become the exit strategy for these entrepreneurs. This model will help fuel existing industries, increasing innovation in these sectors and help to create sustainable, long-term economic growth. Furthermore, as more companies from MENA expand into Africa and South Asia, this “outsourced” innovation will become an important source of competitive advantage in new markets.

Upon preliminary analysis, four sectors in MENA have built considerable expertise and compete both locally and globally. These sectors would most benefit from such a hybrid VC model: oil and gas, warehousing and logistics, food manufacturing, and construction.

By partnering with VCs who tailor their portfolio to local needs, MENA’s leading corporations will benefit from new sources of innovation and agility, while strengthening the competitiveness of their business at a global level. As Palo Alto is a global tech hub, Dubai can become a global hub for innovation in logistics.

As Boston is today a global hub for life sciences, Khobar in Saudi Arabia can become a hub for innovation in oil and gas. Instead of importing technology and innovation, these regions can export it. This shift has the potential to transform the MENA region and its economies.

Case Studies

Existing examples of local innovation helping regional businesses grow indicate a real need for innovation by acquisition. Two case studies of recent successes illustrate the potential of this hybrid VC model.

Aramex and InfoFort

InfoFort was launched in 1999 as a document and data storage startup in Dubai. By 2001, it had expanded into Egypt where it quickly became the leading data-management company. Aramex, the leading regional courier business, was developing a strong offering in terms of warehousing and logistics, and saw InfoFort as an opportunity to leverage its infrastructure further while developing a deeper relationship with its clients. Aramex acquired InfoFort in 2005 and rolled it out across MENA. Today, InfoFort is the leading data management company in the Middle East and Africa, and a core offering of Aramex.¹⁰

If InfoFort had had VC support from launch, however, it could have scaled up faster and yielded a better return for its investors. This difference would in turn have allowed Aramex to expand its footprint and new service more aggressively.

Abdul Latif Jameel (ALJ) and Marka VIP

ALJ, the leading car distributor in Saudi Arabia, invested an estimated \$40 million in Marka VIP, a leading regional e-commerce business. This investment was strategically important for Marka VIP to leverage ALJ’s know-how of the Saudi market. For ALJ, a company based on consumers in the Middle East, access to the knowledge developed at Marka VIP gives it a unique insight on how to evolve its relationship with its customers online as the region becomes more connected.¹¹

This access would have been very difficult for ALJ to achieve on its own without acquiring a

¹⁰ Endeavor Lebanon sources; Riad Ghandour (investor), interview, 5 May 2014.

¹¹ Endeavor Lebanon source; I am also a seed investor.

share in a business that had built this expertise over the previous years. By investing in Marka VIP and gaining insight into the e-commerce world, ALJ will be able to learn more about the sector, gain expertise around e-commerce execution, and potentially identify ways to benefit its core business. With its investment, ALJ acquired innovation while funding a leading regional scale-up.

Real-Life Potential

Both of these examples, albeit very different, show the importance of entrepreneurship to corporations in the region and highlight the symbiotic relationship that governs innovation in the Middle East. In the hybrid model proposed here, VCs focus on exploiting that dependency, which allows them to quickly demonstrate to investors the returns that innovation can yield in a region where the true power of entrepreneurship has traditionally been underestimated. This access to innovation on a local level will help to fuel the creation of new funds and drive investors to back them, as **these same LPs will not only benefit financially from their investment but also in kind as entrepreneurs help their companies innovate.** At Endeavor, we are adamant that the key to reducing unemployment in MENA is leveraging the financial reach of large regional businesses.

Next Steps for MENA Entrepreneurship

This preliminary idea will benefit from further analysis, such as an investigation into each of the named sectors to understand their potential and requirements. There are also clear conflicts of interest in this model that need to be addressed, primarily, how to encourage LPs to pay to build something they will most probably end up buying themselves. Nonetheless, **the potential returns are inspiring, both for individual stakeholders and for the region as a whole.**

As part of Endeavor, my goal is to encourage companies in the region to play the crucial role of funders and acquirers of innovation. Like

Aramex and ALJ, by having access to the right entrepreneurs they can evolve their groups and compete on a global level. We intend to help grow MENA startups into successful companies, and to align with—instead of against—the business culture of the region, by offering professionally managed VC funds that cater to the region's LPs in their roles as both investors and acquirers.

Existing VC funds in the region have helped created a fertile ecosystem where entrepreneurs view building world-class companies as a viable professional path. Today, a small number of growth funds are being created by those same GPs looking to finance their best portfolio companies through their next investment rounds. Funds such as Wamda, Beco, iMena, Sadara Ventures, and Leap are targeting bigger tickets across the region, which will encourage more traditional capital such as high-net-worth individuals and family offices to engage in VC. In my opinion, this growth will be a catalyst for exits in the region, creating further confidence in LPs who will continue fueling creativity and innovation in a region that is trying to diversify its resources and income. By waking these “sleeping giants” with the promise of global investment opportunities in their backyard, VCs will help the Middle East and North Africa to curb its unemployment time-bomb.



Tarek Sadi

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The Evolving Landscape of the Life Sciences Sector: New Approaches in Therapeutic R&D

Daniel Janiak

Class 17

Since the early 2000s, the rise of on-demand cloud computing platforms such as Amazon Web Services¹ has **drastically reduced the costs associated with forming new technology ventures across a variety of industry verticals.**² In particular, new IT tools, platforms, means of distribution, payment methods, and peer learning environments are driving down cost. The number of accelerators and incubators has increased as well, providing a much-needed support infrastructure for young companies.

Similarly, but **less noticeably, a number of factors are driving down costs in the life sciences sector.** My work at Mercury Fund focuses on early-stage life sciences investing and company creation, and involves extensive communication with stakeholders across the therapeutics-development pipeline. In this article, I draw on my experience to describe **the impact of**

¹ <http://aws.amazon.com/economics/>.

² Joe McHendrick, "How Cloud Computing is Fueling the Next Startup Boom," *Forbes*, 1 November 2011, <http://www.forbes.com/sites/joemckendrick/2011/11/01/cloud-computing-is-fuel-for-the-next-entrepreneurial-boom/>; Quentin Hardy, "The Era of Cloud Computing," *New York Times Bits Blog*, 11 June 2014, <http://bits.blogs.nytimes.com/2014/06/11/the-era-of-cloud-computing/>; Maija Palmer, "Cloud Computing Cuts Startup Costs," *Financial Times*, 29 February 2012, <http://www.ft.com/intl/cms/s/0/fc871bca-58e1-11e1-b9c6-00144feabdc0.html#axzz3GoqlmKA1>.

five specific catalysts: research and development externalization, patient advocacy emergence, increasing talent availability, policy innovation, and contract infrastructure maturation. These factors are remodeling the life sciences sector, resulting in significant decreases in the costs and timeframes associated with the discovery and development of new therapeutics. Here, *therapeutics* refers to new drugs that are of chemical origin (i.e., pharmaceuticals) or biological origin (i.e., biopharmaceuticals).

Technology versus Life Sciences³: An Overview

The rapid decrease in the cost of new company creation in the technology sector has resulted in a bifurcation in total capital flows ([figure 1](#)) and deal volumes ([figure 2](#)) when compared to the life sciences sector. In response to the decreasing costs associated with new tech company formation, the traditional capital providers—including early-stage venture funds—have shifted their investment models to accommodate companies with lower capital requirements at

³ The funding data presented here for the healthcare and biotechnology industries serve as a proxy for the life sciences.

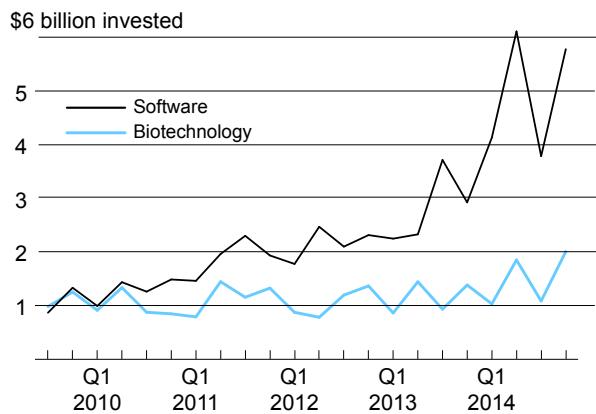


Figure 1. Invested Capital in Biotechnology and Software, 2009-2014. Author's figure, numbers from PwC Moneytree Historical Trend Data, <https://www.pwcmoneytree.com/HistoricTrends/CustomQueryHistoricTrend>.

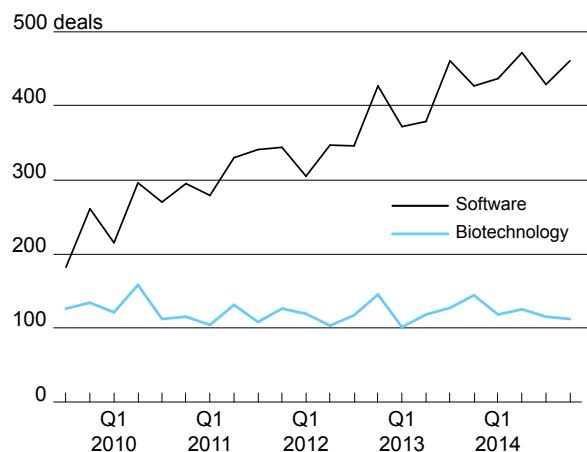


Figure 2. Number of Deals in Biotechnology and Software, 2009-2014. Author's figure, numbers from PwC Moneytree Historical Trend Data, <https://www.pwcmoneytree.com/HistoricTrends/CustomQueryHistoricTrend>.

the formation stage. New institutional capital providers have emerged, and these micro VC funds and “super angel” groups (such as SV Angel⁴) have established a strong track record of accessing coveted early-stage deal flow.

While the technology sector has flourished, driven by substantial decreases in the amount of capital required to form new companies, the life sciences sector has languished. For example, healthcare Seed and Series A financing rounds have remained relatively stagnant over the past

⁴ Quora, “What is the business model of SV Angel?”, n.d., <http://www.quora.com/What-is-the-business-model-of-SV-Angel>.

year, accounting for approximately 20% of dollar share.⁵

Numerous structural differences between technology and the life sciences drive this immense divergence between the sectors’ availability of seed capital—including but not limited to the timeframe from company formation to product launch, capital availability, total capital requirements, product development cycles, exit options and timeframe, and many more. As a result, it is unlikely that a Cambrian explosion⁶ in the life sciences is imminent.

However, a number of structural shifts (some originating as far back as the early 1990s) are beginning to exert their effects, driving the **transition from a traditionally closed system to an open, highly-networked life sciences sector characterized by an emphasis on collaboration and the principles of shared-risk**. Pharmaceutical companies are externalizing research and development, resulting in increased access to an experienced and skilled labor pool for startups and the establishment of an integrated contract research infrastructure. Patient-advocacy groups are emerging as a significant source of support for biomedical innovation, and key regulatory agencies are engaging in aggressive policy innovation.

As a result of these shifts, the remodeled life sciences sector will have more in common with the technology sector, **supported by a drastically reduced cost structure and a sophisticated infrastructure of research service providers that serves as a platform for new company formation and growth**. In this article, I focus on the individual and collective potential of these shifts to drastically

⁵ CB Insights, “Healthcare IPOs Remain Strong but VC Funding Weakens,” 1 November 2014, Share of Healthcare VC by Series - Dollars of Funding, Last Five Quarters, <https://www.cbinsights.com/blog/healthcare-venture-capital-q3-2014/>.

⁶ An evolutionary burst during which the plans of most major animal species appeared; “A Cambrian Moment,” *The Economist* (18 January 2014), Special Report, <http://www.economist.com/news/special-report/21593580-cheap-and-ubiquitous-building-blocks-digital-products-and-services-have-caused>.

decrease the cost and timeframe associated with the discovery of new therapeutics.

R&D Externalization

Historically, companies engaging in the development of new medicines performed the bulk of their discovery and research efforts in-house. As the industry matured, competitive pressures increased and the resultant search for product differentiation propelled research into high-risk, high-cost projects characterized by lower probabilities of technical success. As figure 3 highlights, the research and development cost of approved drugs has been rising steadily for over 60 years. Facing decreasing research productivity, dwindling clinical pipelines, and impending patent cliffs that threatened to severely deplete revenue streams, companies gradually began the process of externalizing select portions of their research and development efforts in the early 1990s.

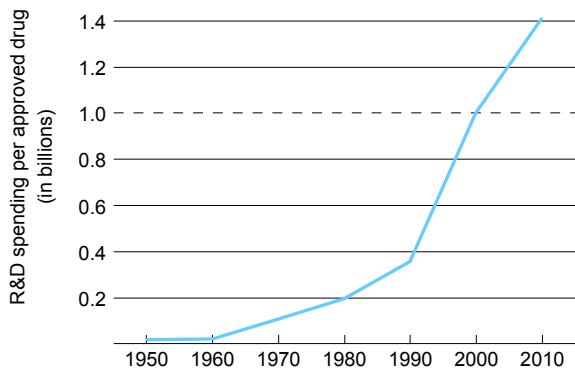


Figure 3. R&D Spending (in Billions) per Approved Drug, 1950-2010. Author's figure, data from http://www.nature.com/nrd/journal/v11/n3/fig_tab/nrd3681_F1.html.

As the search for viable externalization platforms began, Eli Lilly achieved early success with Chorus, an outsourcing effort that began as a pilot program in 2002. Chorus is structured as an autonomous, external organization focused on decreasing the costs and timeframes associated with advancing promising Lilly drug candidates from discovery through clinical proof-of-concept. As of 2009, Chorus had assumed development responsibilities for a portfolio of 24 molecules at various stages ranging from candidate identification through the end of Phase I clinical

studies. In the 5-year period from 2004 through 2008, Chorus advanced molecules through clinical proof-of-concept within 29 months at a mean total cost per molecule of \$6.0 million, representing extraordinary cost and time savings versus historical industry averages.⁷

In addition to Eli Lilly, many other established companies began to design and refine their externalization strategies using various partnerships, internal and external initiatives, and multi-stakeholder collaborations. While an exhaustive review of the details and differences between these strategies is beyond the scope of this article, a limited selection of externalization initiatives is worth highlighting.

One common example of research externalization involves the participation of established companies as limited partners in life science-focused venture funds.⁸ As LPs, these companies can serve as a stable source of both capital and expertise for venture funds and their portfolio investments. In return, they gain valuable insight into early-stage pipeline opportunities as well as early access to external research trends.

More recently, this type of relationship has evolved into a more sophisticated structure characterized by an enhanced degree of collaboration between the parties involved. One such example is COI Pharma, a collaboration between GlaxoSmithKline (GSK) and Avalon Ventures. Formed in 2013, this partnership allows GSK to access the company-building expertise of Avalon and provides them with a capital-efficient strategy for accessing an external portfolio of development candidates.

⁷ Chorus, *The Chorus Story* (June 2009), 1, <http://www.choruspharma.com/Chorus.Brochure.02June2009.pdf>.

⁸ Ron Leuty, "Bayer Pumps \$25 Million into New Versant Ventures Biotech, Device Fund," *San Francisco Business Times*, 4 November 2014, <http://www.bizjournals.com/sanfrancisco/blog/biotech/2014/11/bayer-versant-ventures-inception-5-new-fund.html>; Ryan McBride, "Amgen, Novartis Aim to Fuel Biotech Startups in Alliances with Atlas Venture," *Fierce Biotech*, 15 May 2013, <http://www.fiercebiotech.com/story/amgen-novartis-aim-fuel-biotech-startups-alliance-atlas-venture/2013-05-16>.

The collaboration is structured such that Avalon supplies approximately \$3 million in equity capital for each project while GSK commits an additional \$7 million in non-dilutive support. In return for this support, GSK receives an exclusive option to purchase each project for approximately three to four times Avalon's initial investment, at a pre-defined timepoint, with the potential to achieve returns in excess of 14x if a drug from these projects eventually reaches market.⁹

Structured collaborations between industry and academia have also proven to be a popular form of research externalization, and broad, multi-year industry-academia partnerships are on the rise.¹⁰ In an effort to further enhance the level of collaboration associated with such partnerships, Pfizer recently launched its Centers for Therapeutic Innovation. Within these Centers, university scientists and researchers are co-located with experienced Pfizer scientists in an effort to expedite the sharing of knowledge, networks, tools, and techniques, to accelerate the discovery of new therapeutics.¹¹

Johnson and Johnson (J&J) has a differentiated approach to accessing external research through its JLABS¹² initiative: a network of **incubators providing emerging companies with access to shared equipment and facilities** that far exceed the budgets of most early-stage companies. In addition to infrastructure, JLABS offers flexible leasing models that provide tenant companies with the option to expand or contract as needed. Co-localization with other early-stage companies and J&J employees yields the additional benefit of providing all parties with knowledge sharing and the potential to

⁹ Stacy Lawrence, "2013 Financing of the Year Nominee: GSK/Avalon Team Up," *IN VIVO*, 17 December 2013, http://invivoblog.blogspot.com/2013/12/2013-financing-of-year-nominee_17.html.

¹⁰ FasterCures, *Consortia Pedia: An In-Depth Look at the Research-by-Consortium Trend in Medical Research and Development* (Milken Institute, 2013), <http://www.fastercures.org/assets/Uploads/Consortia-pedia.pdf>.

¹¹ Pfizer, "Areas of Interest," n.d., http://www.pfizer.com/partnering/areas_of_interest/; Pfizer, "Centers for Therapeutic Innovation: Translating Leading Science into Clinical Candidates Through Networked Collaboration," http://www.pfizer.com/research_rd_partnering/centers_for_therapeutic_innovation.

¹² Johnson & Johnson, "About JLABS," 2015, <http://www.janssenlabs.com/about/overview>.

develop strong relationship networks. Through JLABS, J&J benefits from having early insight and awareness into emerging technologies and external drug development programs that could serve as a source of new candidates for clinical development at some point in the future.

The continuing trend of research and development externalization has the potential to decrease the barriers associated with the discovery and development of new therapeutics across multiple axes. Industry-academic partnerships and strategic allocations to venture investment funds result in **an increase in the availability of risk capital**. In addition, these partnerships may serve to produce **a higher quality of pipeline candidates** through tighter collaboration and synergies derived from the transfer of expertise across the participating organizations. Strategic leasing initiatives such as JLABS and other incubators, accelerators, and facilities that provide shared workspace and infrastructure will have **a significant impact on the fixed capital costs associated with the launch of new research efforts**. Finally, innovation in the structural and financial components of contracts will emerge to support new partnerships between public and private enterprises, improve the risk-reward balance, and drive inflows of fresh capital to support the advancement of high-risk, early-stage life science efforts.

Patient Advocacy

The rise of patient-advocacy groups as a source of financing for early-stage life sciences companies

has been rapid, welcomed, and impactful. The research and development financing provided by philanthropic organizations such as the Michael J. Fox Foundation, the Juvenile Diabetes Research Foundation, and the Leukemia and Lymphoma Society increased from \$737 million in 2011 to over \$1.3 billion in 2012—a year-over-year rise of nearly 80%.¹³ Recently, the Cystic

¹³ Research!America, *U.S. Investment in Health Research, 2012* (n.d.), 1, <http://www.researchamerica.org/uploads/healthdollar12.pdf>.

Fibrosis Foundation received a lump-sum cash payment of \$3.6 billion for the royalty rights to Kalydeco, a treatment used for a subgroup of cystic fibrosis patients who have a specific genetic mutation. The Foundation had invested more than \$150 million in the development of the treatment.¹⁴

The data suggest that patient advocacy groups and philanthropic foundations are likely to become an increasingly significant source of research funding, as the collaborative, networked approach to new therapeutics discovery and development continues to gain traction. Furthermore, **the strategic grants and investments these groups can provide will offset the capital traditionally acquired from fully-dilutive sources, effectively lowering the amount of risk capital needed at formation.**

In addition to risk capital, patient foundations and advocacy groups can provide **tremendous in-kind support** through connections to clinical and scientific experts, clinical trial networks, patient registries, access to clinical samples, disease natural history data, and more. When Mercury Fund formed Apsara Therapeutics, we had a series of conversations and interactions with the Guthy-Jackson Charitable Foundation, the patient advocacy group for a rare inflammatory disorder of the central nervous system called Neuromyelitis Optica (NMO). As a result of these discussions, Apsara rapidly forged connections with leading researchers, clinical experts, and key opinion leaders in the field of NMO and related neuroinflammatory disorders. As Apsara matures into a clinical-stage company, the Guthy-Jackson Charitable Foundation will facilitate access to patient databases, clinical samples, and their network of clinicians in an effort to expedite enrollment in clinical studies.¹⁵

This form of non-financial support, combined with an increasing propensity from foundations

¹⁴ Ben Fidler, "CF Foundation Cashes Out on Kalydeco in \$3.3B Sale to Royalty Pharma," *Xconomy*, 19 November 2014, para. 2, <http://www.xconomy.com/boston/2014/11/19/cf-foundation-cashes-out-on-kalydeco-in-3-3b-sale-to-royalty-pharma/>.

¹⁵ Portfolio company files.

Firm	2005 year-end	2013 year-end	Change
Pfizer ^a	151,700	77,000	-49%
Merck ^b	96,500	76,000	-21%
Eli Lilly	44,500	38,000	-15%
Bristol-Myers Squibb	43,000	24,000	-44%
AstraZeneca	64,000	51,500	-20%
GSK	100,000	99,500	0%

Figure 4. Workforce Reductions in Pharmaceutical Research Staff, 2005-2013.

Author's figure.^a Includes Wyeth. ^b Includes Schering-Plough and Organon; Merck's goal is to further reduce employment to 65,000, a 43% decrease overall.¹⁶

to provide financial support to new therapeutic development efforts has **the potential to dramatically shift cost and time curves** within the industry.

Talent Availability

A direct consequence of the trend toward research externalization, the third factor reshaping the life sciences sector is the increased availability of experienced talent to provide guidance to emerging companies and drive high-risk research projects. **As established companies continue to dismantle their research infrastructures** in efforts to cut costs and improve efficiencies, their collective research workforce has declined significantly in the past decade (figure 4).¹⁶ As a direct result, **many highly skilled workers with significant experience in the pre-clinical and clinical development of new medicines are available to participate in new research efforts as founders, full- or part-time employees, advisors, consultants, and other roles.**

¹⁶ Mizuho, "Restructuring the Pharmaceutical Industry," *Mizuho Industry Focus* 155, no. 11 (2014): 7, http://www.mizuhobank.com/fin_info/industry/pdf/mif_155.pdf.

This talent base can capitalize on an increase in flexibility and efficiency gained through participation in multiple projects, generating cost savings through enhanced time utilization. In 2011, for example, Boehringer Ingelheim, Merck, and AstraZeneca all closed research sites in Montreal (laying off approximately 1,500 people). The AstraZeneca site was donated to the provincial government of Quebec, and the facility was populated with contract research organizations (CROs), life sciences companies, startups, investors, and others to promote the formation of a drug discovery hub.¹⁷

As a result of the site closures and the establishment of the hub, Jeff Albert was able to found IntelliSyn (a CRO), recruit and retain top-tier talent, and build his new venture in a state-of-the-art facility. Jeff compares IntelliSyn to a “perfectly controlled experiment” in demonstrating the advantages of R&D externalization. He estimates that external to AstraZeneca, IntelliSyn has achieved productivity gains of approximately 1.5x as measured in both cost and time, doing similar work with the same people, same building, and same infrastructure.¹⁸

Policy Innovation

In stark contrast to the majority of companies that receive venture financing, companies developing new therapeutics operate within a highly regulated framework. The regulatory barriers associated with bringing new medicines to market add multiple layers of risk and complexity, resulting in lengthened development timeframes, larger capital requirements, and greater uncertainty. In an effort to decrease the regulatory burden and construct a more transparent and efficient regulatory review process, the FDA has recently launched a number of innovative new policy initiatives designed to foster greater collaboration between regulators and industry. (See also Anh Nguyen, p. 43.)

The Fast Track program provides eligible companies with a number of incentives, including

¹⁷ Jeff Albert, personal communication, January 2015.

¹⁸ Ibid; while some companies have experienced an increase in total workforce (related to M&A, restructuring, etc.), the trend in R&D has been generally to the downside.

more frequent interactions with the FDA to decrease ambiguity and ensure that the appropriate pre-clinical and clinical development plan required for approval is being properly managed and executed. In addition, Fast Track designees can seek accelerated approval and priority review if certain criteria are met.¹⁹

Accelerated Approval allows a company to seek approval for their investigational drugs based on surrogate endpoints, which are intended to serve as a substitute for clinical (functional) endpoints. For example, if a decrease in the blood levels of a specific protein is known to correlate with increased survival in a specific disease, the company can seek approval for its therapy once a sustainable decrease in that protein has been demonstrated in the relevant patient population. The result of Accelerated Approval is shorter clinical studies, lower costs, decreased regulatory burdens, and faster access to new therapies for patients.²⁰

Priority Review decreases the FDA review timeline from 10 months to 6 months. Fast Track designees are also eligible for a rolling review, in which separate portions of the regulatory documents and data packages required for approval can be submitted individually. In the standard review process, a complete package has to be submitted before the review process is initiated.²¹

The Breakthrough Therapy designation provides a higher level of engagement with senior regulators and experienced reviewers to ensure that the drug granted breakthrough designation is expedited in both its development and review. In addition, each drug

¹⁹ U.S. Food and Drug Administration, “Frequently Asked Questions: Breakthrough Therapies,” 16 January 2015, <http://www.fda.gov/RegulatoryInformation/Legislation/FederalFoodDrugandCosmeticActFDCAAct/SignificantAmendmentstotheFDCAct/FDASIA/ucm341027.htm>.

²⁰ Ibid.

²¹ Ibid.

designated as a Breakthrough Therapy is assigned a cross-disciplinary project lead to enable more effective engagement and collaboration between the various stakeholders. The overarching goal is to ensure a streamlined regulatory and development process for evaluating the safety and efficacy of promising drugs in development for severe diseases.²²

While the Breakthrough Therapy designation has a very limited history, **the results of the program to date are very encouraging.** According to the FDA, 70 requests for Breakthrough Therapy designation were received between October 1, 2013 and June 13, 2014. More than 98% of the requests received a response within 60 days, a testament to the FDA's increased commitment to improving their regulatory processes and procedures, and 16 requests were granted.²³ Three drugs granted Breakthrough Therapy designation were approved in 2013, and nine in 2014.²⁴

As these numbers reflect, regulatory policy innovation can have a significant impact on drug development timeframe and budgets. Over time, such changes will result in a transparent, efficient regulatory environment where **the cost and time burden associated with the regulatory process is diminished and de-risked, increasing the flow of risk-capital toward emerging entities and early-stage research.**

Contract Infrastructure

A direct effect of research externalization, the emergence, growth, and maturation of a **highly capable, highly specialized contract research infrastructure is a key factor** driving the remodeling of early-stage life sciences research. The U.S. contract research market is expected to grow by approximately 5-6% per year, from approximately \$23-25 billion in 2014 to over \$30 billion in

²² Ibid.

²³ Ibid.

²⁴ Riley McDermid, "The FDA's Breakthrough Therapy Program by the Numbers," *BioSpace*, 31 December 2014, para. 6, http://www.biospace.com/news_story.aspx?StoryID=359491&full=1.

2018.²⁵ In addition, Bank of America Merrill Lynch estimates the total market size for outsourced life science research tasks is \$90-95 billion, representing approximately two-thirds of the R&D expenditures of the top 500 biopharma companies.²⁶

The services provided by these contract research organizations **vary immensely and span all aspects of the drug discovery and development value chain.** Additionally, organizations such as Charles River, PPD, Aptuit, and a number of others have assembled the resources and expertise to shepherd projects from early-stage discovery through the start of clinical trials (and in some cases further).²⁷ As an example, Aptuit has demonstrated the ability to reduce nonclinical development timelines by approximately 50% at a cost savings of approximately 40-60%.²⁸

A number of these contract research organizations have expressed an interest in pursuing creative risk-sharing collaborations in which they waive a significant portion of the upfront expense to access their services, in exchange for equity, downstream royalties, milestone payments, or various combinations thereof. **The ability to tailor compensation schemes and cash outflows** will allow emerging companies to create significant value for their products on a decreased capital base.

For example, Calvert Research employs a hybrid service-equity model to offset costs for emerging companies developing therapies at the late pre-clinical stage. In this model, a portion of the normal retail cost of certain study services is committed by Calvert in exchange for equity. As a result, the company is able to access

²⁵ Hemavli Bali, Brigitte de Lima, and Carrie Yang, *CROs and Other Outsourced Pharmaceutical Support Services: M&A Drivers and Trends* (Results Healthcare, 2013), 3, http://www.resultshealthcare.com/media/114306/20131128_cros_and_other_outsourced_pharmaceutical_support_services_m_a_drivers_and_trends.pdf.

²⁶ Ibid., 10.

²⁷ Based on Mercury Fund's many conversations with these and other contract research organizations, January 2015.

²⁸ Aptuit representatives, private communication, January 2015.

semi-dilutive capital and conserve cash while simultaneously advancing the development of their product, without any of the discontinuities associated with an extensive fundraising process. In exchange, Calvert receives an equity stake in the company with the potential to realize significant upside in a future liquidity event.²⁹

As the company progresses into clinical development, firms specializing in the design and execution of clinical trials (e.g., Integrium Clinical Research) offer similar service-equity models. In addition to their traditional fee-for-service model, Integrium has partnered with a firm (PoC Capital) that invests \$250,000 to \$1.5 million in microcap, small cap, and privately held pre-IPO biotech companies within the early clinical proof-of-concept stages of the development cycle.³⁰ These investments allow Integrium to exchange its clinical services and expertise in exchange for participation in future share price appreciation. The company is able to conserve capital while generating critical, value-increasing clinical data.

As an increasing fraction of total R&D spending is allocated to external partners, the contract research infrastructure will continue to flourish and expand, with new entrants augmenting the efforts of traditional research service providers. For example, a number of academic centers have been successful in aggregating the skills and expertise to advance drug-discovery efforts in a capital-efficient manner. The Academic Drug Discovery Consortium, a nonprofit founded in 2012 to connect drug discovery scientists across academic institutes, currently consists of 121 centers across the 50 U.S. states and 9 countries worldwide.³¹ Many of these centers offer their services to industry through various partnership structures and fee-for-services agreements, providing a viable alternative to more

²⁹ Calvert Research, private communication, January 2014; <http://calvert-research.com/>.

³⁰ Integrium representatives, private communication, January 2015; <http://www.integrium.com/>.

³¹ Academic Drug Discovery Consortium, "ADDC Statistics, Drug Discovery Centers," accessed 19 January 2015, <http://addconsortium.org/about-statistics.php>.

traditional providers of outsourced research and development.

The contract research industry is rapidly evolving, and a new breed of technology-enabled organizations is giving rise to a sharing economy characterized by disownership of core laboratory instruments and facilities and distributed research organizations. Powered by advances in robotics and automation technology, these firms have the potential to transform the contract research industry and empower the formation of a new class of ultra-lean life science companies.

One example is Emerald Therapeutics, founded in 2010 and pioneering the Emerald Cloud Lab: a web-based system in which researchers design their experiments over the web to be conducted at the Emerald facilities using their proprietary experiment-management software and automation technology. Upon completion of the experiment, the data is available for collection, analysis, and sharing using Emerald Cloud Lab's open source workstation.³² Fees range from \$1 to \$100 per sample, with an average cost of \$5-\$25 per sample.³³ Emerald currently offers 42 experiments using its platform, with plans to add another 64 by 2016.³⁴

In addition to cost and time savings, it is likely that an automated experiment design and execution platform such as Emerald's will result in less error and more robust data generation, as the human component required for the execution of complex experimental protocols is minimized. Transcriptic³⁵ is another provider of on-demand laboratory services that allows users to draft custom experiment protocols

³² Ashlee Vance, "Emerald Therapeutics: Biotech Lab for Hire," *BloombergBusinessweek*, 3 July 2014, <http://www.businessweek.com/printer/articles/211287-emerald-therapeutics-biotech-lab-for-hire>.

³³ Emerald Cloud Lab, "Frequently Asked Questions," 2014, para. 3, <http://emeraldcldlab.com/faq>.

³⁴ Emerald Cloud Lab, "Lab Experiments," 2014, <http://emeraldcldlab.com/lab-experiments>.

³⁵ <https://www.transcriptic.com/>.

for execution at their Foundry—an automated molecular biology facility and support infrastructure capable of performing a wide variety of studies. Transcriptic uses a slightly different billing approach, charging researchers based on the amount of time each piece of equipment is used to execute their protocol.³⁶

Automated laboratories are not the only new elements of the contract research infrastructure, however. Assay Depot,³⁷ BIO BizLink,³⁸ and Science Exchange³⁹ are examples of **online marketplaces that facilitate connections between scientists and researchers** while dramatically expanding the equipment and knowledge base available to those researchers. Such services should ultimately result in decreased capital expenditures and staffing requirements.

Implications

With research externalization as a fundamental driver, **the core components of a rental economy are infiltrating the historically closed drug discovery and development ecosystem.** Increasingly, life sciences startups can take advantage of shared facilities, equipment, and administrative resources; marketplaces that enable access to top-tier researchers and service providers; an expanding and evolving fee-for-service infrastructure; and the creation of new alliances and knowledge-sharing networks. Alongside the reform of private capital markets and the emergence of crowdfunding platforms, these elements are creating **an environment conducive to the formation of a new breed of companies** that can achieve new efficiencies in operating leverage with decreased product development timelines and capital requirements.

As these structural changes continue to unfold and the life sciences sector becomes more tech-like, it will be interesting to watch how

³⁶ Transcriptic, “Pricing,” 2015, <https://www.transcriptic.com/pricing/>.

³⁷ <https://www.assaydepot.com/>.

³⁸ <https://biobizlink.com/>.

³⁹ <https://www.scienceexchange.com/>.

the process of developing new therapeutics is modified as a result. Will increased efficiencies truly decrease the costs associated with pre-clinical and clinical research, driving an increase in new company formation within the life science sector? Will pricing pressures exerted by payors drive the search for efficiencies even further? Will new company formation and capital flows into the life science sector remain the appropriate metric? Or, will a distributed ownership model take hold, where new therapeutics move more fluidly from discovery through development on a continuum of contracts between academia, contract research organizations, patient organizations, and established companies?

I believe the continued remodeling of the life science sector will **fundamentally alter how new therapeutics are discovered and developed, and by whom**—shifting the industry away from a few fully integrated giants, and distributing efforts and expertise across an increasingly wide range of participants. These changes have implications for the formation of new therapeutics companies, but also for existing companies. Although progress may be gradual, a remodeled life science sector that results in innovative therapeutics, delivered to patients at a lower cost, will have a sustainable positive impact on human health.



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Singularity and Growth in Latin America: Nine Drivers of Category-Leading Companies

Ariel Arrieta

Class 18

Enterprises like Google, Facebook, Airbnb, Dropbox, Instagram, Whatsapp, and Twitter are unique in the high level of impact they have on the world. With billionaire valuations, they redefine ways of doing business and are at the forefront of consumer trends. Investors are always looking for that one innovative startup able to become life-changing for millions of people.

These game-changing startups are real—and they are also occurring in Latin America. While the list of Internet companies founded in Latin America that have already managed billionaire valuations is short (figure 1), these few have paved the way for other Latin American companies to envision themselves becoming global players.

I believe that during the next decade, twice as many Latin American companies will reach \$1+ billion valuations. Furthermore, I argue that this exponential growth rate can be maintained—a Moore’s Law for Latin American companies with global reach—but only if the region can take advantage of the unexplored verticals that present this unparalleled opportunity.

As a serial entrepreneur in the Internet-company space since 1994, and currently Co-founder and Managing Partner at NXTP Labs, an accelerator and seed fund of Latin American Internet-based startups, I have long had a keen interest in the question of identifying and

Rank	Company	Sector	Valuation	Founded	Status
1	Mercado Libre	E-Commerce	\$6.3B	1999	Public
2	B2W	E-Commerce	\$3.7B	2006	Public
3	Despegar	Search	\$1.0B	1999	Private
4	OLX	Classifieds	\$1.0B	2006	Private
5	UOL	Telecommunications	\$1.0B	1996	Private

Figure 1. Latin American Internet Companies with \$1+ Billion Valuations. Author's figure; data from L. S., D. H., and P. J. W., "Start Me Up," The Economist, 7 July 2014, http://www.economist.com/blogs/graphicdetail/2014/07/daily-chart-6?fsrc=scn/tw_ec/start_me_up.

supporting so-called unicorn investments in Latin America. In this article, I outline nine key drivers supporting the development of category-leading Latin American companies over the next ten years. To discuss those factors, I refer to companies that are raising the most funding and are on track to becoming the next Latin American leaders (figure 2).

Company	Sector	Country
Navent	Real Estate	Argentina
UOL	Internet Services	Brazil
VivaReal	Real Estate	Brazil
Open English	E-learning	Global Venezuela
Satellogic*	Satellites	Argentina
NetShoes	E-Commerce	Regional (Based in Brazil)
Dafiti	E-Commerce	Brazil
Avenida	E-Commerce	Argentina
YellowPepper	Mobile Payment	Regional
Technysis	Finance	Global (based in Argentina)
NuBank	Finance	Brazil
Spring Wireless	Mobile Solutions	Global
Movile	E-Commerce	Global
Restorando	Online reservations	Regional
Compraraonline	Personal finance	Chile
Hotel Urbano	Travel	Brazil

Figure 2. Companies Likely to Become the Next Latin American Category Leaders.

Author's figure; data based on LAVCA, Venture Investing Snapshot: LATAM Trends (2014), 4, <http://lavca.org/2014/08/28/venture-investing-snapshot-latam-trends/>.

The rapid growth of companies such as these is not just a wish or desire. Rather, it is the expected and plausible result of the transformation of nine key drivers.

Driver 1: Emerging Markets Have Momentum

There has been sustained economic growth in emerging Latin American countries such as Chile, Peru, Colombia, Brazil and Mexico.¹ Enterprises competing and working together across these emerging markets have facilitated the consolidation of companies throughout the region.²

The growth in number of Latin America's \$1+ billion companies is attributed to the expansion of the global market itself—around 50% of connected Internet users come from emerging markets, and 73% do not have English as a mother tongue.³ In the 1990s and before, to be a great company required a strong (if not exclusive) presence in the English-centered markets—but no more. As the numbers above reflect, **there are now significant opportunities to build a great company outside the English-language markets.**

One good example of this shift is OLX, an online classifieds company founded in 2006 that has grown to 1,200 employees and operates in 40 countries—making it, in 2013, the largest marketplace in India, Poland, and Brazil. As of October 2014, OLX had reached the 200-million-user milestone (same as Instagram) without having a strong foothold in English-centered markets.⁴

¹ Bloomberg, "Bloomberg Visual Data, Best Emerging Markets 2014: Countries," <http://www.bloomberg.com/visual-data/best-and-worst//best-emerging-markets-2014-countries>.

² Luciano Ciravegna, "The Silicon Valleys of Latin America – Searching for 'Shared Value' Development Models," *European Business Review*, 11 January 2013, <http://www.europeanbusinessreview.com/?p=2134>.

³ Olivia Nottebohm, James Manyika, Jacques Bughin, Michael Chui, and Abdur-Rahim Sayed, *Online and Upcoming: The Internet's Impact on Aspiring Countries* (McKinsey, January 2012), 6, http://www.mckinsey.com/-/media/mckinsey/dotcom/client_service/high%20tech/pdfs/internet_in_aspiring_nations_report_april_2012.ashx.

⁴ Erin Griffith, "Meet OLX, the Biggest Web Company You've Never Heard Of," *Fortune*, 29 October 2014, <http://fortune.com/2014/10/29/olx-emerging-markets/>.

Driver 2: Role Models and Success Stories Affect Aspirations

As the whole industry is being consolidated, success cases are coming up gradually—and continue to define themselves over time. The definition of success in the late 1990s was to create a company and then sell it, but success is now redefined. Today, being successful means creating a company that lasts and transcends technological change—in no small part because of the timeframe to create a billion-dollar company. It takes about seven years in the United States, eight in Europe,⁵ and the global average is likely to be longer.

Therefore, since the mid-2000s, the model of a successful entrepreneur has also changed. Previously, the role model was of entrepreneurs like Wenceslao Casares: as a student, he created Patagon, a portal for financial operations that after several investment rounds managed to sell in 2000 for \$750 million.⁶ Other founders and startups then developed the objective to be sold to strategic companies who were already big players in the market.

This aspiration to find the right big buyer changed in Latin America in 2007 when MercadoLibre launched its IPO on Nasdaq (MELI) under the leadership of its CEO and Founder, Marcos Galperín. The company now surpasses a \$4 billion valuation, and is catalogued by Forbes as one of the most innovative technology companies in the world (18th out of the top 100).⁷

Driver 3: Angel Investors Recycle Capital

In the consolidation of the technological industry linked to the Internet, angel investors are key agents. Internet startups exist within an immature business segment by their very

⁵ Manish Madhvani, Alessandro Casartelli, and Oana Chimina, *Can Europe Create Billion Dollar Tech Companies: THE FACTS* (GP Bullhound, June 2014), 6, <http://www.gpbullhound.com/wp-content/uploads/2014/09/GP-Bullhound-Can-Europe-Create-Billion-Dollar-Tech-Companies-Jun-14-vF.pdf>.

⁶ Eric Markowitz, "The \$750 Million 'Mistake,'" *Inc.*, 14 December 2011, para. 1, <http://www.inc.com/articles/201112/argentine-entrepreneur-750-million-mistake.html>.

⁷ "Mercado Libre," *Forbes*, June 2014, <http://www.forbes.com/companies/mercadolibre/>.

nature and so present a high level of risk; therefore, the first resources made accessible to high-potential startups come from angel investors.

Since 2010 angel investors in technology projects have formed and consolidated networks within national and regional Latin American ecosystems.⁸ Though some studies suggest that Latin America has 21 active angel networks encompassing more than 700 investors, we at NXTP Labs know that the number of investors is bigger and is growing rapidly in the emerging countries of the region: Argentina, Brazil, Colombia, Chile, Mexico, and Peru.⁹

Angel investors in Internet-based companies most often are, essentially, recycling capital. Angel investors usually fit the profile of entrepreneurs who managed to make money starting Internet companies and then returned to invest in what they believe in. They perceive risk in a very different manner than traditional investors, and are reinvesting the capital generated in their own experiences in the industry.

This recycling is supported by several factors. Angel investment is catalyzed by those investment funds that are led by technology entrepreneurs, such as Kaszek, my own NXTPLabs, Fabrice Grinda, and José Marín. Behind them are countless technology-entrepreneurs-turned-angel-investors, betting once again on "safe" investments. In general, this angel money is also followed by entrepreneurial know-how gained from the success that made them investors. Finally, interests are aligned in a wider ecosystem that finds value in the progress of startups.

These trends are supported by the numbers. Quantitatively, fund income for Q1 2014 in the venture capital sector of Latin America increased

⁸ Fondo Multilateral de Inversiones, *Las Redes de Inversionistas Angeles en América Latina y el Caribe* (February 2013), <http://lavca.org/wp-content/uploads/2013/12/Las-redes-de-inversionistas-ángeles.pdf>.

⁹ Ibid., 14.

to \$3.5 billion, while 2013 totaled \$5.5 billion for the full year.¹⁰

However, 93 private equity or venture capital investments were implemented in the region for a total of \$2.57 billion¹¹—10% less than in 2013 during the same period.¹² This decrease suggests fund administrators diverted efforts towards management and fundraising.

The information technology market is the sector with the highest growth of investors in the region. Nearly one third of the dollars invested in Q1 2014 went to the technology sector—an unthinkable level just a few years back. If a technology fund completes its investment cycle, it generates a lot of trust in the market—and it is feasible to **expect more investors to bet on the technology sector in the future.** This establishment of trust will allow funds to leverage their focus from fundraising to diligent portfolio management and more and better investments.

Driver 4: Copycats Are Fewer and Fewer

The highest-valued Internet companies in Latin America to date have been copycats of successful models from the English-language market. MercadoLibre was inspired by eBay, and OLX has become the Craigslist of the emerging world (mainly for Brazil, Russia, India, and China—the BRIC countries).

However, the region is now experiencing a different moment of company creation. **Latin American entrepreneurs know that from day one (and even day zero) they are competing globally, and so they concentrate primarily on leading the region, at least initially.**

Two of our portfolio companies at NXTP Labs demonstrate this shift well. Satellogic is an

¹⁰ Lawrence Delevigne, “Private Equity Preps New Latin America Push,” CNBC, 8 September 2014, <http://www.cnbc.com/id/101975104#>.

¹¹ Mark Boslet, “Private Equity Investing in Latin America Falls 10 pct in First Half,” PE Hub, 4 September 2014, para. 2, <https://www.pehub.com/2014/09/private-equity-investing-in-latin-america-falls-10-pct-in-first-half/>.

¹² Ibid., para. 10.

Argentine developer of satellites at low cost, for less than \$100,000. The company is launching into orbit a constellation of satellites that will allow access to almost real-time images from all over the planet—an incredibly valuable asset for hundreds of industries. No company has attempted this before, and this totally novel idea may disrupt the satellite data market.

iBillionaire allows users to replicate the investments made by the billionaires of the world, thus allowing everyone to have the same portfolio as an expert (at their own scale) and bettering returns on the S&P. Founded by an Ecuadorian and an Argentine, this startup now operates the iBillionaire Index (IBLN) as a parallel to Wall Street. In moving from an informational app to a financial distribution platform, iBillionaire is innovating the stock market by bringing democratization to Wall Street financial transactions.

There are many other examples of the creative phrase, “Made in LatAm.” These companies are evidence of a moment where research and development has matured to such an extent that **it is no longer strange to hear that “the next Facebook” will come from Latin America.**

Driver 5: Entrepreneurial Support Is Part of Regional Government Agendas

Entrepreneurs in knowledge economy companies have a productive agenda that is gaining ground with the region’s governments. Governments have at long last concluded that the only way to generate local innovation is with **dedicated funds and policies that facilitate the creation and good business administration of this type of enterprise.**

Theirs is not a naïve vision or an underestimation of Josh Lerner’s *The Boulevard of Broken Dreams*,¹³ where he describes in detail errors made by past governments that tried to replicate Silicon Valley in their territories.

¹³ Josh Lerner, *Boulevard of Broken Dreams: Why Public Efforts to Boost Entrepreneurship and Venture Capital Have Failed—and What to Do About It*, Kauffman Foundation Series on Innovation and Entrepreneurship (Princeton, NJ: Princeton University Press, 2009).

Country	Program name	Description
Argentina	The City of Buenos Aires Government (GCBA)	Launching an initiative to provide an investment of AR\$28 million (\$3.5M), of which AR\$18 million (\$2.25M) will go to five accelerators.
	Argentina's National Agency for Scientific and Technological Promotion (ANPCyT)	Goals include the completion of undergraduate degrees, the generation of new businesses, and the strengthening of small- to medium-sized enterprises (SMEs) in the information technology and telecommunications (ICT) sector.
Brazil	Brazilian Development Bank (BNDES)	Principal agent for development finance in Brazil, with a fundamental role in the growth of industry and the country's infrastructure. Focuses on innovation, local development, and socio-environmental development.
	Funding Authority for Studies and Projects (FINEP)	Support the full cycle of technological development by supporting companies that implement R&D programs in innovative sectors, including information and communication technologies, aerospace, renewable energy, cleantech, health, biotechnology, nanotechnology, and aeronautics.
	Startup Brazil	Created by the Ministry of Science, Technology, and Innovation in association with private accelerators to help fund technology-based companies.
Chile	Production Development Corporation (CORFO)	National agency in charge of aiding the development of local entrepreneurship, innovation, and competition in the country. Manages 50+ programs.
	Startup Chile (SC)	Seeks to attract world-class entrepreneurs to start companies at an early stage in Chile, and aims to strengthen the entrepreneurial ecosystem, sustaining the country's innovation culture, and connecting it to the world. Run by CORFO.
Colombia	Apps.Co	Aims to drive business creation through a plan called Vive Digital, using information and communication technologies, with a special interest in mobile applications, software, and content. Initiative designed by the Ministry of Information Technologies and Communications (MinTIC).
	iNNpulsa	National government institution supporting and promoting extraordinary business growth, innovation, and high-impact enterprise. Focused on business initiatives that can grow quickly and are profitable and sustainable.
	Ruta N	The hub for business and innovation in Medellín; mission is to drive new business based on knowledge, with a global vision. Program is for startups in the country's Antioquia region.
Mexico	National Institute for the Entrepreneur (INADEM)	Aims to instruct, execute, and coordinate national policy for entrepreneurs and micro-businesses (small and medium). As of January 2015, was implementing a funding program for high-impact funds. A branch of Mexico's Ministry of Economy.
	The National Financier Program (NAFIN)	Incentivizes credit for companies with an impact in economic development by guaranteeing the return of capital. Targets companies in the commercial, industrial, and service sectors.
Peru	Startup Peru	Promotes the creation and consolidation of new Peruvian businesses offering products and services that are innovative, highly technological, and have international potential. Initiative led by the state's Ministry of Production.
	The National Innovation Research Agency (ANII)	Promotes and encourages research into—and application of—innovative ideas for the improvement of social realities.
Uruguay	Inter-American Development Bank - Program to Support Future Entrepreneurs	Aims to boost private investment in innovation activities. Specific objective is to increase the number of new and successful innovative business ventures in Uruguay.

Figure 3. Government Programs Supporting Entrepreneurial Activity in Latin America: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay (in alphabetical order). Author's figure; data compiled from each program's website.¹⁴

¹⁴ <http://www.buenosaires.gob.ar/emprendedores>; <http://www.agencia.mincyt.gob.ar/>; http://www.bnmes.gov.br/SiteBNDES/bnmes/bnmes_en/Institucional/The_BNDES/; <http://www.finep.gov.br/>; <http://www.startupbrasil.org.br/?lang=en>; <http://www.corfo.cl/ultimo>; Loic Comoli and Nicole Etchart, "Case study 7.1 CORFO," in *Social Enterprise in Emerging Market Countries: No Free Ride* (New York: Palgrave Macmillan, 2013), para. 2; <http://www.startupchile.org/about>; <https://apps.co/>; <http://www.innpulsocolombia.com/>; <http://rutanmedellin.org/index.php/es>; <http://www.inadem.gob.mx/>; <http://www.nafin.com/portalnf/content/home/home.html>; <http://www.start-up.pe/>; <http://www.ani.org.uy/web/>; <http://www.iadb.org/en/projects/projects,1229.html>.

Latin American governments are rather recognizing that without public policy and dedicated funding, an ecosystem like Silicon Valley is impossible. It is a fact that behind every great company started in Silicon Valley, one can trace government funds, as Mariana Mazzucato describes in *The Entrepreneurial State*.¹⁵

This evidence of past success has helped create government programs in the region, among which seven countries stand out: Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Uruguay (in alphabetical order). Figure 3 (previous page) provides an overview of these programs.

In addition to all these government-led efforts, multilateral organizations have made an important monetary contribution to the operation of these efforts. These organizations include the Interamerican Development Bank (IDB) and its Multilateral Investment Fund (FOMIN), the Development Bank of Latin America (CAF), and the International Finance Corporation (a World Bank agency).

Driver 6: Regardless, the World is Flat¹⁶
Today's world is both exponential and global. Global is easier to understand—if something happens in emerging countries or regions, it has a direct effect on the rest of the world in minutes (or seconds). Global integration through communications, technology, and infrastructure is generating exponential and global changes as never seen before. This setting creates an unparalleled opportunity for emerging markets like Latin America to generate businesses of high impact in global markets.

Exponential requires a visualization. If I take 30 linear steps, I walk about 30 yards or meters. However, if I take 30 exponential steps, how far do I walk? Few will answer 1 billion meters, or 26 times around the planet. The difference

¹⁵ Mariana Mazzucato, *The Entrepreneurial State: Debunking Public vs. Private Sector Myths* (London: Anthem Press, 2013).

¹⁶ According to Thomas Friedman, *The World is Flat* (New York: Farrar, Straus & Giroux, 2005).

between linear and exponential projections is what is truly causing us stress—as humans, we think linearly, but the world is now changing exponentially.

This difficulty in visualizing exponential change is why the CEO of a company in a traditional industry like printed news or hospitality cannot see how technology can put her out of business in a very short time. **This is how businesses can scale up to a value of \$1 billion in less than two years.** This explains Airbnb, whose value of \$10 billion is higher than that of Hyatt's \$8 billion.¹⁷

Driver 7: The Bridge between Latin America and Silicon Valley

These days, good startups are largely able to find local funding for the seed series, Series A, and Series B rounds. Nevertheless, **the Latin American entrepreneur takes a longer road in order to find investors for the Series C or D rounds.** When they reach the more mature stages, Latin American technology companies must eventually seek funding in Silicon Valley and Europe. This shortage of local funds is one of the challenges that the region will face in the coming years: securing the “cash flow” that companies need in order to consolidate.

However, **more Latin American companies are able to obtain funding through U.S. funds and then establish trusted relationships with local funds.** The local funds then generally focus on day-to-day operations. U.S. venture capitalists have invested in many early-stage startups,¹⁸ including social login/identity tool Auth0 (Bessemer),¹⁹

¹⁷ Megan Rose Dickey, “Airbnb Might Soon Be Worth \$10 Billion, Valued More than Hyatt Hotels,” *Business Insider*, 20 March 2014, <http://www.businessinsider.com/airbnb-raising-at-10-billion-valuation-2014-3>.

¹⁸ Companies identified using dealbook.co database.

¹⁹ <https://auth0.com/>; Anthony Ha, “Auth0 Raises \$2.4M To Help Developers Plug Into Identity Platforms Like Facebook,” *TechCrunch*, 17 September 2014, <http://techcrunch.com/2014/09/17/auth0-raises-2-4m-to-help-developers-plug-into-identity-platforms-like-facebook/>.

Argentinian e-commerce Avenida (Tiger),²⁰ Etsy for Brazil Elo7 (Accel Partners),²¹ and Groupon-type service Peixe Urbano (Benchmark Capital, General Atlantic, Tiger, Morgan Stanley, and others).²²

Recently, the creation of Puente Labs has been a big step in connecting the investors and mentors of Silicon Valley with startups in the region. Puente Labs²³ is an organization that brings together the most important players of the Valley with the purpose of helping Latin American companies make a soft landing in United States through the selection and support of Latin American entrepreneurs.

Driver 8: Connecting the Local Ecosystem with Other Ecosystems

The region of Latin America is one big melting pot of ventures. **Entrepreneurs know that in order to grow their companies to attractive levels for investors, as well as for founders, they need to scale in different countries.** This understanding quickly generates companies with **a simultaneous presence in several markets, which then connects them with local entrepreneurs.** These connections help establish and grow local businesses, but more importantly, they provide regional impact.

One of the key initiatives in the region today is Startup Chile, a program created by the Chilean government to encourage innovation. In 2014, Startup Chile invested in 100 startups, with 29% of entrepreneurs representing Chile, and 50%

²⁰ <http://www.avenida.com.ar/>; “Avenida Raises \$17.5M from Tiger Global and Naspers to Become the Largest Pure Fulfillment E-Commerce Play in Argentina,” *Quasar Ventures* (blog), 3 September 2014, <http://quasar-ventures.com/avenida-raises-17-5m-from-tiger-global-and-naspers-to-become-the-largest-pure-fulfillment-e-commerce-play-in-argentina/>.

²¹ <http://www.elo7.com.br/>; Leena Rao, “Accel and Monashees Capital Back the Etsy for Brazil,” *TechCrunch*, 11 October 2011, <http://techcrunch.com/2011/10/11/accel-and-monashees-capital-back-the-etsy-for-brazil-elo7/>.

²² <http://www.peixeurbano.com.br/>; Michael Arrington, “Benchmark Capital Takes Stake in Brazil’s Peixe Urbano,” *TechCrunch*, 12 January 2011, <http://techcrunch.com/2011/01/12/benchmark-capital-takes-stake-in-brazils-peixe-urbano/>.

²³ <http://www.puentelabs.com/>.

coming from Latin America.²⁴ The goal of the Chilean government is to mobilize Chilean entrepreneurs and show them it is possible to start a global business form inside the country. This initiative has welcomed many entrepreneurs from North America and Europe to learn more about this part of the continent as well as to connect with other Latin American entrepreneurs, allowing them to create an active network.

In turn, **entrepreneurs are producing “startup communities” in different countries and connecting these communities with each other.** Entrepreneur and author Brad Feld describes this phenomenon of networks where leadership is shared and chaotic: many leaders are linked to various local, regional, or global organizations with ephemeral life cycles, and they are leaving these connections behind.²⁵ Figure 4 (next page) provides a list of the main networking events in the region.

Driver 9: Less Silicon Valley, More Bollywood

Not only does it not make sense to try and replicate Silicon Valley in Latin America, it is a waste of time. There was a moment when it seemed possible: we, the investors, saw startups in Latin America acquired by Playdom and Groupon; we “tropicalized” our expectations and made \$10-35 million on valuations under \$2 million.²⁶ However, an ecosystem cannot be supported if money only comes in and does not leave. Given the scarcity of exits, we realized that we have failed in building companies that are of interest to multinational groups.

The cinematic metaphor is pertinent. Bollywood is not an attempt to copy Hollywood

²⁴ Starter Daily, “100 Startups Chosen to Participate in Round 10th of Start-Up Chile,” 30 May 2014, para. 3, <http://en.starterdaily.com/startup/2014/05/30/100-startups-chosen-to-participate-in-round-10-of-start-up-chile/>.

²⁵ Brad Feld, *Startup Communities* (Hoboken, NJ: John Wiley & Sons, 2012).

²⁶ Juan Cappello, “Web 2.0 in Latin America: Why We Blew It and What We Can Do to Fix It,” *TechCrunch*, 4 August 2013, para. 6, <http://theneextweb.com/insider/2013/08/04/web-2-0-in-latin-america-why-we-blew-it-and-what-we-can-do-to-fix-it/>.

Event	Location	Event Website
Startup Weekend	Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, Puerto Rico, Uruguay, Venezuela	startupweekend.org/events
Startup Grind	Argentina, Brazil, Chile, Colombia, Guatemala, Mexico, Peru, Trinidad & Tobago	startupgrind.com/events
Red Innova	Brazil, Argentina	redinnova.com/camp
Lean Startup Machine	Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Mexico, Peru, Uruguay	leanstartupmachine.com
Palermo Valley	Argentina	palermovalley.com/?tag=eventos
Angel Hack	Argentina, Brazil, Chile, Mexico	angelhack.com/events
Seedstars	Argentina, Brazil, Chile, Colombia, Mexico, Peru	seedstarsworld.com/startup-competition
EmTech	Colombia, Mexico	technologyreview.com/emtech/14
PulsoConf	Colombia, Mexico	pulsoconf.co
Digital Bank Latam	Chile, Colombia, Peru	digitalbankla.com
The Next Web Conference	Brazil	thenextweb.com/conference
Latin America Tech Meetup	Regional	meetup.com/South-America-Tech-Meetup
Hacks/Hackers	Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Guatemala, Mexico	hackshackers.com/chapters

Figure 4. Main Networking Events and Initiatives in Latin America that Support Entrepreneurship in the Region. Author's figure.

in India. Inspired by Hollywood, taking many cues from the United States, Bollywood is a film industry that is totally adapted in style and magnitude to the 1+ billion viewers in the Indian market (figure 5).

Investors need to adopt a market-adaptation model similar to Bollywood's and use Silicon Valley as a model to begin the development of local markets. Local investors and entrepreneurs have been learning how to create and scale companies, and now it is time to

learn how to develop the market potential that we have internally.

The local opportunity is considerable. As figure 6 shows, the total number of Internet users in Latin America is close to that of the United States, but the Internet user growth over the last 2-3 years was much higher in Latin America: close to 8x the U.S. rate.²⁷ The potential for creating an Internet-related business in Latin America is huge.

Few companies born in Latin America are publicly offered; rather, almost all the big

²⁷ Internet World Stats, "Internet users in the world Distribution by World Regions - 2014 Q2," 30 June 2014, <http://www.internetworldstats.com/stats.htm>.

	Hollywood	Bollywood
Average Film Cost	\$47.7M	\$1.5M
Films Produced (2012)	476	1,602
Tickets Sold (2012)	1.36B	2.6B

Figure 5. Film Cost and Sales Comparison: Hollywood vs. Bollywood. Author's figure.²⁸

companies are dominated and controlled by a family or economic group.²⁹ Investors and entrepreneurs must approach the large, local economic groups to determine their needs and create companies that will be attractive to them. As Latin America has a different timeline, a local economic group will better understand how the market works and how to make a regional company grow.

Key Strategies to Support the Development of Category-Leading Companies

Due to the nine drivers described here, Latin America is ripe for the development of a new crop of category-leading, \$1+ billion companies. Three potential threats to that development exist, but can be overcome by following three key strategies.

Make Funds Available for Later Stages

Despite global reach and an exponential pace, the road map for Latin American entrepreneurs to find investments for rounds B, C, or D is longer than in the English-speaking world. The regional ecosystem only provides startups with funds for

²⁸ Data from Palash Ghosh, "Bollywood At 100: How Big Is India's Mammoth Film Industry?" 3 May 2013, *International Business Times*, <http://www.ibtimes.com/bollywood-100-how-big-indias-mammoth-film-industry-1236299>; Statista, "Facts on the Film Industry," <http://www.statista.com/topics/964/film/>; and Neil McCarter, "Bollywood: India's Film Industry By The Numbers [Infographic]," *Forbes*, 3 September 2014, <http://www.forbes.com/sites/niallmcCarthy/2014/09/03/bollywood-indias-film-industry-by-the-numbers-infographic/>.

²⁹ Inter-American Development Bank, *From Multilatinas to Global Latinas The New Latin American Multinationals (Compilation Case Studies)* (2009), 215, <http://www10.iadb.org/intal/intalcdi/PE/2009/03415.pdf>.

	Silicon Valley/ United States ^a	Latin America
Average early-stage seed investment	\$104K ^b	\$42K ^c
Internet users (June 2014) ^d	277.2M	320.3M
Growth in Internet users (2013) ^e	2% ^f	17%

Figure 6. Startup Costs and Internet User Base: U.S. vs. Latin America. Author's figure.³⁰

their Series A. This lack of funds is one of the main challenges for the region over the next few years—it is vital to **guarantee the cash flow that businesses need to consolidate and grow.**

Resist Early Acquisition

Though the opportunity is there for the taking, "bread can always burn at the oven's door."

Early acquisition offers are the most prominent threat faced by high-potential companies, **and it is essential for entrepreneurs and investors to resist this temptation.**

The investment community must allow entrepreneurs to cash out small amounts after every round—not enough to make entrepreneurs become investors instead of scaling their business, but **enough to enable them to risk more and allow the company to become public** (with all its underlying risks). Globant offers a recent

³⁰ ^a While the accelerators listed are not all physically located in Silicon Valley, they are well-connected to the Silicon Valley-United States ecosystem. ^b Average of 3 Silicon Valley funds: Y Combinator investment average from Sam Altman, "The New Deal," *Y Combinator Posthaven* (blog), 22 April 2014, <http://blog.ycombinator.com/the-new-deal>; 500 Startups from "What's the Deal" section of <http://500.co/accelerator>; TechStars from <http://www.techstars.com/>. ^c Average of investments by Wayra, NXTP Labs, 21212, and Aceleratech: Wayra investment average from <http://wayra.co/>; NXTP Labs from <http://www.nxtplabs.com/investment/>; 21212 from <http://21212.com/about/>; Aceleratech from <http://aceleratech.com.br/en/>; for 21212 and Aceleratech (who make investments in Brazilian Reales), I used an exchange rate from 2 February 2014 (2.71), found on oanda.com. ^d Data from Internet World Stats, 30 June 2014, <http://www.internetworldstats.com/stats.htm>. ^e Data from comScore, "Futuro Digital LATAM 2014," slides presented September 2014, <http://www.slideshare.net/delgadocristian/futuro-digital-latinoamerica-2014>, slide 6. ^f Figure is for United States and Canada.

example. During a difficult time for Argentina after its government's 2001 default, Globant's strategy was to acquire small companies as part of its growth plan. Instead of selling their company to the competition, the founders decided they wanted to build their own large company.³¹ Globant has been trading in the NYSE (GLOB) since July 2014.³²

Adopt a Realistic Timeline

The construction of a category-leading company in Latin America takes at least a decade—no Internet startup in Latin America has reached the \$1 billion milestone in less than ten years.³³ Each stakeholder group must accept this timeline and act accordingly.

Entrepreneurs must rid themselves of the idea that they can reach such a valuation in less than two years, as this is not what statistics show. The key is for good entrepreneurs to become good CEOs, which means taking the big step from being a specialist to becoming a generalist who is able to make good decisions in a variety of areas.

Governments should develop policies that cater to long-term results, as opposed to the more typical short-term goals. The development of a successful entrepreneurial regional ecosystem cannot be achieved in four years. The governments of each Latin American country should work together from a regional point of view, allowing startups and enterprises to grow in secure environments.

Finally, as a group, venture capitalists should align their interests with and help their respective governments understand how long-term goals are a critical aspect of regional success. Venture capitalists can and should assist the government in developing strategies that will create an ecosystem of consistent innovation with a global impact.



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³¹ Vinod Sreeharsha, "Argentine Technology Firm Plans I.P.O. on N.Y.S.E.," *New York Times*, 28 August 2013, <http://dealbook.nytimes.com/2013/08/28/argentine-technology-firms-plans-i-p-o-on-n-y-s-e/>.

³² The Street, "Globant Becomes First Latin America IT Company to IPO at NYSE," 18 July 2014, <http://www.thestreet.com/video/12778871/globant-becomes-first-latin-america-it-company-to-ipo-at-nyse.html>.

³³ Based on a review and analysis of the timelines of the billion-dollar (or more) companies in the list provided by L. S., D. H., and P. J. W., "Start Me Up," *The Economist*, 7 July 2014, http://www.economist.com/blogs/graphicdetail/2014/07/daily-chart-6?fsrc=scn/tw_ec/start_me_up.

Benchmarking VC Investment Ecosystems: A Data Model

Ajit Deshpande

Class 17

For early-stage entrepreneurs, one of the first tasks is to sell their vision to capital providers—venture capitalists, angel investors, and the like. In fact, today there is much public-domain content addressing ways and means for successfully raising venture capital as an entrepreneur. Founders want to know how VCs evaluate businesses and teams, what trends VCs currently see as interesting, how entrepreneurs should prepare an elevator pitch or a full-blown slide deck, and so on, throughout the VC process. Yet, the venture-funding process is just the starting point for a new company, paving the way for **the crux of the startup's mission: ongoing business execution and value creation.**

The Challenge of Assessing Ongoing Performance

Execution brings its own unique challenges specific to the startup's location, sector, team-capabilities, business model, and competitive dynamic. Recruiting, product-market fit, customer acquisition, customer retention, and partnerships all bring their own hurdles. While public-domain content addresses some of this, for the most part, the leadership team must

anticipate, evaluate, and act based on its own circumstances.

The same execution challenges also apply to VC firms! Compare a venture capitalist's journey to an entrepreneur's journey.

VCs themselves fundraise every few years from their Limited Partners (LPs). VC firms sell their investment strategy when raising money from their LPs, across various dimensions such as geography, stage, sector, industry segment, approach, and so on. This strategy is a function of both the skillsets and the interests of the VC firm's general partners (GPs) themselves, as well as the prevalent trends within their ecosystem. Once the funds are raised, the GPs are accountable for their execution and eventual outcome (maximizing cash-on-cash returns is their fiduciary duty to their LPs). There are a few thousand VC firms worldwide, generally co-located in a few urban clusters such as San Francisco, Boston, New York, Tel Aviv, and London. Competition to fund promising entrepreneurs is significant. Venture capital is a relationship business to an extreme extent, and networking relationships die off if there is any drop in the VC's effort and execution.

Going back to the lifecycle of a startup, all new businesses must determine how to measure success in their ongoing execution. Depending on the business model, various growth metrics can be used, such as top-line, number of net new customers, margins, impressions, regulatory milestones, sales cycles, deal sizes, and so on. Using the chosen metrics, one can examine a startup on a yearly basis and get a reasonable measurement of whether a startup is executing well.

Again, VCs have the same pressing question—how can they measure ongoing execution success? It's a tricky question because a ten-year fund might not see any outcomes for five years, and the true, significant successes may not happen until seven to nine years down the road.

Using internal performance metrics cannot work for a VC firm—venture is an illiquid asset class with limited nuggets of activity (investments, follow-ons, exits) within any given firm. Therefore, **VCs need to determine a way to aggregate activity in their surrounding venture ecosystem and use that as an ongoing benchmark to measure their own performance.**

Introduction to Opus Capital

Based on our own objectives, we at Opus Capital have developed **a simple way to benchmark our performance against our peers**. Opus Capital is an early-stage, IT-focused VC firm with an office in Menlo Park, CA. We focus on investments primarily in the United States and in Israel. The approach at Opus is to lead or co-lead early-stage rounds, and to be actively involved with portfolio companies all the way through to a successful acquisition or IPO. The partners have all been successful entrepreneurs or senior executives in enterprise IT companies, and thus bring strong domain knowledge and business connections to help portfolio companies succeed.

Given Opus's focused approach across sector, geography, stage, and investment style, it is

critical for the firm to know how the VC community evolves across each of the following:

- Are VC firms gravitating more toward seed investments or toward later-stage?
- Is enterprise IT, which is our main sector of interest, gaining greater or lesser investment interest compared to consumer IT?
- Are our local peer VC firms becoming more active or less active in recent times?
- Are our peer VC firms changing their strategy? If so, is the change due to some structural reason that we need to incorporate into our thought process in adjusting our own approach?

The Opus Capital Benchmarking Process

Like many other firms, at Opus we have had a qualitative process for many years wherein on a quarterly basis we review investments made by 25-30 peer VC firms to get a feel for industry trends. More recently, however, we added a quantitative piece to our review, which despite its simplicity has turned out to be a powerful analytics tool.

First, we selected a "peer group": 25-30 "competitor" VC firms, initially chosen based on their similarity with Opus from an overall investment thesis standpoint. The current mix of firms that Opus monitors is shown in figure 1.

For these chosen firms, Opus obtains quarterly investment data from multiple sources (currently

Fund Size	Firms Tracked
\$0 - \$100M	1
\$100M - \$500M	13
> \$500M	13

Figure 1. Peer Group VC Firms Monitored by Opus Capital. Author's figure.

PitchBook, Crunchbase, and Twitter). The data include new investments as well as follow-on investments, ranging from Seed to Series B, within the United States and Israel, across the Information Technology spectrum—all of these being elements of Opus’s investment approach. Typically, we have seen 100-200 investments per quarter across our selected universe of “competitor” VC firms.

Next, we take the list of companies invested in by our peers, and perform quick reviews of each startup on the list. We determine whether from our standpoint it would have been a

- Yes, we would have loved to invest (100% compatibility)
- Maybe, but would have needed additional information (50% compatibility)
- No, not a fit for Opus (0% compatibility)

Using the above simple categorization of portfolio companies, we create a blended “Compatibility with Opus” percentage for each peer VC firm, based on the number of investments that firm made during that quarter and on our categorization of these investments as described above.

We then sort the peer VC firms based on this compatibility index, to create a Compatibility Table (figure 2). In the same table, we also build a cumulative compatibility index based on data across multiple quarters (our preference is to use five previous quarters of data).

As shown in figure 2, Opus internally reviewed 155 investment instances from Q4 2013 across 27 competitor VC firms (since some are co-investments within this group of 27 firms, the actual number of startups reviewed is lower). Correspondingly, over a cumulative period (in this case, five previous quarters), Opus reviewed 718 investment instances for the same 27 VC firms. Firms in the figure are stack-ranked in descending order of cumulative compatibility.

The Value of a VC Benchmark

The obvious question is, what has a simple analytical approach like the above been able

to tell us? What have we learned, beyond the usual qualitative insight into what is (and is not) deemed to be hot for investment? As it turns out, we have learned quite a lot!

Better Understand Co-Investment Scenarios

The compatibility index in figure 2 helps Opus Capital understand which competitor VC firms are consistently the closest to, and which have the most divergence from, Opus’s investment philosophy.

We assume that firms with a cumulative compatibility rating of more than 60% operate very similarly to Opus from an investment standpoint—these are the firms that our GPs could focus on building stronger deal-sharing and networking relationships with. Additionally, when we have deal flow that comes from or is in concurrent due-diligence with these VC firms, Opus needs to make a point of doing deep due diligence as well.

On the other hand, firms rated less than 30% on the compatibility index are considered to have a quite different investment approach—these are the firms that Opus tracks mainly to understand the “other side” of the early-stage IT investment fence. Within this list, if there are firms that consistently make head-scratcher investments, which a year or a few months later turn out to be duds, then we choose to stop tracking the firm and replace it with other, more interesting (to us) VC firms.

More Insight into Emerging Short-Term Investment Trends

For any individual quarter, a quick comparison of the compatibility rating for the quarter versus the cumulative five-quarter rating for any specific competitor firm tells us whether there might be a widening strategy gap for us with that specific VC firm. In the compatibility matrix in figure 2, for example, it can be seen that 11 firms were diverging away from Opus (as highlighted grey), whereas only 5 firms were getting closer to Opus (as highlighted blue). We feel it is abnormal to have more than 10-20% of

Benchmarking VC Investment Ecosystems: A Data Model

Fund	Size	2013 Q4 Investments				Past 5 Quarters				Opus Compatibility	
		Yes	Maybe	No ^a	Total	Yes	Maybe	No	Total	Q4'13	Cumulative
1	100-500M	1	1		2	2	2	0	4	75%	75%
2	100-500M	1		2	3	8	2	3	13	33%	63%
3	0-100M		1		1	3	2	1	6	50%	67%
4	>500M		2	2	4	6	6	2	14	25%	64%
5	>500M	5	1	3	9	16	5	9	30	61%	62%
6	>500M	2	4		6	10	12	5	27	67%	59%
7	100-500M		1	1	2	3	1	2	6	25%	58%
8	>500M	4		3	7	15	11	11	37	57%	55%
9	>500M	2	1	2	5	13	12	10	35	50%	54%
10	100-500M	1		4	5	11	4	9	24	20%	54%
11	>500M	5	3	1	9	13	9	11	33	72%	53%
12	>500M	3	1	3	7	10	11	9	30	50%	52%
13	100-500M			1	1	6	0	6	12	0%	50%
14	>500M	2	4	1	7	13	8	14	35	57%	49%
15	100-500M		3	2	5	7	6	8	21	30%	48%
16	>500M	4	3	7	14	25	29	37	91	39%	43%
17	100-500M	2	1	3	6	9	11	14	34	42%	43%
18	100-500M	2		2	4	4	3	7	14	50%	39%
19	>500M	1	1	1	3	3	2	6	11	50%	36%
20	>500M			1	1	2	1	4	7	0%	36%
21	>500M	1	2	6	9	11	10	24	45	22%	36%
22	>500M	2	1	8	11	8	11	20	39	23%	35%
23	100-500M		2	1	3	3	5	8	16	33%	34%
24	100-500M		2	1	3	3	7	10	20	33%	33%
25	100-500M	4	8	9	21	14	25	43	82	38%	32%
26	100-500M		1	1	2	2	4	7	13	25%	31%
27	100-500M	3		2	5	4	3	12	19	60%	29%
Distribution		29%	28%	43%	155	31%	28%	41%	718		

Figure 2. Peer Fund Compatibility Index, Q1 2014. Author's figure. ^a Indicates that the investment opportunity is not a fit for Opus Capital.

Fund	Size	2012 Q4	2013 Q1	2013 Q2	2013 Q3	2013 Q4	Comments
4	> \$500M	88%	75%	75%	75%	25%	Traditionally enterprise IT-focused
10	\$100M - \$500M	63	50	40	81	20	Traditionally enterprise IT-focused
13	\$100M - \$500M	50	50	67	33	0	50-50 blend of enterprise and consumer IT
19	> \$500M	17	0	50	0	50	Traditionally skewed toward consumer IT
24	\$100M - \$500M	36	30	30	30	33	Traditionally skewed toward consumer IT

Figure 3. Selected Funds from Q1 2014 Peer Fund Compatibility Index. Author's figure.

firms getting closer, or more than 10-20% firms diverging away from Opus in any given quarter. So, having more than a third of our peer group diverge away from us in this case indicates either a strategy drift within Opus itself (unlikely over such a small timeframe as a quarter), or, more likely, a new trend emerging that Opus is not yet sold on, but that other VC firms are starting to bet big on—something for us to stay on top of.

Better Identify Structural Longer-Term Shifts in Venture Investment Preferences
 Looking at the longer term, we are able to plot the quarterly rating for each VC firm over multiple quarters, to test whether there has in fact been a strategy divergence within that VC firm. If multiple firms show a strategy drift in the same direction over several consecutive quarters, then the broader VC ecosystem is likely moving toward a new paradigm. Such a shift would be structural; for example, the industry as a whole shifting from enterprise IT toward consumer IT, or vice versa.

In fact, such a shift did occur toward the second half of 2013, and we were able to see this shift unfold through our data. To visualize this shift, I selected five peer-group VC firms from

across the compatibility gamut: Fund 4, Fund 10, Fund 13, Fund 19, and Fund 24. Funds 4 and 10 have been historically highly compatible with Opus, Fund 13 is somewhere in the middle within the compatibility spectrum, and Funds 19 and 24 have had limited compatibility with Opus. Figure 3 shows the compatibility indices for these five firms, and figure 4 shows these same indices as a time-series chart.

Figures 3 and 4 showed us something quite interesting, which was that Fund 4, Fund 10, and Fund 13—all of which have traditionally had reasonable compatibility with Opus—saw a huge drop in compatibility from Q3 2013 to Q4 2013. On the other hand, Fund 19 and Fund 24, which had traditionally shown limited compatibility with Opus, continued to have low compatibility.

This data indicated to us that the broader VC ecosystem was diverging away from Opus's

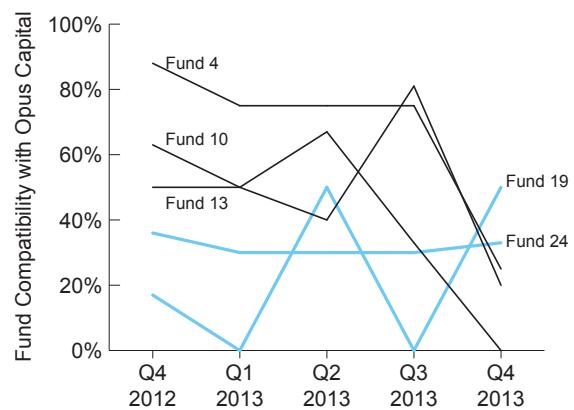


Figure 4. Compatibility Trend for Selected Peer Group Funds. Author's figure.

investment philosophy. As it turned out, we were seeing signs of a transition for the VC world broadly, from enterprise IT toward consumer IT (enterprise IT is Opus's key area of focus). We had a qualitative feeling that such a transition was occurring (based on interactions with our entrepreneurs and with peer VCs around follow-on and new financings), and that feeling was verified when this transition showed up clearly in our analytical exercise.

Limitations and Delimitations

If there is a limit to this analysis, it is just in the resource and time constraints. The raw data is very powerful and can easily be further analyzed to understand trends across dimensions, such as geography, round sizes, partner-level activity, incubator/accelerator emergence, and so on. For now, we have continued to keep our analysis at this level; however, depending on the resources available, larger firms could easily set this system up into a structured, in-depth analytical process that could be reviewable more frequently.

All models have limitations, however. We identified three ways this analysis might misdirect us.

First, the crux of this analysis is in Opus's categorization of each of the 100-200 investments reviewed each quarter, which presents the risk of a "categorization drift" from one quarter to the next. A good internal review process can help mitigate this risk, in addition to not carrying more than about five quarters of past investments for the matrix.

A second issue arises around investment frequency—some firms make few to no investments in any given quarter or year. One needs to be especially careful in making judgments for such firms.

Finally, for sectors or geographies that do not have enough VC firms to create a reasonable compatibility matrix, one would need to brainstorm ways to find outside comparables in order to build up enough of a dataset to drive good analysis. At Opus, our view is that a minimum of 20 firms would be needed to build a reasonable analytical approach.

An Agile Venture Capital Firm

Venture capital is a highly subjective and long-term investment process. While one can never zero in on the "magic button," a simple data model such as the one described here can go a long way toward keeping a VC firm honest and cognizant of its surrounding landscape. The right balance of product vision and data analysis such as this can help a VC firm become increasingly agile over time—and in the process, help the venture capital industry become better at optimizing its investments.



Ajit Deshpande

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Rebooting Basic Healthcare in Brazil: Thinking Outside the System

Thomaz Srougi

Class 17

The right to protect the health and wellbeing of every person—of those we love—is a basic human right, a right defined in the United Nations Universal Declaration on Human Rights. Yet in the United States today, healthcare is the leading cause of bankruptcy, and the lack of it the leading cause of suffering, associated with finding out, too late in the disease progression process, that someone you love, is really, really sick.

-Elizabeth Holmes, Theranos CEO¹

Federal authorities in Brazil have done wonders with health care for the Brazilian population. Infant mortality in the year I was born, 1975, was 90 per every 1,000 births—dropped down to 12 in 2013. Life expectancy increased from 61 to 74 years during the same period. In the last few years, medication for chronic conditions has become widely available, thanks to subsidies provided by the government.²

Nonetheless, a poll released in March 2014 disclosed that more than 50% of all Brazilians classify healthcare as the main problem of Brazilians (followed by safety issues at 18%, corruption at 10%, and access to education

at 9%).³ Asked what they think of healthcare services in the country, 7 out of 10 Brazilians say that health services are bad or very bad.⁴ Two frequent complaints are that doctors have a low level of commitment and that there are long waiting times for medical appointments.⁵ The government's ambitious goal to offer universal (qualified and free) healthcare to all citizens, a constitutional right since 1988, has not materialized.

There is still a huge access gap in Brazil for basic and more complex health services, and when there is access, it is both limited and of poor quality. We at dr.consulta estimate that Brazil has an annual deficit of approximately 800 million medical visits. Uninsured individuals demand 1.3 billion medical appointments in the public system per year, yet there are only 500 million available. This gap is only growing.

Lack of investment, poor management, and poor planning are the main causes for this

¹ Elizabeth Holmes, "Elizabeth Holmes, Theranos CEO" (video), TEDMED 2014, uploaded 12 September 2014, 0:41, <https://www.youtube.com/watch?v=ho8geEtCYjw&feature=youtu.be>.

² Statistics gathered from various sections of The World Bank's online database, <http://data.worldbank.org/country/brazil>.

³ Marcelo Leite, "Datafolha aponta saúde como principal problema dos brasileiros," *Folha de São Paulo*, 29 March 2014, para. 3, <http://www1.folha.uol.com.br/seminariosfolha/2014/03/1432478-datafolha-aponta-saude-como-principal-problema-dos-brasileiros.shtml>.

⁴ Ibid., para. 4.

⁵ Ibid., para. 9.

systemic failure to meet Brazilians' healthcare needs. (Total healthcare expenditure in Brazil is \$1,000 per capita, compared to \$1,110 in Chile, \$2,200 in Israel, \$4,700 in Germany, and \$6,300 in Denmark.⁶) The result is increased sickness, prolonged suffering, and unnecessary death.

These outcomes are unacceptable.

The Search for a Better Way

I believe the solution to these challenges lies within each individual. Brazilians want to take care of themselves and their families, but 80% of our 200 million people lack the means to do so.

From a different perspective, I also have a deep awareness of how arduous life has been for local doctors in the last 40 years. My father is a urologist surgeon, and I barely saw him growing up because he worked very hard just to get us through each month. He is not alone—many physicians and surgeons barely make it through the month financially, despite their hard work. In addition, there are constraints upon doctors obligating them to work under very specific guidelines—aimed at saving money, not necessarily at saving or improving patient outcomes. They also must often work without adequate resources and equipment.

I believe doctors should be allowed to perform medicine in all its fullness and meaning. In other words, they should have the freedom to practice without such constraints, and they deserve the chance to progress technically (and not be ashamed of progressing economically). I also believe Brazilians deserve preventive health care and top-quality health care, as do all human beings.

In 2011, I began my search for a better way. The resulting enterprise, dr.consulta, has provided health care to more than 100,000 uninsured families since that date. Our service is agile, high-quality, humane, and affordable. Our timeline from appointment request to appointment, diagnosis, and treatment plan is only two weeks—25x faster

⁶ The World Bank, *Health Expenditure per Capita (Current US\$)* (2015), <http://data.worldbank.org/indicator/SH.XPD.PCAP>.

than the public system, and for 10% of the average price of private healthcare services. We currently have 190 physicians in more than 30 medical specialties, with very low turnover.

Our goal at dr.consulta is to empower all Brazilians by placing outpatient clinics close to each and every citizen, and equipping those clinics to provide primary and secondary health care at extremely low prices. This is a very big mission and a very big goal. *In this article, I share the journey of how dr.consulta was born and how we are finding our way to a complementary and successful healthcare model.*

The Beginning: An “A-ha” Moment

During graduate school at the University of Chicago, I read a quote posted on a cafeteria wall, attributed to Sarah Bernhardt: “Life begets life, energy creates energy. It is by spending oneself that one becomes rich.” These words capture, very elegantly, my deepest and most vehement belief—and reading them changed my life. *I began to ask, “How am I spending myself?”*

Many years before that day, I had begun my career in banking, moved to corporate finance, and then private equity and venture capital. I had the privilege to become a partner and work with a very special group of seasoned business operators, from Ambev/AB-Inbev,⁷ a brewery company in São Paulo.

Working in that environment, I realized that wealth is created by corporations, and ultimately by well-designed and well-run processes and motivated, talented people surpassing their own goals. At Ambev, we hit more than missed. Despite this success, I knew I was not “spending myself” anymore, and that unpleasant awareness became a constant feeling.

Problems in Brazil seem to flourish from the ground; we say they are “as certain as death and taxes.” I started talking to people I trusted, including my partners, sharing and learning.

I wanted to build something, with

⁷ <http://www.reuters.com/finance/stocks/overview?symbol=BUD>.

great people alongside, that would add value to others, improve our surroundings, and do well if we succeeded.

One day I read that education, infrastructure, and health care were the largest problems in the country. I thought about health care as a leading cause of suffering in Brazil, and the preventable harm of knowing too late that someone you care for is really sick, or dying (in the words of Elizabeth Holmes⁸). Problems are caused by lack of access to information and services, I knew. Coming from a family of urologists, I knew too much about doctors and their unique ways of understanding the world and the problems of life and death.

In November 2010 I was in Cambridge at Harvard Business School attending my alumni reunion, sitting in a class given by Professor Michael Chu (Mentor, Class 15). He was talking about “base of the pyramid” high-impact business models in Mexico. I got really excited. Then he started discussing a successful drugstore chain in Mexico that also offered medical visits at extremely low prices for low-income families.

“F***, that’s it!” I thought. After a few seconds I realized I had inadvertently said that out loud, and the person right next to me moved away slightly, as though about to switch seats. (That also happened when I met my wife Karin, but that’s another story.) My “a-ha” moments are almost always embarrassing.

I rushed after Professor Chu down the hallway, through the underground tunnels below the school, to learn more. I had many questions. He gave me insights then, and shared his thoughts a few times later when I updated him on my progress. In that class, dr.consulta was conceptualized, and four months later I opened the first clinic.

The Leap of Faith

Back in the country of many problems, I realized I faced many challenges in getting my idea off the ground. I was working alone. I was new to health

care, and so, largely ignorant. Those I spoke to were resistant, I found. How could a layperson and not a doctor solve the healthcare problem? Many had tried before, they said, and crashed. Physicians told me I was not going to succeed because “the system did not work as I envisioned.”

Thanks to my stubbornness, I simply ignored those kind people and pretended I never had those conversations. “Doctors are so risk-averse,” I remember thinking.

I also encountered constraints in the legislation. It is illegal to sell medicine in the same place physicians attend patients, so I could not simply copy the Mexican model (I always believed that well copied is half done). I had to make a decision: launch the six-thousandth low-margin and low-impact drugstore in the country, or risk launching the first outpatient clinic chain in the country targeting the underserved—without having a clue how to do it. The potential profit in a drugstore was marginal to none, and my choice was clear.

I was running against time and had to quickly launch a solution for one of the largest social challenges in Brazil. I went out to find the resources I did not have, mainly knowledge, skills, money, people, and most importantly—information.

From Concept to Execution

I wrote to the management of the Mexican chain, Farmacias Similares. Unfortunately, they were too busy to receive me—but I went to Mexico City anyway. I visited their locations, talked to physicians and sales reps, and did the same with their competitors. Looking back, it was far better than hearing pre-fabricated management speeches.

Excited by what I had seen and learned, I called my partners and a few other individuals whom I trusted a lot. I told them all the same thing:

There is very large social problem to be solved here. Besides impacting people for the better and being a huge market, I think dr.consulta has the potential to be replicable, scalable, and

⁸ Elizabeth Holmes, video, 1:25.



Figure 1. Action Plan for dr.consulta. Author's figure.

profitable. With our know-how and expertise, I think we have a chance. We will probably fail. But I want to try making a series of experiments and evolve gradually. If we validate our hypothesis, we might be in business. These are the phases I want to go through: launch two clinics, validate the concept, validate the demand, validate the business model, and finally, expand [see figure 1].

They all said they would support me—we were in business.

Looking back now, I guess this spiel was the right approach for everybody—myself and my supporters. **When one shows fragility, others may want to help. When one says there is a good chance of failing, expectations remain low. When one has a vision and communicates it reasonably, it helps others to align their efforts. All of this together with an immense market and a strong social cause—it was a solid combination.**

dr.consulta became the byproduct of two very different DNAs. We combined the best available managerial expertise in processes and

people, from seasoned business operators, with the best available medical care from physicians from University of São Paulo Medical School, the top school in the country.

Phase 1: Launch Two Clinics

I didn't spend time on spreadsheets, but rather in putting two clinics to work. Having ranked all 95 districts in São Paulo by per capita income and demographic density, I spent the next 12 weeks using the subway system to get to those locations. I shopped and ate to absorb the atmosphere for each target area. I walked around in search of houses for rent, talked to people, and visited local public healthcare centers and hospitals to talk to patients and physicians.

After three months, in March 2011, our first experiment got underway (figure 2). I opened the first 90 m² clinic with three medical rooms, offering medical visits with general practitioners only. It was located close to 300,000 uninsured, low-income citizens in the São Matheus neighborhood.

I needed another clinic to benchmark results, so in July 2011 we opened a second clinic (figure 3) in the largest favela of São Paulo:

Clinics	1
Physicians	3
Medical Specialties	1
Support Staff	6
Annual Visits Growth Rate	N/A
Annual Visits Capacity	120,750
Services	Medical Visits

Figure 2: dr.consulta Status in March 2011. Author's figure.

Clinics	2
Physicians	6
Medical Specialties	1
Support Staff	10
Annual Visits Growth Rate	N/A
Annual Visits Capacity	241,500
Services	Medical Visits

Figure 3: dr.consulta Status in July 2011. Author's figure.

Heliópolis. This 400 m² clinic had 14 exam rooms, and space to offer additional services such as lab work and imaging exams.

We had a blast when the clinics were finally opened. There was a 4-meter-wide, blue dr.consulta logo on the front wall of each location, with a smaller sign reading “medical appointments and exams” in gray letters underneath. Each clinic’s interior was well illuminated, simple but functional with light gray and light blue decor. A TV on the waiting room wall displayed health tips on the diseases most common for that specific area and population profile. **The whole experience was much different from what uninsured patients were used to in the public system.**

Our system had each patient passing through four service stages: the reception and payment area, the pre-appointment area where a nurse entered basic health information into the digital system, the medical rooms, and a post-appointment area where patients could book any exams or tests prescribed by the physician. From day 1, we used an electronic medical records (EMR) system because we wanted to record all available demographic and medical data, as well as monitor how long each service stage took for each patient.

As rewarding as it was to be all set up, though, we needed to start working for real.

Phase 2: Validate the Concept (March 2011 to January 2012)

From Data to Information and Knowledge

The public health system was poorly rated, but we needed to be more specific about what was not working for the majority of uninsured patients. **We hired an institute to talk to a sample of our target patient profile, to gather their views on the do’s and don’ts of a primary care clinic.** It was money well spent. In two weeks, we had our value proposition for the patient—dr.consulta would offer fast, resolute, reliable, qualified, humane, and very affordable healthcare services.

Our pricing strategy was plain and simple: be the lowest in the market. I did all sorts of calculations as well as qualitative research, all to benchmark our intuition that a medical visit should cost \$30 for the patient. We cut a deal with a major credit card to offer payment in up to 10 installments. We had a potentially powerful engine to guarantee that almost any Brazilian could have access to the best available basic health care.

We had a plan. Now we needed a team of physicians and clinic staff to execute it.

Our first doctor invited 30 of his colleagues from University of São Paulo Medical School to get together for pizza. I had a PowerPoint deck and pitched them the dream, the goal, and the impact we could make together. Five of them liked it and joined us.

Things began to snowball. We also needed nurses, but through those six doctors, we now had good leverage. We hired six nurses in total, and were ready to start working.

It was a thrill to watch doctors come in and prepare for attending patients. People passed by the clinic, stopped, walked in, and—with suspicion—asked for information; they left with a flyer and our appointment telephone number.

There was no formal training for doctors or staff, for we did not know what to be trained in. We were that different.

We began very slowly, and as we serviced our first patients, we adapted ([figure 4](#)). By January 2012, we had performed 577 medical visits with high patient satisfaction, and I noted that patients were beginning to return with their relatives.

Information Technology to Validate the Concept

My goal was to channel all resources into developing, implementing, and validating a value proposition—by providing a rudimentary service, smartly collecting data, and analyzing it to continue to evolve. **I did not spend time and resources building controls or improving governance, because**

Clinics	1
Physicians	15
Medical Specialties	6
Support Staff	10
Annual Visits Growth Rate	N/A
Annual Visits Capacity	120,750
Services	Medical Visits, Lab

Figure 4: dr.consulta Status in January 2012.
Author's figure.

we did not have anything to be controlled yet.

At this stage, our IT infrastructure was rudimentary. I acquired an artless Electronic Medical Records (EMR) system, but we also used Excel a lot for data collection. Every day I received the main spreadsheet by email and could calculate all sorts of operating and financial ratios. I did not have any means to control our service's medical quality, except that our doctors were recruited from the best medical schools. I had to rely on that.

Phase 3: Validate the Demand (January to August 2012)

The Omission that Nearly Killed dr.consulta
A year later, I felt bothered about the first clinic, the smaller one. It had no traction; most of our patients were coming from the larger clinic. So, I decided to close the original, smaller clinic. The two-clinic experiment had demonstrated that the general practitioner-only clinic was not of sufficient value for our patients. Nonetheless, **we were very excited with the results and performance of the larger clinic at favela de Heliópolis. This larger clinic became our flagship.**

We knew we had a very powerful service that solved a very large problem, and patients loved us. From that point on, my new goal was to validate whether we could offer our solution to a large number of patients, as well as to verify

that the number of people without access was indeed huge.

Six months later, in July 2012, after intense months of hard work inside the largest favela of São Paulo, everything seemed stalled.

Sales were not increasing as quickly as I had hoped: steadily, but only 5% per month. That figure would be high for many other countries and industries, but given our small starting number, it was a problem.

We were far from breaking even and still operating at only 3% of our capacity. Doctors were starting to doubt the dream was achievable, and every week I had to talk to one of them personally. I was almost begging them to trust us and stay, trying to bring reason to our performance somehow. It was killing me. **dr.consulta was not ramping up, and I was totally burned out.**

I don't see a problem in shutting down an operation or giving up an idea, as long as there is truly no future in it. Letting go allows us to move on to other things, and stop wasting time on what's not working. So, at our next board meeting in June 2012, I told my partners:

I am going to begin this meeting. By the end, I will recommend that we try to sell or shut down dr.consulta, and I will explain why.

I presented my arguments and they all supported me. I remembered feeling relieved, but deep inside I was sad. **I knew the problem we were after was huge and we had a positive value proposition in hand—something was not right.**

The next step would be to try to sell the one remaining clinic or close it—I thought. To announce the sale, I called a journalist who was fond of us and she published a note in the *Jornal Folha de São Paulo*, one of the largest in the country, about dr.consulta's mission and expansion plans.⁹

Two days later, my phone rang. To my surprise it was another **journalist from**

⁹ Maria Cristina Frias, "Vivo vai investir em televisão até final deste ano," *Folha de S.Paulo*, 1 July 2012, "Clinica na Favela," <http://www1.folha.uol.com.br/fsp/mercado/52029-mercado-aberto.shtml>.

the largest business journal in São Paulo, *O Estado de São Paulo*. She had read the note and wanted to write a full article about us. My partners and advisors discouraged me, arguing that it was too much personal exposure. Yet I decided to do it anyway, as it felt like a good deal for the company.

The full-page article¹⁰ was published in the last week of July 2012. In the next month, our demand more than tripled!

Unbeknownst to us, we had been operating a secret clinic. After conducting a survey, we learned that only 5% of our surrounding neighborhood knew of us, and half of those thought we were an insurance plan. We had a communication-awareness problem.

How could I have ignored marketing? Naively, I had thought since the access problem was huge, patients would flow in without marketing. So, there I was on the phone calling my board, explaining the “roller coaster” we were on and recommending we give it another try. We were back in business (figure 5).

From January to August 2012 we performed 2,200 medical visits.

Clinics	1
Physicians	20
Medical Specialties	10
Support Staff	15
Annual Visits Growth Rate	700%
Annual Visits Capacity	120,750
Services	Medical Visits, Lab, Imaging, Ultrasound

Figure 5: dr.consulta Status in August 2012.
Author's figure.

¹⁰ Ocemara Balmant, “Médicos do Sírio e do Einstein abrem clínica particular em Heliópolis,” *Estadão*, 22 July 2012, <http://www.estadao.com.br/noticias/geral,medicos-do-sirio-e-do-einstein-abrem-clinica-particular-em-heliopolis,903810>.

Information Technology to Validate Demand

Our focus was outside the clinic. I wanted to generate as many trials as possible, and our call center was the doorway to dr.consulta. The system we used was licensed, and while there were good solutions in the market, we improved financials by internalizing—slashing call center costs by 50%. Because we started offering lab work, imaging exams, and ultrasound, we also started investing more heavily in IT and systems to integrate services and collect and store patient data.

Phase 4: Validate the Business Model (August 2012 to December 2013)

Don't Hire More People—Before that, Rework Processes and Incentives

Next, we polled our patients and identified four main socioeconomic and demographic groups. Based on their particular needs, we created specific messages for each group, which were channeled to them via the most appropriate means for that group.

As demand grew, we began testing our operating system at capacity. New management, medical, and operating problems emerged. A stressed team produced lower quality work. Medical staff relationships deteriorated. Patient no-shows increased relative to booked medical visits. As we got closer to summer, the full waiting room was too hot for comfort and we had no air conditioning. As if all that were not enough, dr.consulta got robbed by a gang. Most of the team felt insecure about working inside the favela. We received a visit from the regulatory health agency, Anvisa, and discovered we were not fully in compliance. We expanded the service area to the second floor to meet the increased demand, which meant the management team had no formal office space. The bulk of our payments (75%) were made in cash—how could we take that money safely to the bank, in the middle of a favela? So many plates in the air, and few hands to keep them there.

One by one, we solved them all. From July to August 2012, we rethought everything from an operational and team perspective. I realized that “management” is solving problems with the least resources possible, with the team, doing what is right.

I renegotiated with suppliers and replaced some, boosted our IT systems, redesigned processes, rewrote reception scripts, produced new training videos, and institutionalized our knowledge in the form of an operations manual.

Above all, I avoided hiring more clinic staff—more people. Nurses and receptionists complained that they were understaffed, but that’s the easy answer and usually the wrong one. **I advocated more training, better processes to reduce waste, and more IT to leverage our current assets.**

Our main challenge became our physician compensation system. We had expected demand to continue to grow at 3x per month, and had hired 30 new physicians to a total of 50. However, we did not achieve that growth rate in the following months and doctors were idle. Our doctors were compensated by the hour, not by productivity—**since dr.consulta's brand was not known, I had had to guarantee a minimum for the doctors to attract them.** The main

weakness of our business model was this high fixed cost.

It was time to implement a productivity-based compensation system. Despite the workload, the whole team was excited about the patients flowing in and leaving very satisfied. So I had the means to paint a brighter future for our doctors, but at the cost of changing their compensation system. I was in a good position and started renegotiating the compensation model. **We only lost 10% of our doctors with what was probably the most important adaptation of our business model.**

In healthcare, discussions around productivity and compensation always lead to ethical questions. We learned that we needed to set parameters and monitor them daily. We tracked the average number of lab exams prescribed in our medical appointments. A doctor consistently prescribing more than the high end of that average could indicate an ethical problem (overbilling or inflating), while fewer lab requests indicated a potential problem with diagnostic quality.

We nailed it all without hiring more staff. After important adjustments were deployed, we had more stamina, more alignment, more trust in each other, more confidence in the future, a stronger business model, and a higher quality organization capable of attending more people and better (figure 6).

In January 2013, the clinic broke even—and 95% of patients were “very satisfied” with dr.consulta's service, according to our poll. The business model had been validated, and it was time to start planning for expansion.

We needed more capital, locations, and people in order to tackle the basic healthcare challenge at scale. I started by boosting our IT infrastructure—it was about time.

From August 2012 to December 2013 we performed 20,631 medical visits.

Clinics	1
Physicians	50
Medical Specialties	12
Support Staff	25
Annual Visits Growth Rate	250%
Annual Visits Capacity	120,750
Services	Medical Visits, Lab, Image, Ultrasound, Micro

Figure 6: dr.consulta Status in December 2013. Author's figure.

Information Technology to Validate the Business Model

It had become clear that while health care is not an exact science, basic health care almost is—and therefore, we could and should standardize processes at dr.consulta. Physicians and staff were given the freedom to make their own judgment on each case, with medical protocols at their fingertips.

As I envisioned the expansion, I knew IT was going to be its backbone. To assist physicians, promote and protect our service's quality, serve more and better, use cash and other resources more efficiently, and replicate our model—we had to start talking “bits and bytes.”

I think we did well. The first in-house tool we developed was a system to confirm medical visits automatically through SMS and phone calls. **Patient no-show rates dropped from 35% to 17%.** Our second move was to create a dashboard to view real-time medical agenda occupancy rates, which in turn allowed us to **reduce patient acquisition cost by 50%.**

Phase 5: Expansion (December 2013 to January 2014)

Doors Turned into Tables

After three years to validate the concept, demand, and business model for dr.consulta, it was time to replicate our formula.

I used to consider myself a good investor in my previous life. Having switched sides, it is clear to me that **an investor will never reach her full potential if she has never been in the skin of an entrepreneur,** or operated a company. It may be no coincidence that all our investors are former entrepreneurs. **We just did not get along with local VC funds managed by executives with an exclusively financial background,** which are the majority in Brazil.

Since founding dr.consulta I have had the opportunity to talk to many types of investors based in São Paulo: family offices, venture capital funds, impact investing funds, wealthy individuals, and angels. Most came across as very formal and limited in their capacity to add value for our company. For cultural reasons, strong past volatility, and a lack of successful examples, **I have a feeling that most VCs in Brazil are still “adapting.”**

A simple comic story sheds some light on the cultural issue. Until the end of 2013, I was based on the second floor of our first clinic. Our management team of four people had two tables, one shared with the call center team. The tables were actually just doors that we did not need, and adapted into tables. One day, associates from a local VC fund passed by our area and remarked to each other, “No way will their valuation will be xxxxxxx—they don’t even have decent tables.”

We weren’t too poor for furniture; I just prioritized operational improvement. Several weeks later we received some folks from a prestigious U.S. consulting firm along with another group from a top U.S. university. We had a great session together, so I shared the table-door story. To my surprise, one of them commented:

We had quite a different impression when we saw the tables. Jeff Bezos used to do the same, in the early days of Amazon.

Certainly, venture capital in Brazil is still a scarce resource. Many cite the lack of good projects, and while that is certainly true, I believe that most local investors have a very hard time separating lemons from peaches, or even understanding what venture capital is all about.

In Q3 2013 we raised a Series A from local former entrepreneurs, and during Q1 2014 we raised a Series B from two international VCs. (The GPs were former entrepreneurs, and their LPs were mainly entrepreneurs as well.)

Thanks to invaluable insights, pitch revisions, and words of wisdom from Kauffman Fellows

Clinics	5
Physicians	150
Medical Specialties	30
Support Staff	120
Annual Visits Growth Rate	129%
Annual Visits Capacity	603,750
Services	Medical Visits, Lab, Image, Ultrasound, Micro, Low-Complexity Surgery

Figure 7: dr.consulta Status in December 2014. Author's figure.

Matt Mochary and Phil Wickham, we got fully funded to open 20 clinics. **We are ready to replicate the dr.consulta model throughout São Paulo.**

During 2014, we performed 45,714 medical visits, plus another 84,286 lab tests, imaging exams, and low-complexity procedures.

Information Technology: Expansion

As of January 2015, we have 5 clinics, 150 physicians, 30 medical specialties, and 120 support staff (figure 7). Each clinic delivers 8,000 medical visits per month, for a total capacity of 44,000 per month—0.07% of the annual deficit we estimate for Brazil.

The uniqueness of our processes and culture posed an IT challenge larger than we had anticipated. The current IT systems available in Brazil are of no use to us, and even in the United States we have not found useful tools. We need tailored IT solutions to enable doctors, nurses, and managers to access real-time data and to facilitate any flow of information with the patient.

So, we have developed our own internal systems. We created the first fully automated online booking system in Brazil, to bring patients to us faster (how come something so simple has never been done

before locally?), another fully automated system that allows patients to evaluate the quality of our medical and staffing service through a quantitative SMS grading system, a system for our chief physicians to have real-time access to their teams' productivity and quality grades, and one for the management team to have real-time information on financial and operational KPIs (key performance indicators). The only thing we were able to purchase is our new Enterprise Resource Planning (ERP) system, which we licensed from a large U.S. software company.

Looking ahead, I see us diving into big data and mobile in order to relate more and better with our current patients. I still cannot figure out how wearable technology will work financially for our patients, which makes me a bit anxious because that technology has tremendous potential to add more dignity and quality to their lives. Telemedicine is another great tool. It is still illegal in Brazil to perform medical visits using telemedicine, and the practical constraints are considerable, but I still believe it will become a relevant tool to bring high quality care to remote areas as well as to economically challenged urban areas.

The Future of dr.consulta

Four years ago, we began by testing a model for its capacity to generate impact in a huge market, and to be replicable, scalable, and profitable. The odds were against us, and yet today we have all these elements aligned.

Three hundred or more clinics in Brazil once seemed a distant dream. As more people shared it with me, however, **it has become a vision on the visible horizon** (figure 8). If we get there, we will perform 30 million medical visits per year, contributing to reduce the current access gap by almost 5% per year. That is something!

We are here to improve the quality of life for and to save the lives of a destitute majority.

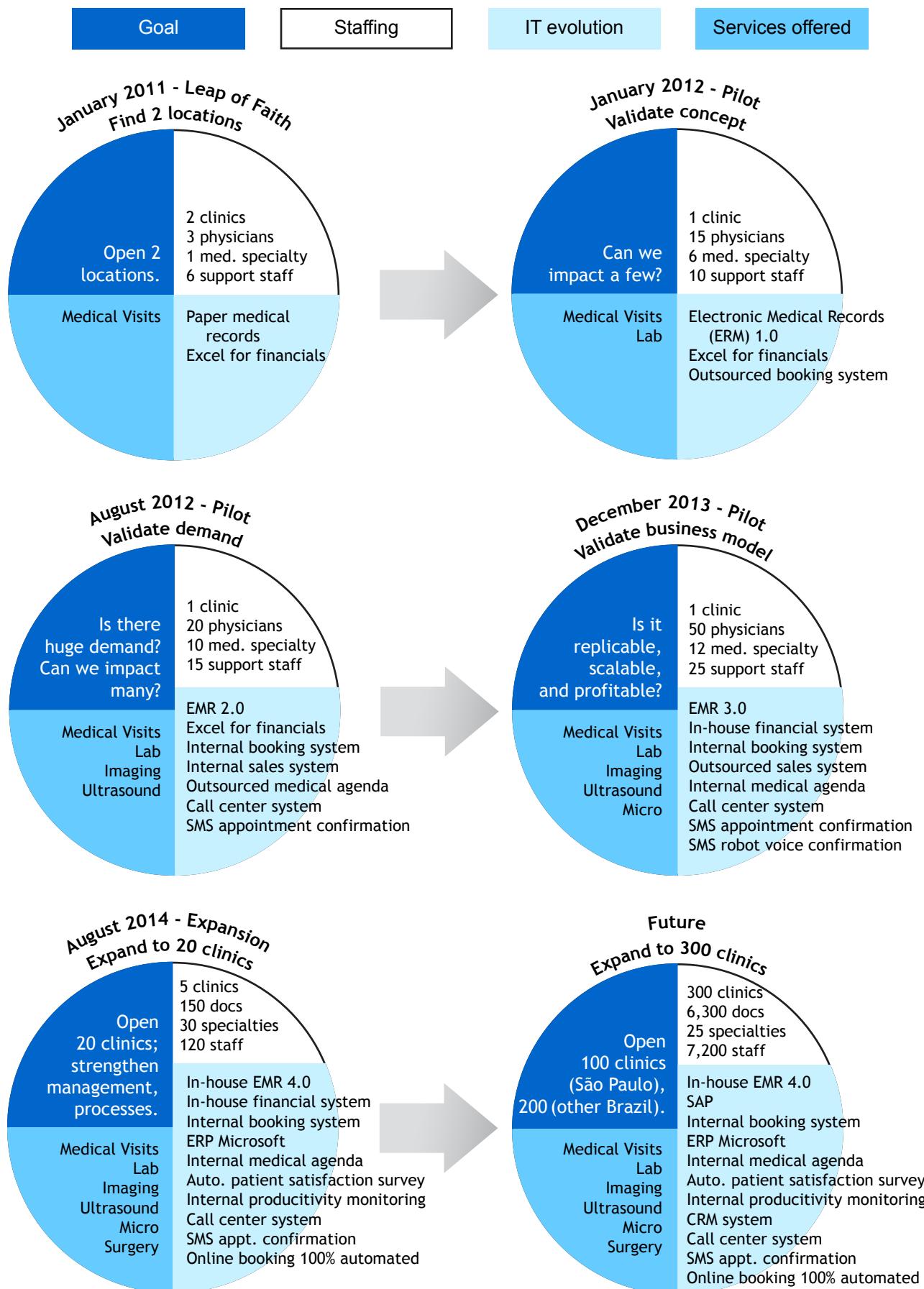


Figure 8. The Evolution of dr. consulta. Author's figure.

We are a vehicle for patients to meet doctors and take care of their health. However, we are no charity—we are pragmatic.

Population aging, the increase in chronic diseases, and low insurance plan penetration are the main drivers for increasing demand for our services. Our experience in the basic healthcare non-emergency market of outpatient clinics has shown us that **demand is inelastic**. If real income increases, more people will be able to access our affordable services. If unemployment rises, on the other hand, more people will lose their insurance plans and return to the public system—yet now they have a superior alternative.

In all, **there are solid external perspectives and opportunities ahead of us**. However, we have to keep up with our key internal challenges: people, IT, and cash flow. We will be as good as the people we have on board, including physicians and clinical staff, management, and partners and board members. It is all about people and processes, while IT will continue to play a central part on our journey, helping us leverage our assets. I believe that if we manage to keep on track, we will continue to attract smart capital to fund our vision to reboot basic health care in Brazil.



Thomaz Srougi

Thomaz is Founder and CEO of dr.consulta. Previously in Brazil, he co-founded the investment company Galicia with former Ambev senior partners. Prior to that, he launched a search fund that acquired and successfully led low-income homebuilder Tenda to IPO (TEND3.SA), and worked as a manager for Ambev (AB-Inbev). Thomaz holds a BA in business, an MBA, and an MPP from the University of Chicago, as well as a GMP from Harvard Business School. Kauffman Fellow Class 17.

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Jumpstarting Medical Device Innovation: New Incentives Create VC Opportunities

Anh Nguyen

Class 17

Historically, medical device investment in the United States has been seen as uncertain within both the regulatory pathway through the U.S. Food and Drug Administration (FDA), as well as reimbursement by the Centers for Medicare and Medicaid Services (CMS). Nonetheless, the U.S. medical device market remains the world's largest, with revenues estimated at \$125.4 billion in 2013,¹ and projected to grow at a CAGR (compound annual growth rate) of 6.1% over the 2013-2018 period.²

As medical devices become increasingly complex and are expected to "do more" with regard to health impact, investment requirements for new technology have skyrocketed: it takes \$31 million to bring a low-to-moderate risk device to market, and \$75 million for a higher-risk device.³ Thus, to minimize investment costs and avoid regulatory hurdles, the majority of medical device development and clinical trials are now performed outside the United States.

¹ PMPA, *Business Trends 2014 Review and Summary* (20 January 2015), para. 4, <http://www.pmpa.org/docs/default-source/reports2/business-trends-report-december-2014.pdf?sfvrsn=0>.

² Espicom, "The Medical Device Market: USA," 12 December 2014, first bullet point, <http://www.espicom.com/usa-medical-device-market.html>.

³ Josh Makower, Aabed Meer, and Lyn Denend, *FDA Impact on U.S. Medical Technology Innovation: A Survey of Over 200 Medical Device Companies* (November 2010), <http://advamed.org/res.download/30>.

Early-stage venture capital is a key element required to translate new knowledge into successful diagnostics and therapies. VC finances the work needed to identify platforms (hardware, software) or products (a lead molecule or medical device prototype) and develop them to the proof-of-concept stage. At the early-investment stage, however, there is great uncertainty over whether the technology is safe and effective, whether the regulatory standards (to which clinical trials and reimbursement are designed) will remain stable, and what the likelihood might be for the large follow-on investments needed for commercial development.

Regulatory and reimbursement policies have a profound impact on the amount of capital and the types of life science projects that investors pursue.⁴ The uncertainty with regulatory and reimbursement headwinds, especially during this

⁴ Jonathan Fleming, "The Decline Of Venture Capital Investment in Early-Stage Life Sciences Poses a Challenge to Continued Innovation," *Health Affairs* 34, no. 2 (2015): 271-76. doi:10.1377/hlthaff.2014.1051.

decade, has led to [an investor drought within the medical device arena](#)—which raises serious concerns for innovation in a new healthcare economy.

Technological innovation is widely recognized as a key determinant of economic and public health progress,⁵ and it is widely understood that medical discoveries and advancements to treat and cure diseases through innovative medical devices and combination products could—and should—be reaching U.S. patients more efficiently. Time to market and cost must decrease, without lessening the standards of safety and efficacy. [Observing the trend to outsource medical device development and testing, the U.S. government has sought ways to reduce barriers to innovation by improving collaboration for innovators with and between federal agencies.](#)

In this article I provide a brief historical context for the 2014 CMS regulation change, outline a new pathway for additional (non-dilutive⁶) funding to innovators for clinical trials, and describe a template to evaluate a product's clinical value by regulators, payers, hospitals, and providers. With non-dilutive premarket funding and standardized methods to share clinical data, investors and innovators can invest with greater security and also streamline medical device innovation.

Medical Device Innovation in the United States: Historical Context⁷

In 1995, the FDA and CMS entered into an interagency agreement: the FDA agreed to

categorize clinical trials, called *investigational device exemptions* or IDEs, for Medicare coverage

⁵ David Cutler, "The Determinants of Mortality," *Journal of Economic Perspectives* 20, no. 3(2006): 97-120. doi:10.1257/jep.20.3.97.

⁶ Non-dilutive funding is financing that does not require the sale of the company's shares, and hence does not cause dilution of the existing shareholders; it can provide critical cash to support a company's development.

⁷ See Amy Belt, "Reimbursement Buzz Saw," *Kauffman Fellows Report* 1 (2010):15-23, http://www.kauffmanfellows.org/journal_posts/reimbursement-buzz-saw/.

(i.e., non-dilutive funding).⁸ The resulting regulations created a path to Medicare coverage under certain circumstances.⁹ At the time, however, coverage and payment decisions were made by local Medicare contractors (consistent with general CMS coverage policies), and were applicable only to the clinical trial items and services within the Medicare contractor's particular jurisdiction.

These processes for determining coverage of IDE devices and clinical trials have been inefficient and burdensome, and have created variability that makes it difficult for sponsors to obtain Medicare coverage for national IDE clinical studies.¹⁰ Local Medicare contractors have applied various levels of scrutiny to IDE study protocols, used different review processes, and sometimes made coverage decisions on a claim-by-claim basis. According to CMS, this has led to inconsistent IDE coverage across Medicare contractors.

The U.S. healthcare system has historically suffered from a paradox in which effective products are used in ineffective ways, because of fragmented organization and misaligned payment incentives for both physicians and hospitals.¹¹ As new devices are released, their makers must overcome

three major hurdles before the products reach patients:

⁸ The process was codified in regulations at 42 C.F.R. § 405.201 et seq., which describe two categories of investigational devices, labeled A and B. Category A devices are "experimental," where the "absolute risk" of the device type has not been established and the FDA is unsure whether the device type can be safe and effective. This category typically encompasses only FDA Class III devices. Category B devices are "non-experimental," where the "incremental risk" is the primary risk in question, that is, underlying questions of safety and effectiveness of the device type have already been resolved. FDA Class I, II, or III devices may fall within this category.

⁹ Medicare coverage became possible for Category B ("non-experimental") devices and for the costs of routine items and services related to clinical trials for both these and Category A ("experimental") investigational devices. Category A devices themselves are not eligible for Medicare coverage.

¹⁰ Matthew Lester and Rebecca Scott, "Results of Huron's Coverage Analysis Policy Survey," slides presented as part of Huron Life Sciences Clinical Research Management Webinar Series, 30 May 2012, slides 38-40, <https://www.huronconsultinggroup.com/~media/Insights-Media-Content/PDF/Clinical-Research-Billing-Survey-Presentation.pdf>.

¹¹ Sabriya Rice, "Inside Medicine's Gray Zone," *Modern Healthcare*, 24 January 2015, <http://www.modernhealthcare.com/article/20150124/MAGAZINE/301249987/inside-medicines-gray-zone>.

- documenting safety and efficacy to the FDA's satisfaction¹²;
- convincing insurers that the product should be covered under the definition of medical necessity; and
- motivating physicians to prescribe their use.

Of those three hurdles, technology firms have focused on the FDA and insurers as the most difficult, relying on fee-for-service payment methods to ease purchasing discussions among providers and hospitals.¹³

Although market access and insurance coverage remain important priorities, a significant new challenge to the medical technology industry is the change in payment methods to physicians and hospitals.¹⁴ **Newer, bundled payment methods now incentivize hospitals and providers** to care about both the types and the costs of the products they use.

This change toward bundled payment is meant to shift financial responsibility regarding cost—from the insurer to the provider.¹⁵ Technology firms within the device industry will therefore be exposed to constant downward price pressures on their products. The technology firms will then be forced to (a) provide clear value to justify their product's cost, (b) reduce both the sales cost and the development costs of their product, or (c) do both. Because of the uncertainty associated with future bundled payment models, the valuations for many emerging medical technologies are at risk, which lowers available investment and shortens investment timelines. **Development of breakthrough medical products is a "long game";** thus, medical device innovators and investors should

¹² James Robinson, "Providers' Payment and Delivery System Reforms Hold Both Threats and Opportunities for the Drug and Device Industries," *Health Affairs* 31, no. 9(2012):2059-67, doi:10.1377/hlthaff.2012.0401.

¹³ Amit Kukreja and Matias Gonzalez, "MedTech Market Access Hurdles are a Global Problem," *Medical Device and Diagnostics Industry*, 25 March 2014, <http://www.mddionline.com/article/medtech-market-access-hurdles-are-global-problem>.

¹⁴ Rebecca Paradis and Erin Bartolini, "A Bundle of Potential and Risk: Bundled Payment and Its Impact on Innovation," *NEHI Issue Brief*, November 2014, http://www.nehi.net/writable/publication_files/file/bundled_payments_issue_brief_formatted.pdf.

¹⁵ Jeffrey D. Eyestone, *Key Trends in Healthcare Patients Payments* (J.P. Morgan, 2013), 2, <https://www.jpmorgan.com/directdoc/JPM-KeyTrends-in-HealthcarePatientPayments.pdf>.

aggressively seek non-dilutive funding sources earlier in the product life cycle. The revised CMS regulations provide such access to capital.

My Role in the Regulation Change

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) allowed Medicare payment of the routine costs of care furnished to Medicare beneficiaries in certain categories of Investigational Device Exemption (IDE) studies. Covering the costs in these IDE studies removes a financial barrier that could otherwise discourage beneficiaries from participating. However, this program was quite underutilized because it was poorly known and poorly executed; essentially, innovators and investors ended up leaving money on the table.

My work as an FDA medical officer included writing policy guidance for medical devices, research into health IT and robotic systems, and scientific due diligence for emerging medical technologies. As the first Kauffman Fellow from the federal government, my interest was in the intersection between life science investment and federal regulation and reimbursement. This interest led to work as a medical officer at CMS, performing coverage analyses for both healthcare products and services (i.e., helping the government decide whether to pay for new medical breakthroughs) as part of the FDA/CMS Innovation Pathway program. With a dual role at both the FDA and CMS, I was able to identify mutual data needs between the agencies regarding requirements to perform clinical trials. By structuring and sharing clinical trial designs, simultaneously with both agencies ahead of time, innovators avoid duplicative or extraneous work during product development and save time and costs both before and after FDA approval.

The results of this work culminated in revised regulations that offer greater transparency for investors and innovators regarding medical product regulation and reimbursement, as well as opportunities for non-dilutive clinical trial funding.¹⁶

¹⁶ Centers for Medicare and Medicaid Services, "Medicare Coverage Related to Investigational Device Exemption (IDE) Studies," 5 January 2015, <http://www.cms.gov/Medicare/Coverage/IDE/index.html>.

Overview of the New CMS Regulations

In its update to the Physician Fee Schedule for calendar year 2014, CMS implemented major revisions to its regulations governing Medicare coverage of investigational devices, and of the routine items and services furnished to beneficiaries during the clinical studies or trials (conducted under the FDA IDE regulations).

Centralized Review

CMS has proposed a transparent, centralized review process that it expects will be more efficient because it will reduce the burden for stakeholders interested in conducting nationwide trials. Once the IDE coverage process is centralized, a single entity at CMS would make IDE coverage decisions, which would eliminate the need for duplicate review by local Medicare contractors.

The new CMS regulations unify FDA and CMS data needs in the context of prospective clinical trials for medical devices. By structuring a clinical trial simultaneously between the agencies, CMS will pay for the majority (if not all) of an FDA-approved medical device trial.

The new regulation also offers much more transparency into the CMS evaluation process regarding clinical trials.

Incorporating concepts from these CMS regulations offers investors a pathway for non-dilutive funding to innovators, and can provide a data platform to evaluate a product's clinical value, both pre- and post-market, which will aid reimbursement in a future bundled-payment system. In addition, having clinical trials that collect the information needed by CMS can demonstrate clinical and economic value to private payers, hospitals, and providers. As the following section demonstrates, providing non-dilutive premarket funding and standardized methods to share clinical data (demonstrating value) offers opportunities for investors and innovators to speed medical device innovation.

New, Improved Standards for Investigational Device Coverage

CMS is committed to ensuring that Medicare beneficiaries who volunteer to participate in studies are adequately protected, and that study designs address questions of importance to Medicare and its beneficiaries.¹⁷ To that end, CMS has created standards for clinical trials or studies evaluating Category A (experimental) or Category B (investigational) IDE devices.

Medicare will cover the costs of "routine care items and services" in Category A and B trials.

Additionally, CMS will cover the costs of Category B IDE devices themselves if the following standards are met:

1. The principal purpose of the study is to test whether the device improves health outcomes for appropriately selected patients.
 2. The rationale for the study is well supported by available scientific and medical information, or it is intended to clarify or establish the health outcomes of interventions already in common clinical use.
 3. The study results are not anticipated to unjustifiably duplicate existing knowledge.
 4. The study design is methodologically appropriate, and the anticipated number of enrolled subjects is adequate to confidently answer the research question(s) being asked in the study.
 5. The study is sponsored by an organization or individual capable of successfully completing the study.
 6. The study is in compliance with all applicable federal regulations concerning the protection of human subjects found at 21 CFR parts 50, 56, and 812; and 45 CFR part 46.
 7. Where appropriate, the study is not designed to exclusively test toxicity or disease pathophysiology in healthy individuals.
- Studies of all medical technologies measuring therapeutic outcomes as one of the objectives may be exempt from this criterion only if

¹⁷ Although an item or service may be considered "reasonable and necessary" when used by a clinician for the benefit of an individual patient, CMS believes that it may not necessarily be reasonable and necessary when used in the context of an IDE clinical study or trial. Also, there are numerous studies and trials that may be considered "scientifically valid," but are of little benefit to Medicare beneficiaries.

- the disease or condition being studied is life-threatening and the patient has no other viable treatment options.
8. The study is registered with the National Institutes of Health's (NIH) website, ClinicalTrials.gov, which is maintained by the National Library of Medicine (NLM).
 9. The study protocol describes the method and timing of release of results on all pre-specified outcomes, including release of negative outcomes, and states that the release should be hastened if the study is terminated early.
 10. The study protocol describes how Medicare beneficiaries may be affected by the device under investigation, and how the study results are (or are not) expected to be generalizable to the Medicare beneficiary population. Generalizability to populations eligible for Medicare due to age, disability, or other eligibility status is explicitly described.

CMS has also defined a new pivotal description for Category A or B clinical trials designed to collect definitive evidence of the safety and effectiveness of a device for a specified intended use, typically in a statistically justified number of subjects. Additionally, superiority studies are those intended to demonstrate (at some pre-specified level of confidence) that the effect of an investigational treatment is superior to that of an active control—by more than a pre-specified margin.

If the trial is pivotal, meets all 10 of the new criteria, and has a superiority study design, CMS will **expedite decisions to cover the costs of routine care items and services in the clinical trial**. According to CMS, meeting these pivotal and superiority study design criteria assures that the study results will be informative for beneficiary choices and medical decision-making in the non-trial settings where most care is actually furnished (i.e., a real world setting).

Recommendations for Medical Device Investors and Entrepreneurs

Investing in healthcare innovation necessitates a system-wide understanding of the stakeholders and institutions involved in advancing innovation: the FDA, CMS, private payers, providers, industry, and academia. Increasingly,

investors will need to initiate collaboration between the innovator and other stakeholders; **successful investors will be those who can actively find, facilitate, and grow synergies between these stakeholders throughout a product's development cycle.**

The primary roadblock for investors and innovators to date has been a lack of understanding of both FDA and CMS requirements in the design of clinical trials. Innovators and investors need to work on clear, two-way communication—and effective expectation-setting—with the applicable government agencies in order to mitigate clinical trial uncertainties and minimize delays. By improving a pathway to communication, innovators will be able to streamline clinical trials to align with FDA-CMS needs, and thus improve the pathway from approval to reimbursement.

These recent CMS regulation revisions are of particular interest to innovators who develop medical device clinical trials, as all may now be candidates for some level of Medicare coverage. These changes are also vital to investors, medical device manufacturers, healthcare providers, and medical centers who may find the updated CMS regulation to be a pathway for new revenues.

Using the CMS framework creates value transparency—not only making non-dilutive funding easier to apply for premarket, but also providing a method to demonstrate clinical and economic value after FDA marketing approval. If **understood and utilized early, the new regulation allows innovators to (a) structure a development plan that aligns FDA and CMS requirements, (b) provide non-dilutive funding for clinical trials, (c) reduce development costs, and (d) generate post-market data that can be used to demonstrate clinical results and value to hospitals and providers**. Ultimately, these factors will play an increasingly

important role in a healthcare future that relies upon evidence-based clinical processes and bundled payment models.

The U.S. healthcare system will feature increasingly integrated organizations, aligned incentives, and evidence-based clinical processes. Financial rewards to medical device technology firms will be based upon the ability to collaborate with regulatory bodies, reimbursement agencies, and provider networks, in order to continuously provide and demonstrate clinical/economic value in an efficient manner.

Ten or fifteen years from now, the landscape of biomedical innovation will be vastly different (see also Dan Janiak, p. 6). New concepts in data science and analytics, wearable technology, 3D printing, precision medicine, synthetic biology, human-machine interfaces, and the Internet of Things will profoundly change the future of diagnostic and therapeutic medical products. As these ground-breaking technologies become increasingly blended into the medical product industry, many of them will need a big jumpstart through collaboration during the regulatory and reimbursement pathway, to reduce uncertainty and review times by the FDA and CMS. **The high risk-high reward nature of the life science industry requires earlier collaborations with federal agencies,** which then

allow greater transparency for investors and innovators into the regulatory-reimbursement process, as well as providing both push incentives (i.e., reduced research and development costs) and pull incentives (i.e., smoother and better reimbursement rates). The revised CMS regulations provide **new pathways to spark innovation over the coming decade.**



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Venturing into the Industry: Lessons Learned from a VCpreneur

Ahmad Takatkah

Class 17

My life has been swinging between entrepreneurship and venture capital for more than ten years now. In each cycle, I get closer to my goal, even as I refine my goals further. In this article, I share the path that led me to found a disruptive, entrepreneurial approach to venture capital.

This is my story, and the story of VenturePicks.

Failing Often, Failing Forward¹

I started an online business, eTraindex, right after college. It was a simple platform to connect training providers with training seekers. Users could view, compare, rate, and review training courses and trainers in Amman, Jordan. After only one year, though, I realized it was not going to succeed: The Jordanian market was very small, and I could not raise enough funding to expand to the bigger regional market of the Middle East and North Africa (MENA). So, I decided to shut down eTraindex and move on.

My passion for startups did not fade. While I was starting eTraindex, I participated

in Empretec,² an international entrepreneurship training program that is managed by the United Nations and conducted in several countries around the world. After shutting down eTraindex, I joined Empretec-Jordan as a marketing manager. Within a year, I had lived the stories of more than 100 startups, met many founders, and helped them participate in a high-quality behavioral training course that changed their lives.

Next, I moved to a regional startup-support program where I had the opportunity to interact with venture capitalists for the first time. My job involved being a matchmaker between VCs and entrepreneurs, and I learned a lot about VCs and angel investors.

I loved venture so much, I tried to raise a micro-fund to start an accelerator that would focus on consumer web startups in Amman, Jordan. At that time in early 2009, there were no accelerators in the MENA region.

As one might expect, as I lacked the required experience to raise the fund; I did not succeed. Instead, I joined N2V,³ a Saudi conglomerate experienced with traditional IT that wanted to

¹ Borrowed from Ryan Babineaux and John Krumboltz, *Fail Fast, Fail Often: How Losing Can Help You Win* (New York: Penguin, 2013).

² http://www.unctadxi.org/templates/Startpage____7428.aspx.

³ <http://n2v.com/en/>.

get into the online and mobile industries. Three years down the road, I became their **head of investments**, leading their investing in eight consumer web and mobile startups and also founding an accelerator and an internal innovation lab for them.

With all of this experience under my belt, I felt it was the right time to try fundraising again. So, I quit N2V to start **my own VC firm**, and joined the Kauffman Fellows Program to gain credibility. I partnered with the founder of BlackBox,⁴ a new accelerator that helps international startups to move to Silicon Valley and connect with mentors and investors. We partnered to work on raising a small fund (\$10 million) to invest in global, pre-Series A startups coming from MENA, with the goal of helping them move to Silicon Valley to raise their Series A rounds from U.S. VCs.

Again, I could not raise the fund! This time, although the setup seemed perfect to me, my experience did not match investor expectations. Venture capital is a service business where track record is essential. All the startups I had invested in at N2V were regional, not global—that is, they were targeting the regional market, not the global one. So, potential investors in the fund (Limited Partners or LPs) kept asking for examples of global startups I had already helped to get Series A investment from the Valley, and I did not have any.

Inspiration Strikes: Becoming a “VCpreneur”

I started to think differently after that experience. I thought about going back to entrepreneurship, but I realized that **my passion was the startups themselves and not a specific industry**. Then I began to think about venture capital as my industry. Startups are all about finding inefficiencies and problems in specific industries, and then solving them; in the process, they disrupt those industries. I decided

to disrupt the venture capital industry using an entrepreneurial mindset.

As part of my Kauffman Fellows Program education, I had to work on a field project. My first thought was to write a book about the future of venture, based on interviewing several top VCs globally. However, once I started thinking about taking an entrepreneurial approach to venture, I decided to focus my field project on a “VC startup”: VenturePicks.

At that time, I was asked to join a new regional firm, **Leap Ventures**.⁵ They had a very small fund coming from one angel investor who is the managing partner of the firm. She wanted to build a track record and then raise a bigger fund. I told her about the VenturePicks concept, and she liked it. She offered for me to join **as a venture partner**, helping them with deal sourcing and analysis **as well as working on my “VC startup.”** She also seeded VenturePicks with \$50,000.

The VenturePicks Concept

VenturePicks was a web-based platform that enabled startup enthusiasts (“venture pickers”) to pick, list, and share interesting startups with other users, a.k.a. “the crowd.” It also enabled VCs to offer their deal-selection and management services to the crowd in a disruptive business model that replaces the traditional 2% management fees with a subscription fee.

Almost all crowd-funding platforms had intended for entrepreneurs to raise funds from a large user community of people not normally involved in investing. **VenturePicks was a tool for the crowd-as-investors to make better investment decisions for themselves.** This shift of focus for the service allowed me to rethink crowd-funding, and I termed our model crowd-investing.

⁴ <http://blackbox.vc/>.

⁵ <http://leap.vc/>.

Market Analysis

I was stunned to learn that **crowd-investing is a \$33 billion market—a figure expected to double in seven years.** To determine this total number, I performed thorough market research and connected the dots between several studies and reports:

- \$23 billion in direct angel investment in the United States went to 67,000 tech startups from 268,000 U.S. angel investors (Accredited Investors). Each angel invested an average of \$85,000, and each startup raised an average of \$340,000.⁶
- On the other hand, unaccredited investors (i.e., friends and family) are investing informally an estimated \$10 billion per year.⁷
- The 2012 Jumpstart Our Business Startups, or the JOBS Act, dismantled many of the legal constraints on small companies selling shares to the public via the Internet. There were 200 online platforms for equity crowd-funding waiting to be licensed in 2013.⁸

Modeling the Future of Crowd-Funding

Based on this market research, I started to build a preliminary hypothesis about how this market would evolve. To support my hypothesis, I conducted interviews with some well-known angel and venture investors from Silicon Valley and the Middle East region. Among others, I spoke with Dave McClure, founder and managing partner at 500 Startups (a top Silicon Valley accelerator) as well as a Kauffman Fellows Mentor for Classes 17 and 18.

The JOBS Act allows entrepreneurs to raise up to \$1 million from the “crowd” every

year.⁹ Similar to taking a company public, this legislative change allows shareholders, in this case the founders, to promote their startup to the public and sell shares (stock). I expected that this crowd-funding approach would replace venture capital investments in the very early stages of startup formation, and become the main source of funding for small startup companies. So, I anticipated that VC firms would shift back to later stages of startup growth financing and the seed stage would be dominated by crowd-investors and channeled through crowd-funding platforms. (This shift has been slow in coming; companies like AngelList, WeFunder, and many others are still trying, but progress is slow.)

I also concluded that startup accelerators would be the main deal source in this huge public market. Accelerators have developed a systematic approach of selecting entrepreneurs as well as selecting and verifying entrepreneurial ideas. It makes sense that crowd-investors would trust graduates of well-known accelerators more than individual entrepreneurs who come from nowhere and simply apply to the online funding platforms.

Accelerators currently depend on angel investors to attend their “Demo Days,” where all participating startups in an acceleration cycle pitch their concepts, hoping to get seed investments. The biggest and luckiest accelerator may get 100 angel investors to attend. This is all going to change through utilizing crowd-funding platforms. I believe there will be close collaboration between accelerators and crowd-funding platforms. The traditional demo days that include only dozens of angel investors will be replaced with online demo days with thousands of crowd-investors watching online streaming and making decisions on the spot. As this gets bigger, crowd-funding platforms will compete with each other to get exclusive

⁶ Jeffrey Sohl, *The Angel Investor Market in 2012: A Moderating Recovery Continues* (Center for Venture Research, 2013), para. 1, 4, http://paulcollege.unh.edu/sites/default/files/2012_analysis_report.pdf.

⁷ Zach Noorani, “Is Equity Crowdfunding a Threat to Venture Capitalists?” *TechCrunch*, 17 March 2013, para. 7, <http://techcrunch.com/2013/03/17/is-software-eating-the-venture-capitalists-too-part-i/>.

⁸ Jean Eagleham, “Crowdfunding Efforts Draw Suspicion,” *The Wall Street Journal*, 17 January 2013, para. 1, <http://www.wsj.com/articles/SB1000142412788732378370457824738048394600>.

⁹ As of 2015, the Securities and Exchange Commission has yet to publish the final rules governing this portion of the act, two years past its Congressional deadline; hence, in 2015, this fundraising avenue is still not operational. See Kevin Harrington, “Will JOBS Act Equity Crowdfunding Ever Happen?” *Forbes*, 2 March 2015, <http://www.forbes.com/sites/kevinharrington/2015/02/03/will-jobs-act-equity-crowdfunding-ever-happen/>.

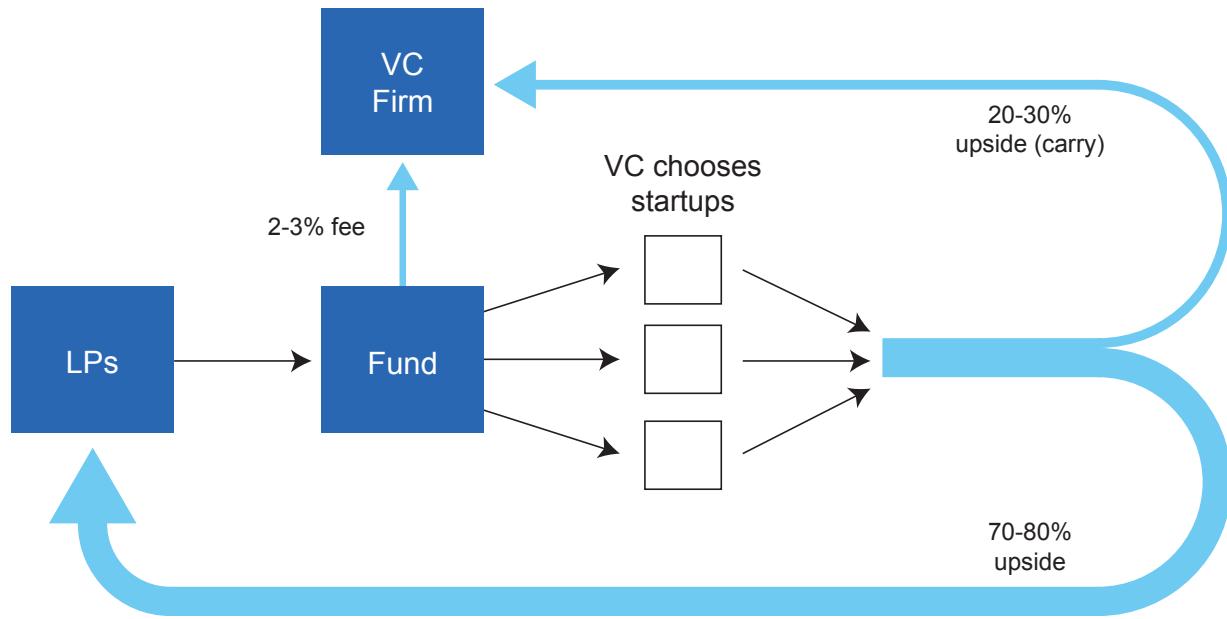


Figure 1. Traditional Venture Capital Model. Author's figure.

rights to special demo days by large, well-known accelerators.

These developments will make it very hard for entrepreneurs to get noticed among thousands of other startups, especially if they are not enrolled in an accelerator program.

On the crowd-investor side, things won't be easier either. Investors will have a pool of thousands of new startups to choose from. Finding the hottest deals early will be essential to profitable investing, but it will be challenging—especially for unsophisticated crowd-investors who will be investing their own savings.

While more than 200 companies are crazily competing now regarding who will become the hottest crowd-funding platform, they are overlooking what will be a crucial question later. **Regardless of which crowd-funding platform they use, crowd-investors will be asking, “Who are the hottest startups to invest in?”**

This question led me to expect that a new type of VC would emerge: **“Crowd-VCs” will offer venture-type services to individual crowd-investors and**

to crowd-funding platforms. Crowd-investors will want an expert to filter, verify, negotiate, monitor, syndicate, and follow up on startup deals.

Building a Business Model for a New Type of Limited Partner

After receiving the \$50,000 angel investment for VenturePicks, I started to work on building the website and mobile application for the platform. I worked on the business development and marketing, and hired a full-time developer and a full-time designer.

Our business model was simple and direct.

- Customers: Crowd-investors, that is, people who would like to invest small cash amounts into new startup companies.
- Partners: Crowd-VCs, that is, people who will offer their expert venture services to the crowd-investors to help them evaluate and make investments.
- Product: A web-based platform to facilitate the relationship between crowd-VCs and crowd-investors, including a Customer Relationship Management (CRM) dashboard and analytics to help VCs stay on top of their sales cycles.
- Revenue: A small commission of our partners’ (crowd-VC) revenue.

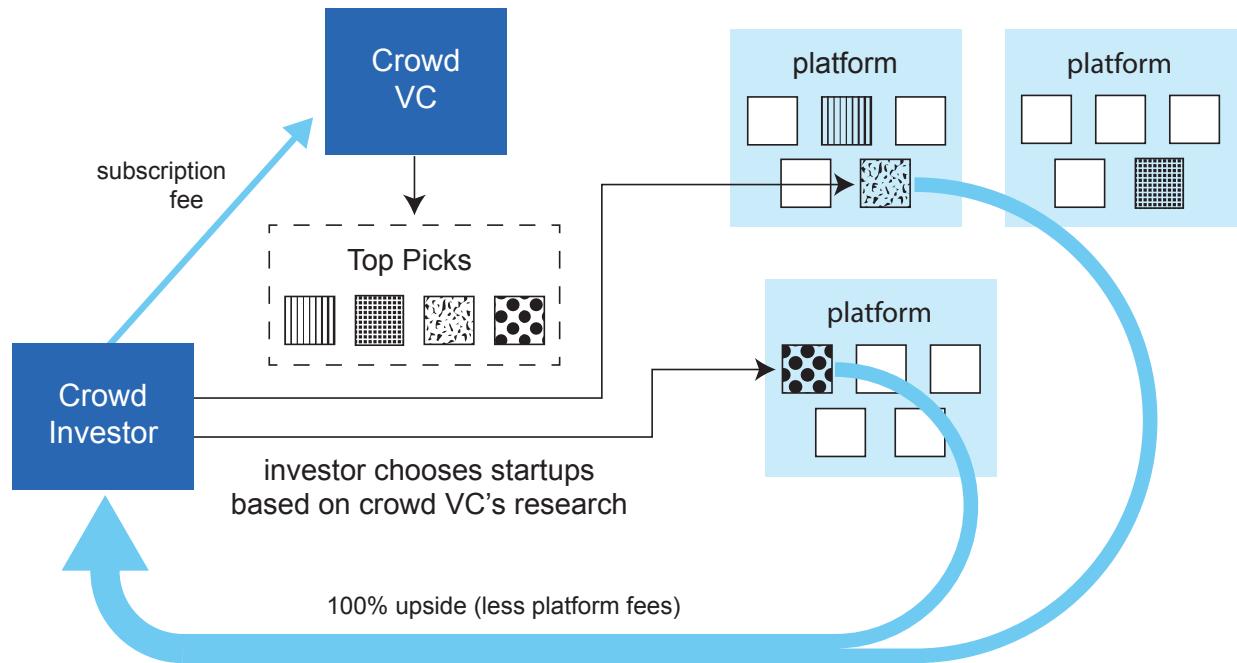


Figure 2. VenturePicks Investment Model. Author's figure.

Unlike the traditional venture model, we envisioned a new model that better suits crowd-investors and helps crowd-VCs to scale up and offer their services to a wider audience.

In the traditional venture model (figure 1), a fund includes a management fee of 2-3% of the fund amount per year, in addition to 20-30% carried interest of the fund returns. The Limited Partners who put money in the fund do not usually get the privilege of participating in the fund's investment decisions; rather, they outsource fund management to traditional VCs who decide which startups to invest in, how much, on what terms, and when to exit.

In our new crowd-VC model, VCs receive a monthly subscription fee for their "Support Services." Individual crowd-investors make their own investment decisions; VCs only suggest and manage investments.

In other words, **VenturePicks introduced a new venture capital model by treating crowd-investors as a new kind of LP** (figure 2). These crowd-investors make their own investment decisions and still benefit from VC services, but without committing to traditional fund structures

and without sharing the upsides of their investments with fund managers.

Identifying the Competition

Crowd-funding platforms were not the competition—they were like stock markets, and VenturePicks like a discussion board. VenturePicks is a community where people get to discuss investment decisions, such as which startup to invest in, who to invest with, how much, and on what terms. When they have made a decision, they go to whatever crowd-funding platform the target startup is listed on and invest.

Our main competitor was AngelList, because AngelList is both a crowd-funding platform and a community of new, younger VCs. The organization focuses on angel investors and helps them evolve into a new kind of crowd-VC. In their model, individual angels or small groups of angel investors create "syndicates"; Accredited Investors back the syndicate, agreeing to join all of the syndicate's deals (figure 3 on next page). The syndicate acts as a VC, selecting deals and receiving a "carry," or percentage of the investment returns

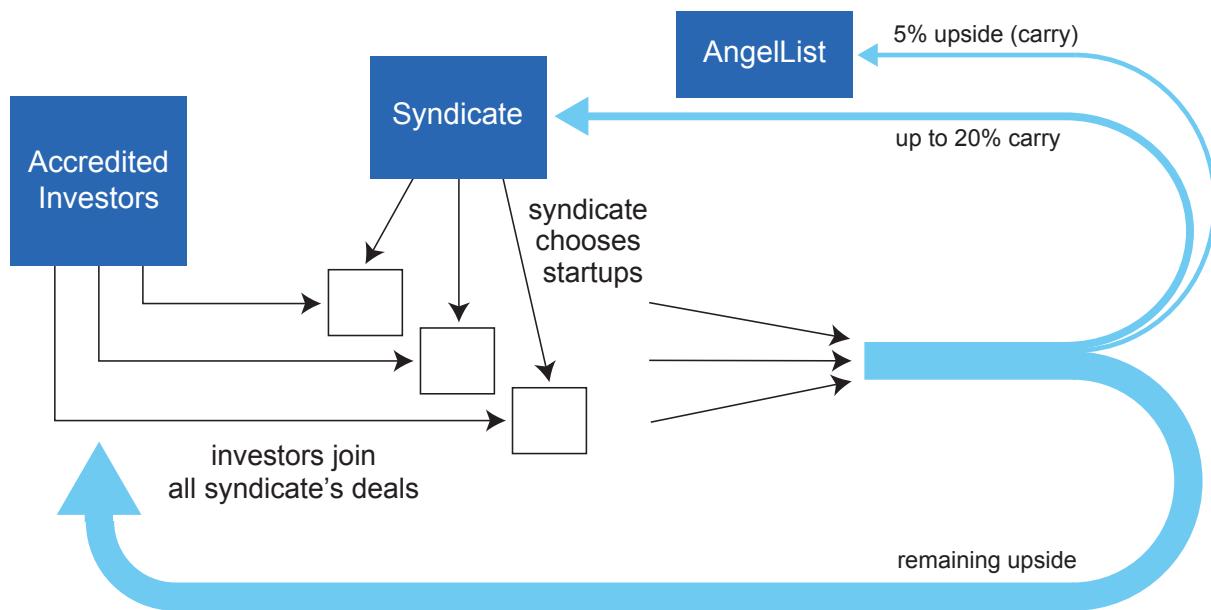


Figure 3. AngelList investment Model. Author's figure.

at the time of exit. AngelList itself makes money through a 5% carry on investment returns, and the Accredited Investor benefits by gaining access to deal flow through syndicates with notable lead investors.

The only difference between the traditional VC model and AngelList's new syndicate model is the removal of management fees. Syndicate VCs are paid only in the future, if and only if the startups they choose get acquired or achieve IPOs. The crowd-investors (called Backers by AngelList) do not make their own investment decisions; these decisions are outsourced to the syndicate leaders. Therefore, crowd-investors must also share their investments' upside with those leaders.

The VenturePicks model is more fair to crowd-investors. It gives them full control of their own money, so **they get to decide where to invest and how much, and they do not have to share the returns** just because someone else selected a target startup.

Identifying the Next Steps

For our concept to work, we needed to help these new crowd-VCs evolve. Potential crowd-VCs were people with VC experience or those

who like startups, can identify new technology trends and great startups, and can then structure funding deals with the founders.

We had two main tasks: first, build a network of startup enthusiasts, and then help the best “venture-pickers” among them to become crowd-VCs. We wanted people to come to our website, pick startups, and add them to their list of “hot startups.” These venture-pickers would pick, list, and share startups with the crowds on their own lists. People could follow specific venture-pickers to learn more about their selection criteria and receive updates on their selected startups. Once we could identify top venture-pickers, we needed to help them become crowd-VCs, that is, allow them to offer paid services to their followers.

Failing Forward, Again

We launched our website and shared it with a small group of selected VCs and angel investors from around the world, asking for their feedback. We also started a test advertising campaign on Facebook. We spent \$1,000 targeting San Francisco to get people to sign up as “Startup Enthusiasts” and post their favorite startups on the website. No one signed up.

To investigate, we contacted those with whom we shared the website for face-to-face feedback. They told us that the process of adding a startup was difficult. People had to enter the startup name, write a brief description, and list its team members. We had thought that was simple, but people did not like it.

We concluded that we needed to offer a database of startups, so users could pick interesting startups instead of entering them from scratch. However, entrepreneurs would not come and enter their startups because we did not yet have any crowd-VCs on the site. We faced a Catch-22.

The most logical solutions were to acquire an existing database or to build our own. An already existing database seemed better because of time constraints. While we discussed several ways to get such a database, the most up-to-date and highest quality database available was actually at our main competitor's platform, AngelList! They had developed an API to give developers access to their database and innovate new ways to better serve their customers/users, making it easy.

We re-launched our website with a new design, connecting to AngelList's API database. So, whenever a new "Picker" signed up, she only needed to type the name of the company—all the other details were filled automatically through the AngelList database. The "Picker" only needed to click a button to add a specific startup to her own list.

After another test advertising campaign, we still had zero signups. Our investigation revealed that we had gotten ourselves into another Catch-22.

A "Picker" had no reason to pick startups and list them on her profile if there were no followers, and on the other hand, followers had no reason to come if there were no "Pickers" to follow.

After two unsuccessful launches, we decided to put the project on hold until we figured out a better way to attract users. In the meantime, our own angel investor (my boss at my "day

job") had been unable to raise her target fund despite investments in 10 seed-stage startups. She decided to lay off the investment team (including me), continue fundraising on her own, and reassemble the team once the fund was raised. I had continued working on VenturePicks for a few more months, and then I decided to "fail fast" again and shut it down. VenturePicks was, however, a great learning experience.

Lessons Learned

In retrospect, we realized that building the database ourselves was essential to build the brand and to slowly accustom people to our new concept. That is what AngelList did. For many years, AngelList focused on only one thing: building their database by connecting entrepreneurs with angel investors. Then, once they had a strong community, they started to offer new ways to invest, such as their syndicate model.

Hindsight suggests other ways to build a database and community. For example, we could have started a newsletter that featured one or two startups a week, and asked receivers to comment on them or simply select their favorite one. We could have attended the demo days of popular accelerators, added graduating startups to our database manually, and told angel investors about our website. We could then have signed up angel investors on the spot via a mobile app, so they could comment on the startups they had seen that very same day. This approach would have increased the chances of new users interacting on our platform, and would have been a great way to build the database and the momentum.

Going through this project has been a huge learning experience. Researching the VC market, the VC models, and the innovations in disrupting the traditional way we invest was invaluable. At the same time, it was an entrepreneurship experience. I went through a harsh idea-validation process, but thanks to Steve Blank and the Lean Startup Methodology, we did not lose a lot of money and time in this experiment.

I also learned about the difference between entrepreneurship and venture capital the hard way. **If you build a great product as an entrepreneur, your track record or previous experience is irrelevant. But in venture—a service business—track record and previous experience is weighted much more heavily** than a great product.

In mid-2014, I joined a new firm in Dubai, Arzan Venture Capital,¹⁰ where we focus on Series A startups. At the end of the day, it seems that **I shifted from seed to Series A, as I had predicted the VC community would do!** I moved to Dubai a few months before this writing; I love the city, and I am enjoying some stability here for now. Though I do not know what or when my next move will be, I am still looking west, dreaming of being part of something big in Silicon Valley.



Ahmad Takatkah

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¹⁰ <http://arzanvc.com/>.

Facilitating Pharmaceutical Licensing into Russia

Kenneth Horne

Class 17

The Russian pharmaceutical industry is the 7th largest in the world (valued at over \$28 billion) and has the 3rd highest growth rate¹ (14% in 2013, 12% in 2014²)—however, over 75% of the pharmaceutical products are imported and only 1 of the top 20 pharmaceutical companies by market share is domestic.³ The Russian government appropriately deemed this an issue, and in 2010 launched an initiative called Pharma 2020 to support the domestic pharmaceutical industry and reduce the portion of imported drugs from 75% to 50% by 2020.

To promote domestic production, the Russian government offers a 15% premium to domestically manufactured pharmaceutical assets when trying to secure government tenders.⁴ Since its creation, the initiative has made significant headway with moves by several multinational

pharmaceutical companies via partnerships or direct investment.⁵

My Kauffman Fellows classmate Roman Knyazev and I both worked as venture capitalists specializing in healthcare, and shared an interest in emerging markets, particularly Russia where Roman was based. Despite the governmental initiatives, we observed that Russian companies were having some difficulty in securing licenses from foreign pharmaceutical companies. Thus, a goal for our Kauffman Fellows field project emerged: analyze why licensing by Russian pharmaceutical companies was not going smoothly despite the attractive market and government initiatives. Further, it was our collective desire to have a non-academic field project, that is, one that produced a commercial outcome. So, upon analyzing the Russian business development landscape, a second goal was formulated: try and address (to some extent) the difficulties we would observe commercially.

¹ JSC DSM Group, *Russian Pharmaceutical Market 2012* (n.d.), 4, http://agora.mfa.gr/agora/images/docs/rad8D976annual_report_2012_eng.pdf.

² HIS Inc., “Russian Pharmaceutical Market Value Grows 14% in 2013,” 7 March 2014, “Outlook,” <https://www.ihs.com/country-industry-forecasting.html?ID=1065985325>.

³ JSC DSM Group, 3.

⁴ Ibid., 36.

⁵ David Yampolsky, “Russia: A Look Back at Pharma2020, and a Look Forward to its Prospects,” CB Partners *Thought Hub* (blog), 1 October 2014, para. 4, <http://cbpartners.com/blog/russia-a-look-back-at-pharma2020-and-a-look-forward-to-its-prospects.html>.

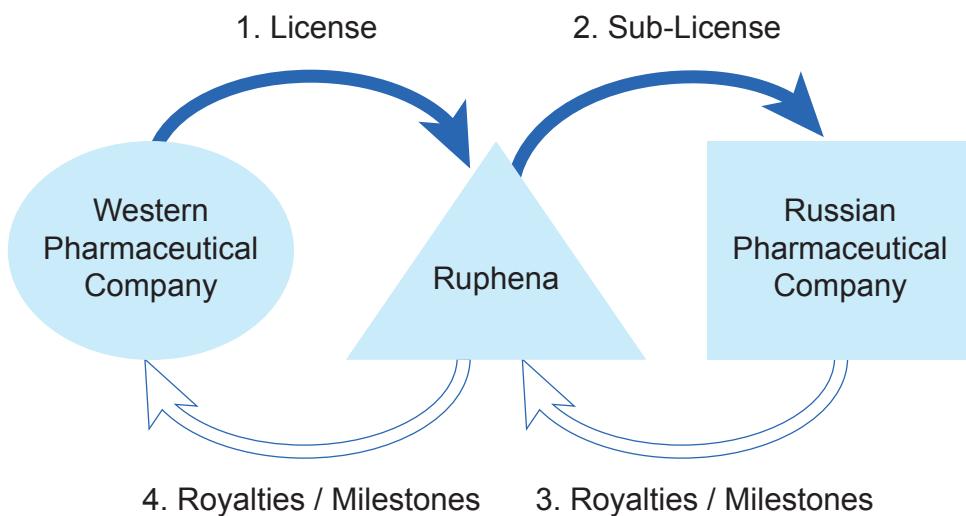


Figure 1. Direct Licensing Business Model. Author's figure.

Phase 1: Identifying Barriers to Pharmaceutical Licensing in Russia

Our first task was to understand why licensing into Russia is difficult. We leveraged our respective networks to speak to pharmaceutical executives in Russia and business development professionals in the United States and Asia. We sought advice from Garrett Vygantas (Class 13), who had founded NewBridge Pharmaceuticals, a company that licenses pharmaceutical assets for Africa, the Middle East, and Turkey. We also spoke with a business development executive from Amgen who oversees business development in Russia, thanks to another Kauffman Fellows introduction. Through these interactions we formulated two main hypotheses as to why licensing into Russia is difficult.

First, from the Russian side, we found that **the deal-making dynamic is different** than what Western companies are used to. **The structures Western companies expect**—up-front payments, royalties, term limits, and milestone payments, for example—are not necessarily considered common in Russia. Further, the potential for a win-win, altruistic deal is not assumed, or in some cases even considered. We did not reach a conclusion as to whether assuming altruistic deals is simply the Russian way of doing business, or if Russian companies' behavior

is influenced by doing business with foreign entities. Either way, differences in business development standards were the first difficulty we identified.

Second, from the Western perspective, while the potential and attractiveness of the Russian market is pretty well understood, many Western companies did not know what to expect when doing pharmaceutical business in Russia. They described a fear of the “unknown unknown.” In contrast, when discussing our research in Russia, China was brought up by many business development executives with emerging market experience, and they said that even though doing business in China has its challenges, at least they knew what to expect. The issue of deficient trust (we would not call it distrust) is amplified in the Russian pharmaceutical industry, as compared to tech or finance. For example, if a pharmaceutical partner in Russia were to generate bad clinical outcomes (adverse events) using a product licensed from the United States, it could impact that product on the U.S. market through commercial, clinical, or regulatory (FDA) pressures. This **potential downside combined with some uncertainty** seemed to outweigh the potential for upside in the Russian market.

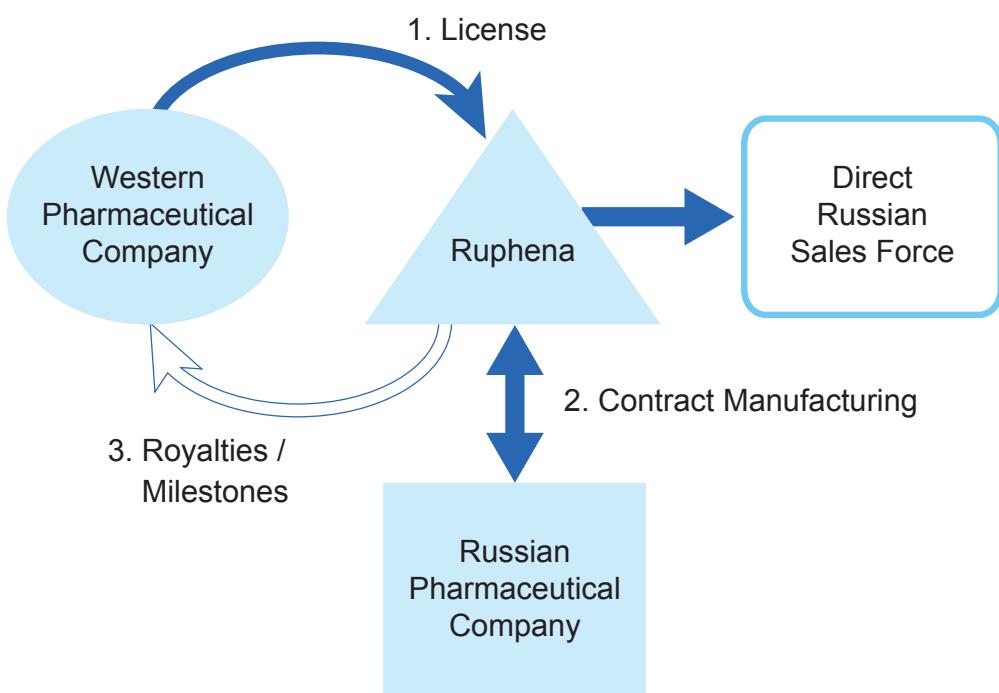


Figure 2. Direct Licensing Business Model, Contract Manufacturing with Russian Company and Ruphena Having a Direct Sales Force. Author's figure.

Phase 2: Developing Ruphena as a Potential Solution

With this new understanding of the difficulties facing pharmaceutical licensing in Russia, we investigated ways to address these difficulties.

Our proposed solution was to create a commercial entity to help match Russian pharmaceutical companies and their licensing needs with Western companies seeking emerging market upside, and then to address the known business-development difficulties by facilitating the licensing negotiations. We decided to name this potential entity Ruphena.

We contemplated a variety of business models for Ruphena. The most attractive opportunity seemed to be to directly license the U.S. asset to Ruphena, which would then sublicense to Russian pharma companies (figure 1). This arrangement would allow the greatest control, and we thought it would have the greatest upside potential. The second

potential arrangement was for Ruphena to do a direct license with the Western pharma company, and also be a full-service commercial entity with its own sales force and distribution in Russia (figure 2). In this second model, Ruphena would contract manufacturing with a Russian pharmaceutical company in order to fulfill the domestically manufactured mandate necessary to secure the Pharma 2020 advantages. However, the firm would obtain and use its own direct sales force to better control the clinical, regulatory, and commercial development of the product. This second model would provide better control over the product and address one of the concerns of Western pharmaceutical companies.

Although attractive options, both direct-license business models had an insurmountable upfront capital requirement

(figures 1-2). Western pharma companies would undoubtedly require an upfront payment, which Ruphena would not have—and would not want to have to raise. Further, in the direct-sales-force model, the firm would need additional capital to set up its own Russian entity. Finally, Ruphena would not have any track record of success

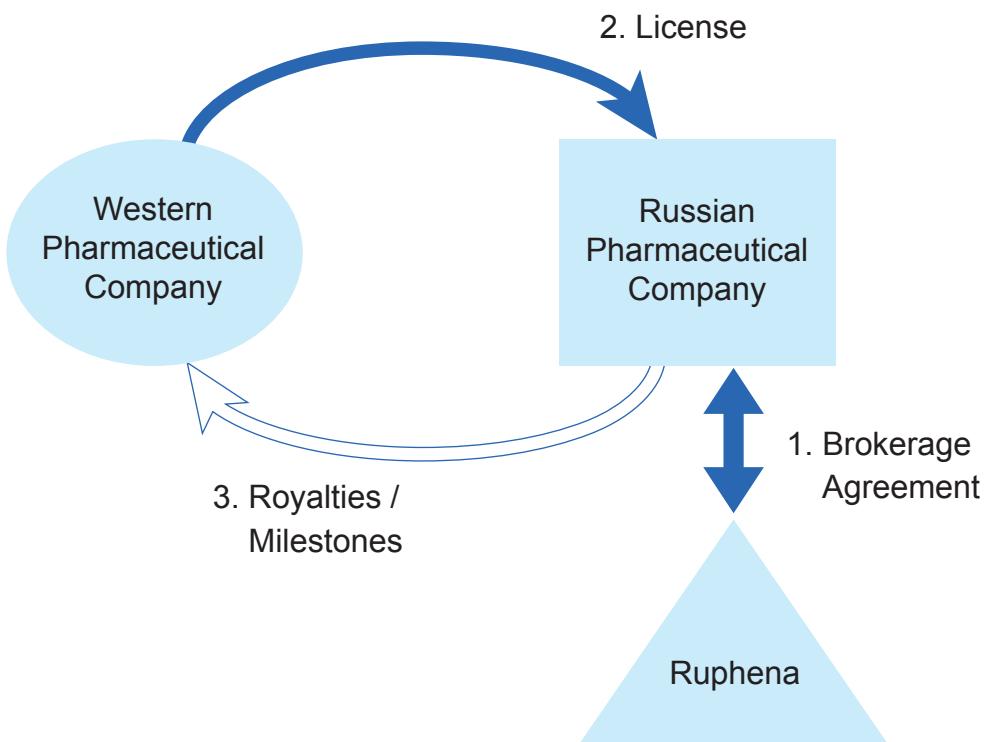


Figure 3. Broker Business Model. Author's figure.

in pharmaceutical licensing to Russia, and it would likely prove difficult to secure any direct licenses.

Therefore, we conceived of and selected a brokerage business model (figure 3). In this model, **Ruphena would start by signing brokerage agreements with Russian pharmaceutical companies, and would then work on behalf of those companies to try to source licensing opportunities.** This model had the lowest initial capital requirements for Ruphena, and the only thing primarily at risk was our time. For our potential clients, both Russian and Western pharmaceutical companies, **there was no downside to engaging Ruphena, as any financial payouts would be success-driven.**

Phase 3: Making Ruphena a Reality

Armed with a business model, we set about creating Ruphena. We spent some time considering the merits of making Ruphena an offshore company (British Virgin Isles or Cayman). There were definite potential tax

benefits to doing so, and the cost trade-off seemed acceptable (\$5k to setup a U.S. LLC vs. \$20-30k to setup offshore). However, given the existing guarded view that Western companies have of Russian companies, we wanted to ensure that Ruphena came across as absolutely legitimate. Thus, we set up a U.S. LLC and further decided to hire Cooley LLP, a well-established and reputable Silicon Valley law firm, as Ruphena's legal representation.⁶

The first order of business was **to secure brokerage agreements.** Utilizing our knowledge of the Russian pharmaceutical industry, we focused on top-quality companies and **prioritized those that were public or had significant government backing.** We theorized that these two types of entities would appear trustworthy when viewed by the West.

We created a short PowerPoint presentation on Ruphena and were able to quickly secure interest from two Russian pharmaceutical companies: one public and one privately held.

⁶ The mere fact that Cooley LLP had papered our company and was our legal counsel helped us secure a few meetings, as it definitely provided some legitimacy.

Unfortunately, it took nearly six months to get brokerage agreements signed.

This experience was very informative about navigating the different business development styles. We proposed success payments for any brokered licenses, on par with what an investment bank might charge for a similar service, and which we would use to cover Ruphena's costs. We also proposed a small percentage royalty on the licensed product, which would be Ruphena's upside. We felt this structure was very fair: the Russian pharma company paid nothing unless they got a license, they would be in complete control of that decision-making process, and if they signed the license we would participate in the upside by taking a small royalty. **The strongest push-back we got was on the royalty—not the specific percentage, but the entire existence of it.** Both Russian companies that had expressed interest would rather have paid for our services to get the initial license and then severed ties, even if that meant paying more than we were asking for up front. It took a lot of convincing, but ultimately we were able to show them that the future potential of the upside was good motivation, and would only be material to them if they had a very successful product—hence, this was a win-win agreement.

Armed with two brokerage agreements, we initially sought assets that we thought or knew were available for license in Russia. The Kauffman Fellows network was particularly helpful in compiling this list. When we shared the list with our Russian partners, it did not generate significant interest. It did, however, finally get them to reveal to us their specific interests, and we then sought such assets by leveraging our various networks. One of the biggest challenges we had in agreeing on assets to go after with our Russian partners was that **they desired novel, patent-protected, high-potential assets, but they did not realize the clinical and regulatory development costs necessary** to secure Russian approvals for such assets.

However, if we brought less “desirable” assets (no patent, generic, smaller market), they were not as enthused to seek a license. It often felt like the company strategies for our Russian partners were constantly evolving.

The Future for Ruphena

As of this writing, we have a deal in the works with each Russian company, and both deals have had several rounds of term sheet negotiations. We are optimistic that we can get one or both of the deals signed sometime in 2015. Interestingly, one of the potential assets is held by a Chinese government-backed entity, which has added another dimension of business cultural differences. Also, despite the increased language barrier, it has felt easier to facilitate business discussions between the Russian and Chinese companies than it has with U.S. and Russian companies.

Our long-term goal for Ruphena is to shift toward a direct-licensing model, and eventually build a presence in Russia so that we can sell directly. In order to do this, we will need to have some success with our initial licensing deals, both to have a demonstrable track record, as well as to have some capital that we can use to grow. If any member of the Kauffman Fellows network has an interesting pharmaceutical asset looking to enter the Russian market, please reach out to me!



Kenneth Horne

Ken has 12 years of experience in the life science industry as an executive, entrepreneur, and investor. Before joining Symic Biomedical as CEO in April 2014, he was a founding member of TauTona Group, an early-stage life science VC fund. At TauTona, he founded and managed Aline Aesthetics, a biomaterial company (acquired by Allergan). Ken holds BS and MS degrees from Stanford University in mechanical engineering. Kauffman Fellow Class 17. KH@SymicBio.com

MENA's Internet Industry: The Opportunity, Challenges, and Success Stories

Khaldoon Tabaza

Class 15

Online businesses in the Middle East and North Africa (MENA) are on the cusp of an era of very strong growth. During the next 3-5 years, one or more \$1+ billion companies will emerge to become regional leaders, representing MENA among the ranks of the world's largest Internet companies—Alibaba (China's biggest e-commerce company), Mail.ru (the Russian powerhouse Internet conglomerate), Rakuten (the Japanese e-retailer that has made a name for itself as a global player), and a select handful of others.

In this article, I outline why this bold statement is true, drawing on my 20+ years of experience as a founder, business strategist, and Internet investor specializing in the Middle East. I frame the current situation in MENA according to a three-stage model of Internet business growth in emerging markets. Finally, I give specific advice for successful investment in the region, and assess the top three markets that are poised for dramatic growth.

Online Businesses in Other Emerging Markets: Growth, Inflection Point, Hypergrowth

First, it is important to understand how online businesses have evolved in other emerging markets. While they are of course technology-driven, the key driver behind online businesses in emerging markets has actually been consumer (and enterprise) demand, rather than innovation, research and development, or technical development.

The existing venture capital and innovation ecosystem in developed markets, particularly the United States, embraced the increase in Internet users that resulted from telecoms providing faster and cheaper Internet access over time. That ecosystem provided the funding and support required for founders to build businesses addressing the needs of online users (and enterprises). The result has been a smooth, parallel growth in the number of online users, the flow of investment capital, and the creation of wealth from U.S. Internet companies.

Lacking such a VC and innovation ecosystem, emerging markets have behaved differently.

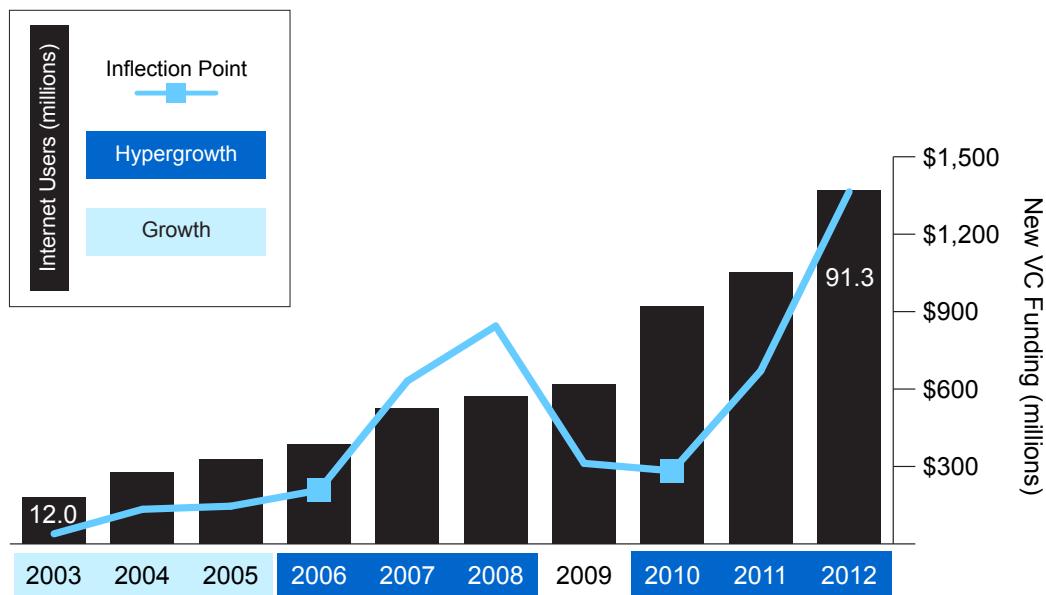


Figure 1. Growth, Inflection Point, and Hypergrowth in the Russian Market.

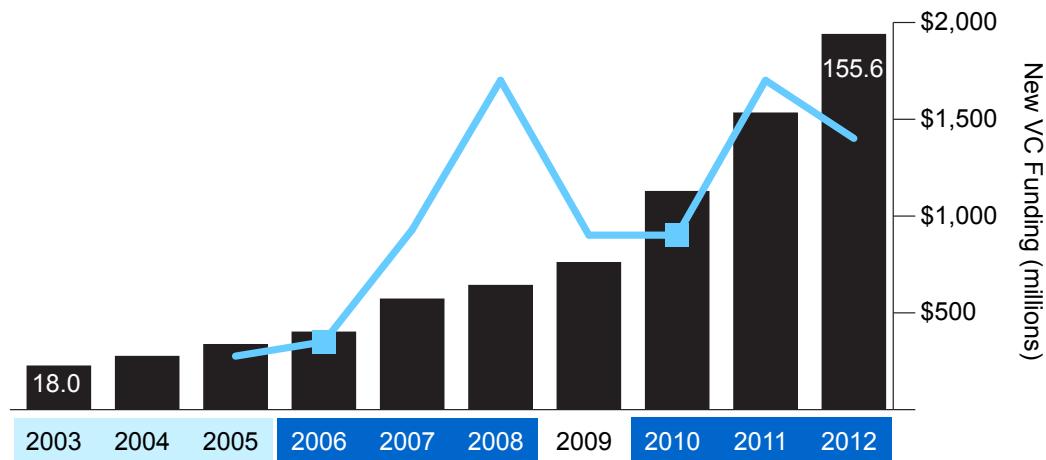


Figure 2. Growth, Inflection Point, and Hypergrowth in the Indian Market.

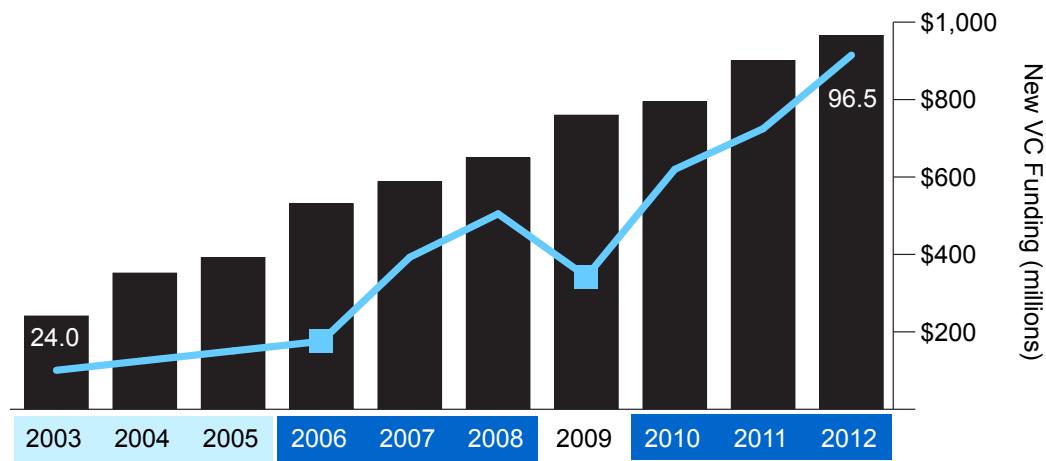


Figure 3. Growth, Inflection Point, and Hypergrowth in the Brazilian Market. Author's figures, based on research using World Bank data from <http://data.worldbank.org/> as well as iMENA proprietary research.

Strong telecommunication companies are driven mainly by significant and growing voice-services markets, and later by data-services markets, so there has been continuous increase in the number of Internet users. However, those users were not offered much in terms of local online services.

Internet business growth in emerging markets follows a pattern—growth, inflection point, hypergrowth. In emerging markets from Latin America to Southeast Asia, Central and Eastern Europe, and Russia, the Internet user base must first grow to significant size. As shown in [figures 1–3](#), there has typically then been an inflection point where the number of Internet users and Internet penetration rate reached a critical threshold. International investors capture that moment and begin pouring in capital, initiating a period of “hypergrowth.” They replicate globally proven business models from other developed—as well as developing—markets, and are typically followed by regional or local investors. Within 3–5 years, one or more \$1+ billion companies are created, and in many cases listed on an international stock exchange, to act as a proxy for international investors to participate in the growth of the consumer online businesses industry in that market.

[Figures 1, 2, and 3](#) provide examples of this pattern in the Russian, Indian, and Brazilian markets. The financial crisis of 2008–2010 disrupted the hypergrowth period temporarily, leading to a second inflection point in these markets.

In these emerging markets, **the first online, multi-business groups to list enjoyed a “scarcity” advantage** that resulted in higher revenue multiples to their market value. In addition, those which offered **shared services and a platform to continuously build new businesses possessed an advantage and therefore a premium on their share price;** in contrast, online groups in developed markets typically traded at a discount.

Internet Penetration in MENA: On the Cusp of Hypergrowth

The MENA region today boasts more than 140 million Internet users, and an Internet penetration rate that is fast approaching 50%.¹ Smartphone penetration in particular is an important force that supports the growth of online businesses. The United Arab Emirates and Saudi Arabia have the two highest smartphone use rates in the world at 74% and 73% (followed by South Korea at 73%). Other emerging online markets such as Russia and Brazil have smartphone penetration rates of only 36% and 26%, respectively.²

In many ways, smartphones have brought online services to a new category of users in the Middle East: people who were not users of desktop computers or laptops. In several countries, where the mobile infrastructure has leapfrogged the fixed infrastructure, many users were first introduced to the Internet through their mobile phones.³

iMENA Group’s proprietary research across other emerging markets indicates that MENA has entered the hypergrowth era of consumer online businesses. By benchmarking MENA’s potential against other markets such as Russia, South Korea, or Latin America—each of which boasts public companies worth more than \$10 billion⁴—we can safely expect MENA to produce at least \$10 billion in publicly listed Internet companies over the next ten years.

This hypergrowth era represents an historic market opportunity—one that will not be repeated for the online business market—to capture an immense amount of value and create a market leader.

¹ World Bank data for “Internet users” and “Population.” Numbers for MENA are calculated from the available data, where MENA is defined as Morocco, Algeria, Tunisia, Egypt, UAE, Qatar, Saudi Arabia, Bahrain, Oman, Palestine, Jordan, Iraq, and Syria (where available); The World Bank, “Internet Users per 100 People,” 2015, <http://data.worldbank.org/indicator/IT.NET.USER.P2>.

² Google et al., *Our Mobile Planet* (n.d.), <http://think.withgoogle.com/mobileplanet/en/>, search terms “UAE, USA, Saudi Arabia, Russia, Brazil, Korea; smartphone use / penetration rate.”

³ International Telecommunications Union, *Measuring the Information Society: 2012* (2012), http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2012/MIS2012_without_Annex_4.pdf.

⁴ Data from Yahoo Finance for Yandex, Naver Corp, and Mercado Libre.

Venture Capital for MENA: Success through Founder Support

The traditional venture capital approach to supporting the growth of startups is not always the right one for MENA companies, as it assumes a mature ecosystem where companies grow seamlessly from one phase to the next, changing hands among an abundance of players until, eventually, an exit is achieved. **In the fragmented MENA ecosystem, however, founders face a very tough challenge moving smoothly from one phase of their company development to the next.**

Many companies fail not because they have the wrong model, but because they lack access to the resources they need. The region's entrepreneurs experience particular difficulties with fundraising, market expansion, the recruitment of high-end talent, and exits. There is a lack of players across most parts of the funding ecosystem in the Middle East. In addition, most companies are in the seed and early stages. **As a result, many high-potential business models and easy opportunities are missed,** particularly those with large home markets, a barrier to entry through a network effect, and low business model and technology risks.

I argue that the right approach in a region like ours is to **create an Internet group with a "mini-ecosystem" to nurture the ongoing growth of startups.** In this ecosystem, the group's operator endeavors to provide its companies with the support they need in order to grow and seize the market opportunity: resources ranging from funds and talent, to go-to-market strategy and activation. **Unlike traditional incubators or accelerators, the group's operator will often support its companies until much later stages of maturity,** continuing to provide key resources and a steady stream of funding. In addition, the group's operator considers a variety of

exit opportunities from private equity to IPOs for the group as a whole, individual companies, and spinoff groups.

At iMENA Group, we operate such an ecosystem that allows us to build new online companies. We also introduce pre-existing online businesses to our group, offering the added value of partnering up with international players that help them expand into the region. Two of our greatest successes include SellAnyCar,⁵ an online used-car marketplace we brought to our platform in 2013, and Hellofood, an online food-delivery marketplace we cofounded alongside Rocket Internet that same year.⁶ In both cases, we worked with the founders to develop a business strategy, recruited a long-term team, and used our shared group engagements to establish key strategic partnerships to support seamless international expansion. This strategy has proved highly successful, allowing a rapid expansion and growth that is extremely rare (if not impossible) for an independent business.

Market Sector Assessment

While I do believe that the region's online industry has huge potential, as described above, I do not find all online business models to be ripe for investment at this time. **Three areas in particular stand out as ready for hypergrowth expansion.**

Online Marketplaces

In the e-commerce space, I find online marketplaces to be a more mature model than e-retail. In contrast with e-retail, **online marketplaces connect sellers and buyers** on a technology and marketing platform **without having to deal with online payment, logistics, and transportation obstacles.**

Early online marketplaces were initially launched as an extension of traditional

⁵ <http://uae.sellanycar.com/>; see also Manoj Nair, "Auto Portal Wants to Turn Things Around," *Gulf News*, 6 January 2014, <http://gulfnews.com/business/sectors/automotives/auto-portal-wants-to-turn-things-around-1.1274269>.

⁶ <http://www.hellofood.com/>.

marketplace categories, such as fashion, electronics, and books. Today, generic online marketplaces like Amazon.com and eBay have grown to encompass all kinds of goods and services.

The development of the Internet into a ubiquitous and seamless network has also allowed **the creation of new specialized markets for industries that never had their own marketplaces**, such as transportation, healthcare, and financial services. Several billion-dollar companies have arisen in these new spaces, including Uber, which connects passengers with drivers, and the British company MoneySuperMarket, which lets users compare financial services and products as well as procure them online from providers. Since 2012, several marketplace categories in the Arab world have emerged as mature, with undisputed leaders operating efficient marketplaces and growing at record rates.

One approach is to offer a digital version of an existing business model. In the automotive sector, traditional car dealership markets have now been replaced by startups that allow users to sell their cars in record time. SellAnyCar.com is one such startup—it was founded in the UAE and has now expanded into Turkey and Saudi Arabia. In the transportation sector, startups like EasyTaxi now allow users in Saudi Arabia, Jordan, Kuwait, Qatar, and Bahrain to order taxis with the tap of a button on their smartphones. This particular business model has a strong human aspect, as it not only improves efficiency by saving taxi drivers the hassle of wandering in the streets, but also offers safety and comfort, especially for passengers such as women and teens. In addition, both pollution and power consumption are reduced.

Innovative marketplaces that did not exist pre-Internet are now also available. In the Arab world, for example, ReserveOut.com acts as a marketplace for restaurant reservations, allowing users to discover new venues and guarantee immediate and free reservations from desktop computer or smartphone. An online food-ordering marketplace, Hellofood, is now the largest food

court in Saudi Arabia, Jordan, and Lebanon, rendering obsolete the old business models such as ordering food by telephone or through catalogues. It is noteworthy that the platform receives almost 80% of its orders via mobile in Saudi Arabia, proving the power of smartphone penetration.⁷

Online Classifieds

Another ripe sector in the region is online classifieds, which have completely disrupted their traditional counterpart. Following the trend elsewhere in the world, business from printed classified listings in the region stopped growing around 2012 and experienced a 21% decline in ad revenues in 2013.⁸ While leading classified newspapers in the region have not yet shut down, it is easy to predict that outcome within five years.

This global shift to online classifieds has drastically improved the experience of consumer-to-consumer and business-to-consumer selling and buying. From a user perspective, spending hours going through print pages, circling ads, and waiting until next week's edition for new options—all are replaced by a sophisticated search that allows users to find cars by brand, year, body type, fuel type, and price, and to receive alerts about an item's availability. The same great experience applies to real-estate classifieds, jobs, electronics, services, and every other category imaginable. Furthermore, while traditional classifieds are limited in capacity by print space, there is virtually no limit on the number of posts a single classifieds website can support.

This shift has created billions of dollars in value for startup founders and their investors around the world. For example, the leading generalist Arabic classifieds website, OpenSooq.com, receives 268 million page views each month and its mobile app was downloaded over 2.5 million times in the past six months.⁹

⁷ Rodolfo C. Estimo, Jr., "Ordering Food Online Catching On Fast," *Arab News*, 24 October 2014, para. 4, <http://www.arabnews.com/news/649341>.

⁸ Mira Milosevic et al., *World Press Trends 2014: The Definitive Guide to the Global Newspaper Industry, in Numbers, Trends and Changes* (World Association of Newspapers and News Publishers, 2014), 20 (fig. 22), http://www.arpp.ru/images/123/51253_WAN-IFRA_WPT_2014.pdf.

⁹ iMENA portfolio company data.

In expat-dominated countries such as the United Arab Emirates (UAE), Qatar, and Oman, the English-language, generic classifieds website Dubizzle has done well by focusing on business-to-consumer advertising in sectors such as real estate.¹⁰ The company also offers advanced search functionalities and a more elaborate user interface.

These successful companies are joined by category leaders who have focused on specific verticals. Propertyfinder, focused on real estate in the Gulf Cooperation Council (GCC),¹¹ receives 150,000 inquiries each month and boasts over 1 million users.¹² Haraj, Saudi Arabia's top automobile classifieds site, receives around 600 million visits per month.¹³

I stress the importance of keeping an eye on the region's online classifieds leaders because the business is mostly local or regional; global classifieds websites are usually of low value outside their home geographical area. The sector is also usually one of the first categories to mature with the emergence of regional leaders, such as iProperty Group in Southeast Asia,¹⁴ Info Edge in India,¹⁵ and Allegro Group in Central and Eastern Europe.¹⁶ In MENA, the business leaders in online classifieds have mostly begun as home-grown startups now valued at tens of millions of dollars—with tremendous growth potential ahead of them.

Online Payments

Lastly, online payment is a critical sector to support now, because building an

¹⁰ Knowledge@Wharton, "A Good Deal: Dubizzle Seeks to Dominate the Middle East's Online Classifieds Market," 12 June 2012, <http://knowledge.wharton.upenn.edu/article/a-good-deal-dubizzle-seeks-to-dominate-the-middle-east-s-online-classifieds-market/>.

¹¹ A political and economic alliance of Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman.

¹² Thomson Reuters Zawaya, "BECO Capital Increases Its Stake in Propertyfinder" (press release), 10 December 2014, para. 8, https://www.zawya.com/story/BECO_Capital_increases_its_stake_in_propertyfinder-ZAWYA20141210081805/.

¹³ Pamela Kesrouani, "How to Run a Digital Marketing Campaign," *Wamda*, 5 August 2014, para. 4, <http://www.wamda.com/2014/08/how-to-run-a-digital-marketing-campaign-from-dubai-s-digital-labs>.

¹⁴ <http://www.iproperty-group.com/about-the-group>.

¹⁵ <http://www.infoedge.in/corporate-overview.asp>.

¹⁶ http://allegro.pl/country_pages/1/0/marketing/about.php.

e-commerce industry not only involves finding new business models, but also building the infrastructure that the online economy needs. In MENA, this infrastructure includes payments and logistics, presenting huge opportunities for the founders—as well as investors—who are moving ahead to create solutions.

Online payments have been at the center of e-commerce challenges in the Middle East and North Africa since the first regional e-commerce sites came online. In many cases, payment issues have kept both investors and founders worried about venturing into e-commerce businesses, and have prevented many consumers from enjoying the benefits.

The challenge is not on the consumer end: credit card holders in MENA are happy to use cards as a payment method. Annual payment-card transactions per capita stand at \$6,832 in Saudi Arabia, making it higher than many emerging markets such as Brazil (\$1,882), Turkey (\$2,553), and Russia (\$1,176), and even Germany (\$3,108).¹⁷ Research shows that 47% of people in MENA have some sort of payment card,¹⁸ and the number is likely much higher within the Gulf Cooperation Council and Internet-user subset of the MENA market. MENA's cumulative annual growth rate in card transactions is forecasted to be 15% between 2011 and 2016, which makes it the highest worldwide and on par with the Asia Pacific region.¹⁹

With such optimistic and encouraging indicators, it is striking that only 20% of e-commerce transactions in MENA are done with cards—the rest is through "cash on delivery." The reasons are related to the challenges and difficulties of receiving payments via cards online in MENA.

¹⁷ Bank for International Settlements, *Statistics on Payment, Clearing and Settlement Systems in the CPSS Countries* (December 2013), 464 (table 9D), <http://www.bis.org/cpmi/publ/d116.pdf>.

¹⁸ Glen Dalakian II, "25 Essential Stats on E-Commerce in the Middle East," *Wamda*, 16 October 2012, 17, <http://www.wamda.com/2012/10/25-essential-stats-on-e-commerce-in-the-middle-east-stats>.

¹⁹ Data from The Nilson Report, *Growth in Purchase Transactions Worldwide, 2011 to 2016*, infographic, 2013 tab, http://www.nilsonreport.com/publication_chart_and_graphs_archive.php?1=1&year=2013.

On the receiving side, website owners (i.e., online merchants) face difficulties while engaging with payment service providers. In other developed and emerging markets, a merchant can set up an account with a service provider in a matter of hours, and the entire process is completed online. On average, the process takes months in MENA, since payment gateways are usually obligated to collect online merchants' documents in person, and clear them with the "acquiring bank," before the merchant can begin receiving payments. Payment service providers and merchants therefore need to have local setup administrators and local acquiring banks in every country, which is not only complex and time-consuming, but also very expensive. The alternative is to use internationally available payment service providers who avoid these difficulties but in return charge high fees that make the merchant's business unsustainable, not to mention the foreign exchange fees and remittance fees.

However, this situation is changing.

Bold entrepreneurs are moving in to build a new generation of payment service providers from scratch, with the MENA region in mind. One example is the newly launched Telr, founded by ex-PayPal executives who saw a great opportunity in providing local payment services in local currencies, local languages, and with a wide network of acquiring banks. Most importantly, Telr uses an in-house payment gateway technology through their merger with the Dubai-grown company, Innovate Payments. The latter was founded a few years ago by a group of former World Pay developers who recognized the opportunity in emerging markets. Telr is refreshing in an otherwise frustrating market.

Companies such as HyperPay have also shown great innovation by being able to aggregate multiple alternative payment methods under one platform, enabling payment methods as well as merchants to scale quickly and reduce the cost and hassle of building individual relationships.

Advice for Investors, Local and International

Like many online markets on their way to maturity, MENA has experienced significant growth in its Internet user base. Today, it stands at an inflection point—poised to enter a period of hypergrowth as foreign capital floods the market and major Internet players emerge. The online industry in MENA still faces significant challenges: lack of funding, difficulty of international expansion, and the challenge of recruiting top talent. However, **with prudent investing and the right approach to these challenges, this hypergrowth period presents an historic opportunity for investors who act quickly.**

In the next ten years, we at iMENA Group expect the region to experience enormous value creation. With the right approach and the right partner, there are many time-sensitive opportunities in the online industry. Regional Internet groups will win big, the Internet ecosystem will mature and strengthen, and public companies will emerge with a combined value in excess of \$10 billion. MENA's success story is being written today. The only remaining question is, who will be part of that story? Investors and business leaders should benefit from this historic opportunity in the region's online consumer market—this is the right time.



Khaldoon Tabaza

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Outside the (Tech) Box: Successful Non-Tech Venture

Trevor Thomas

Class 17

The media is full of stories about venture capitalists investing in technology companies—however, many of the companies that I find most exciting are *not* technology companies. **I have in fact built a successful venture career working in “non-tech” and tech venture.** After starting an airport lounge company, I worked for a consumer packaged goods (CPG)-focused family office fund, and then helped to build a fund dedicated to one of the fastest growing consumer packaged goods sectors, specialty foods. Today, I invest in both technology and consumer-product companies.

In this article, I describe the shifts and factors that make non-tech venture possible and profitable.

Increasing Interest in Non-Tech Venture Value

In 2008 when I was starting my first company, it was almost impossible to raise venture capital for anything that was not technology, or health care-related. My startup was an interactive airport lounge that served healthy, local food products, and hosted local bands for live entertainment. My plan was to bring the city into the airport and make getting delayed fun. I was turned down by a “who’s who” of VCs—they

appreciated the product and the traction my startup had demonstrated, but only invested in technology. We ended up having to raise money from a competitor, which ultimately limited our growth potential.

Getting funding and support for non-tech ventures is still tough today, but it is much easier than in 2008. **VCs are recognizing that innovation and scalability are not necessarily linked to technology**—as a result, more VCs have the conviction that razor blade companies, coffee companies, and even sock companies can be billion-dollar businesses.

Dollar Shave Club is a consumer products company that manufactures and markets personal grooming products. They have raised over \$73 million from such stalwart tech funds as Venrock, Battery Ventures, Kleiner Perkins, and many others.¹ As of Q3 2014, the company had more than 1 million members and revenue of more than \$60 million for the year.²

Blue Bottle Coffee is a brick-and-mortar coffee shop and roaster. Somehow, they

¹ CrunchBase, “Dollar Shave Club: Funding Received,” 2014, <http://www.crunchbase.com/organization/dollar-shave-club>.

² Melissah Yang, “Dollar Shave Club’s Membership Hits 1 Million,” *Los Angeles Business Journal*, 29 September 2014, para. 3, <http://www.labusinessjournal.com/news/2014/sep/29/dollar-shave-clubs-membership-hits-1-million/>.

have raised over \$45 million from funds such as True Ventures, Index Ventures, Google Ventures, and others.³ Backers expect Blue Bottle's valuation to break \$1 billion at their next funding event.⁴

Stance is an apparel company that manufactures and sells socks. They have raised over \$25 million as of Q4 2014, mostly from athletes and entertainers but also from venture investors such as Shasta Ventures and QueensBridge Venture Partners. Its earliest stage investors have reportedly already reaped an 8x return.⁵

Porter's 3 (Three) Forces

One of the two factors behind this shift in mindset is that we are now experiencing what I term *Porter's Three Forces*. No, that is a not a typo.

In 1980, Michael Porter coined a theory that one can determine the strength of a strategy, market, or product by analyzing five key market forces: the bargaining power of suppliers, the threat of new entrants, the bargaining power of buyers, the threat of substitute products, and the rivalry among existing competitors.⁶ Porter defined these forces in a pre-Internet, pre-globalized world when there were huge barriers to entry into vertically integrated industries, and innovation and marketing were prohibitively expensive.

In the last 34 years, the situation has changed—particularly for suppliers and buyers. Outsourcing, “making,” and the commoditization of technology have made producing and marketing products much cheaper; the cost of the technology and labor necessary to produce physical things has dropped

³ CrunchBase, “Blue Bottle Coffee: Funding Received,” 2014, <http://www.crunchbase.com/organization/blue-bottle-coffee>.

⁴ Confidential interview with Blue Bottle Coffee investor, 15 July 2014.

⁵ Confidential interview with Stance investor, 8 October 2014; confidential interview with Queens Bridge Venture Partners, 15 May 2014; see also CrunchBase, “Stance: Funding Received,” 2014, <http://www.crunchbase.com/organization/stance>.

⁶ Michael E. Porter, *Competitive Strategy* (New York: Free Press, 1980).

precipitously. As a result, **supplier power is a much weaker force** and pretty much anyone can get anything made without investment in capital.

Buyer power is also less relevant. For many products, the initial buyers or “users” are not the point—profit comes through the long tail of potential customers the product can influence. Google first demonstrated that products can be given away for free in the hope of garnering future revenue through advertising and data. This concept now extends into how physical products are marketed using consumer data to better target customers. Buyer power is now almost irrelevant in the face of sellers’ sophistication in marketing—in many cases, buyers are not even aware that they are buying through their activities online.

While Porter himself has recognized some of these factors and updated his Five Forces article in 2008,⁷ I take his work a step further and suggest that **the Five Forces have dwindled to Three Forces: the threat of new entrants, the threat of substitute products or services, and rivalry among existing competitors** (figure 1). In some ways, transactions are no longer between buyers and sellers but between experiences and information. Someone makes an excellent experience, customers flock to that experience, and that experience is monetized in various ways. This idea of product-as-platform is not limited to technology, and also includes non-tech innovators such as the Dollar Shave Club, Blue Bottle Coffee, and Stance Socks.

Savvy entrepreneurs have learned that it is possible to sell consumer products with the same reach and sophistication that Google or Facebook have through selling ads. When this commoditized, often free technology is coupled with low manufacturing costs, **consumer**

⁷ Michael E. Porter, “The Five Competitive Forces That Shape Strategy,” *Harvard Business Review* (January 2008), <https://hbr.org/2008/01/the-five-competitive-forces-that-shape-strategy>.



Figure 1. Porter's Three Forces. Graphic image adapted from Bob Zukis, *Social Inc.: Why Business Is the Next Social Opportunity Worth Trillions* (Palo Alto, CA: Kauffman Fellows Press, 2013), 109. Used with permission.

products companies can make tech-like returns on investment—and tech investors are diving in.

Early-Stage Non-Tech Ventures Deliver

The second factor behind the increasing interest in non-tech venture is the encouraging recent exit activity. The past few years have seen a potpourri of interesting exits outside of technology, as consumer products companies take advantage of Porter's Three Forces and commoditized marketing options.

Lululemon is the sports apparel company that made athletic leggings the new jeans for women; they went public in 2007, raising about \$330 million in their IPO.⁸ Early investors included Highland Capital and Advent who together invested about \$93 million in 2005. In 2014, Advent invested again, purchasing 14%

⁸ Jackie Sindrich and Mark McSherry, "LuLulemon's IPO Prices at \$18/shr-underwriter," *Reuters*, 26 July 2007, para. 1, <http://www.reuters.com/article/2007/07/26/lululemon-ipoidUSWEN980820070726>.

of the company for \$845 million, valuing the company at \$6 billion.⁹

Annie's Inc. is a specialty foods brand that led the charge for healthy snacks, founded in 1989 by Annie Withey. Solera Capital acquired a controlling interest in 2002 and took the company public in 2012, raising \$95 million. General Mills purchased the company in September 2014 for \$820 million.¹⁰

Snack Factory is the specialty foods company behind Pretzel Crisps. The founders received their flat pretzel patent in 2004, and sold a controlling interest in the company to VMG Partners in 2009. VMG then netted more than 8x ROI on their 2011 sale of the company to Snyder's-Lance Inc. for \$340 million.¹¹

Happy Family is a brand of high-end baby foods and products. The company was purchased by Danone in Q2 2013 for an undisclosed price, understood to be above \$250 million.¹² Early-stage investors included the W.K. Kellogg Foundation (\$4.6 million),¹³ Bee Partners, and Demi Moore, for a total of \$23 million. This suggests a cash-on-cash multiple of over 10x for early-stage investors.¹⁴

Prana is an activewear company inspired by yoga, climbing, and outdoor lifestyles. Columbia Sportswear (COLM) purchased Prana in

⁹ AltAssets, "Advent Buys Back into Clothing Maker Lululemon through \$845m Deal," 8 August 2014, para. 7 and para. 1, <https://www.altassets.net/private-equity-news/by-news-type/deal-news/advent-buys-back-into-clothing-maker-lululemon-through-845m-deal.html>; see also Lululemon Athletica Inc., "Lululemon Athletica Gains Partners in Growth Equity Investment - Board, Management and Financial Expertise to Assist Expansion," 8 December 2005, <http://investor.lululemon.com/releasedetail.cfm?ReleaseID=241303>.

¹⁰ Nick Turner, "General Mills Adds Organic Foods With Purchase of Annie's," *Bloomberg*, 9 September 2014, "Rabbit Mascot" para. 2-3, <http://www.bloomberg.com/news/2014-09-08/general-mills-to-buy-organic-food-maker-annie-s-for-820-million.html>.

¹¹ Michael Wurthorn, "VMG Snacks on Pretzel Crisps Exit," *The Wall Street Journal Private Equity Beat*, 15 October 2012, para. 2, 5-6, <http://blogs.wsj.com/privateequity/2012/10/15/vmg-snacks-on-pretzel-crisps-exit/>.

¹² Jessica Pothering, "How 'Happy Family' Became Healthy Baby-Food Pioneers," *Entrepreneur*, 8 October 2014, para. 2, <http://www.entrepreneur.com/article/238155>.

¹³ Mission Investors Exchange, "W. K. Kellogg Foundation to Make Mission Investment in Happy Family," 23 October 2012, para. 1, <https://www.missioninvestors.org/news/wk-kellogg-foundation-to-make-mission-investment-in-happy-family>.

¹⁴ Confidential interview with Bee Partners, 14 June 2014; *Forbes*, "Happy Family," February 2013, "Profile" para. 1, <http://www.forbes.com/companies/happy-family/>.

2014 for \$190 million,¹⁵ for what is believed to be a 4x multiple for its lead early-stage investor, Steelpoint Capital Partners.¹⁶

All of these products are low-tech, and all benefited from Porter's Three Forces and commoditized marketing options to achieve venture returns.

Annie's Inc. and Snack Factory benefited from an extremely efficient natural foods co-packing (outsourced manufacturing) environment, eliminating the need to invest in expensive capital equipment until well into their growth curves. Lululemon capitalized on creating a great purchasing and user experience—they also benefited from outsourced fabric production in Taiwan.¹⁷ Happy Family and Prana benefited from commoditized marketing options maximizing the use of social media and customer engagement to position as a more authentic alternative to more mainstream products.¹⁸ All of these companies extensively market and sell their products online.

Non-Tech Venture: A New Sector Benefiting from Market Shifts

These funding trends, changes to industry dynamics, and exits suggest that the praxis of venture capital being exclusive to technology is a thing of the past. If anything, a more sector-inclusive approach to venture will be critical to capture value in future market shifts.

¹⁵ Nick Turner, "Columbia Sportswear to Acquire Yoga Brand PrAna for \$190 Million," *Bloomberg*, 29 April 2014, para. 1, <http://www.bloomberg.com/news/2014-04-29/columbia-sportswear-to-acquire-yoga-brand-prana-for-190-million.html>.

¹⁶ Multiple determined using data from Turner "Columbia Sportswear" and David Gelles, "Prana Living, Yoga Gear Maker, Is Sold to Columbia Sportswear," *The New York Times DealBook*, 29 April 2014, http://dealbook.nytimes.com/2014/04/29/prana-living-yoga-gear-maker-is-sold-to-columbia-sportswear/?_r=0.

¹⁷ Kim Bhasin and Ashley Lutz, "Here's What's So Special About Lululemon's 'Luon' Fabric," *Business Insider*, 19 March 2013, <http://www.businessinsider.com/what-is-luon-2013-3>.

¹⁸ Both companies have been managing near-daily Tweets and Facebook posts; see <https://www.facebook.com/HappyFamily>, <https://twitter.com/HappyFamily>, <https://twitter.com/Prana>, and <https://www.facebook.com/prana>.

The United States is going through a massive demographic transition that will see the ethnic majority shift from White to African American and Latin American within the next 28 years. Naturally, the consumer spending power of these groups, estimated to be about \$2.5 trillion annually, is expected to rise¹⁹ and will affect the nature of the core early-adopter sector. The new innovative products being created by entrepreneurs to capture this spending will surely not be limited to the technology sector—and VCs will be ready to support them.

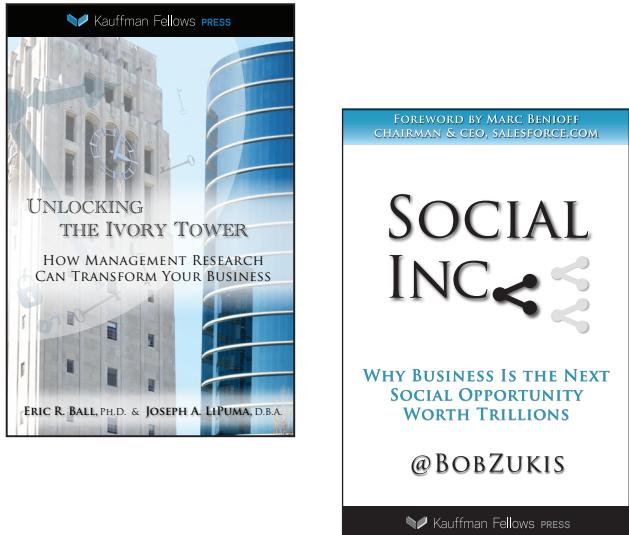


Trevor Thomas

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¹⁹ William H. Frey, "Census Projects New 'Majority Minority' Tipping Points," *Brookings Institution*, 13 December 2012, table "Year When Whites Become Minority, by Age Group," <http://www.brookings.edu/research/opinions/2012/12/13-census-race-projections-frey>.

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