DE GRUYTER

Agustín Rubini

FINTECH FOUNDERS

INSPIRING TALES FROM THE ENTREPRENEURS THAT ARE CHANGING FINANCE

BUSINESS & ECONOMICS

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This book is dedicated to all the people who took the plunge and put everything they have into becoming their own boss in order to make people's lives better. Especially the ones that are tackling poverty problems in developing countries.

About the Author

Financial savant, author, and advocate, Agustín Rubini has many interests and is devoted to excelling in these fields. With many years of experience as a financial industry strategist, Agustín is the founder of FSPal.com, an award winning fintech consulting and training firm. He is passionate about the world of finance and the future of financial services. He spends much of his time speaking and writing about fintech and advising businesses on innovation and digital transformation. He has a strong background in developing digital strategy, driving innovation in the financial services industry, and loves coaching and mentoring leaders of startups.

As a means of helping others understand the complexities of the financial services industry, Agustín wrote and published *Fintech in a Flash*, a comprehensive guide to financial technology. Agustín has also interviewed more than 100 fintech founders to bring out the secrets to creating a successful fintech firm. His best insights can be read in *Fintech Revolution*.

An advocate of child welfare, arts and culture, and a proponent of education, Agustín combines his love of science and technology, knowledge, and compassion to effect positive change and offer a better understanding of our complex world.

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Foreword

Today was a special day. I am on the board of global fintech company SafeCharge which announced the US$ 889 million (£700 million) cash acquisition by Nuvei, a Canadian payment leader. It took the SafeCharge founders 12 years to build such a successful fintech company generating more than £110 million in annual revenue and EBITDA of more than £30 million.

Since I founded FINTECH Circle in 2014, I have met many inspiring fintech entrepreneurs globally. I always enjoy meeting fellow founders to exchange ideas about the future of the financial services sector overall, to debate which areas will be disrupted and by whom (fintech startups or scaleups, tech giants, telecoms operators, incumbent players, etc.) and how to build and grow meaningful fintech ecosystems.

So what are the secrets of successful fintech founders? Based on my observations, there are some character traits and attitudes which many share.

First, you not only need to know how to run a fintech business but why you want to do that—that is, what's your purpose and your vision for your startup? You will be driven by your passion to make it happen. Believing in your fintech business gives you such a strong purpose in life, so you personally and the team you build around you will be the most powerful engine that drives your company forward. Lead with purpose and profit will follow.

Having a purpose in life is special, many people have not found their purpose yet. So if you found yours, nothing is more rewarding than making your dreams a reality. You will think about your business a lot, no matter which hour of the day, no matter which day of the week, because you are so excited about what you and your team can achieve together.

Being an inspirational founder has incredible power, people love to be inspired, to sense your belief and purpose and feel empowered by being part of an exciting journey.

Warren Buffett summarizes this so well when he says "Why do I get up every day and jump out of bed and I'm excited at 88? It's because I love what I do and love the people I do it with."

Second, entrepreneurs take risks. You might still have a well paid job in a large financial institution and a great job title on your business card. But in you the fire burns for your own startup, however much you might be scared because you have to care for your family, pay the mortgage and save for your children's future. You might try to kill this desire inside you because you don't want to risk the comfortable status quo which you have worked so long to build. You will try to weigh both life options and wonder if you will ever regret that you did not try out

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your entrepreneurial idea. At the end of the day, your desire for your own startup and your commitment toward your purpose must outweigh your fears.

Entrepreneurship means taking risks and conquering your fears—the rewards will be a more fulfilling and satisfying life. At the end of the day, we only have one life—so why not take calculated risks to make your dreams come true?

Third, successful entrepreneurs don't give up. Being a fintech founder is like a roller coaster ride—you might have many ups and downs. Sometimes nothing will work out—your clients don't pay on time, or you are losing a large contract leading to cash flow issues paying your team, your best team members are being hired by your competitors, the strategic deal you worked on for months does not materialize or outside investors pull out, or the VC who invested in your first round, does not follow on in your second round.

Being a fintech founder requires a "tough skin," enormous amounts of persistence and the ability to be able to motivate yourself and to pick yourself up again. Running FINTECH Circle's investor network, the FINTECH Circle Institute and our consulting practice feels like an adventure; we have some tough times, exciting times, difficult times and fun times—most important are the rewarding interactions with our 120,000 FINTECH Circle community globally, that's our goal and that gives us purpose. That's why I look forward every Sunday evening to Monday morning because I love to be an entrepreneur and the freedom it gives me.

This book is a stimulating and thought-provoking guide to fintech entrepreneurship that gets to the heart of the matter—told by the people who are getting out of bed each morning because they want to make the financial world a better place.

Enjoy the series of stories and important observations that add meaning and depth to what it means to become a fintech entrepreneur. If you are planning to start your own business, I wish you good luck. When you have achieved your first big milestone, get it touch on LinkedIn or Twitter (@SusanneChishti) and we will share your fintech successes with our 120,000 FINTECH Circle community globally.

Being an entrepreneur is an incredibly privileged position because you can change the world. You can decide what you will do with your life and influence the life of many other people. So if you feel a strong purpose and meaning in what you want to accomplish, give it a go. You can do it!

Susanne Chishti
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August 8, 2019

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Preface

The financial technology revolution is fascinating. By 2019, there were more than 10,000 companies created, 39 unicorns valued at more than $150 billion, and more than 60 companies that had gone public in various verticals—including lending, payments, wealthtech, banking, and cryptocurrencies.

When I wrote my first book, *Fintech in a Flash*, I wanted to simplify the industry so that everybody could get a good understanding in a short period of time, and they could take advantage of the opportunities as users of the different services that started to emerge. The book was very successful and I think it has fulfilled my objective.

While exploring the industry, and learning a lot about it, I made good friends in fintech, including many brave and intrepid founders. I have found these adventurous people really inspiring and thought that they had valuable stories that needed to be told.

That's how the idea of this book came about—I wanted to share meaningful stories about fintech. I realized that there were so many interesting tales out there that deserved attention. Having ventured into entrepreneurship myself, I know that there are many wannabe entrepreneurs that are just needing a bit of inspiration, a little bit of advice, a tiny push to get them onto the other side of the fence and join this exciting road of financial technology entrepreneurship.

I started reaching out to founders of startups that I thought had superb ideas in fintech. I'm sure that you will know many of the companies in this book, as all the firms have won several awards in different categories and geographies. It was a beautiful surprise to know that no matter how busy founders' calendars might be, there was still an incredible amount of interest in participating in this project. Founders wanted to help fellow entrepreneurs to make their dreams come true and to improve the financial services industry.

This book is a round the world trip, covering more than twenty countries on all continents. I have performed most of the interviews via audio, although some of them have been done via email and others face to face. You will notice that they vary in length, some being very focused, while others go into a lot of detail. All of them include great lessons.

I tried to cover the pillars of entrepreneurship, including strategy, leadership, culture building, team building, funding, operations, marketing; focusing on the most interesting points of each entrepreneur. All founders have been very generous with their anecdotes, lessons learned, and advice.

I also wanted to cover key issues, current and future situations of the fintech industry, and so I picked companies in many areas, including lending, investing, banking, SME solutions, insurance, regtech, and data analytics.

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My main aim was to inspire people to start more businesses in fintech, as I believe there is a great need for it. I ended up feeling extremely inspired myself during this amazing journey. I hope that you enjoy reading the interviews in this book as much as I enjoyed the conversations that I had.

Agustín Rubini
November 2019

Part 1: **Financing Fintechs**

Companies in this section
Brex
Upgrade
Nav
Fundation
Financeit
Creditas
Afluenta
iwoca
Funding Options
Bonify
RentoMojo
Funding Societies
Lendingkart
Welab

Financing is of paramount importance to the world, since it can help people and businesses expand, and it can also foster positive sustainability behaviors from big organizations. It is a massive market around the world that encompasses many different types of companies and business models. Lending also leads the rankings in terms of companies that have gone public, with sixteen that had done an IPO at the time this book was published.

Innovation in lending has been very strong in different areas, especially in the United States. Through this section, you will read about different lending topics, and look at how lending requirements change depending on the geography in question.

I included credit ratings in this category as well, as credit rating is always an important factor for providing business loans. While at some point the business model for credit ratings providers was to sell the data to personal consumers, nowadays this information is being offered for free to consumers, and revenues are being generated through other means, mostly by referring clients to providers that can qualify for lending proposals. I caught up with Gamal Moukabary from Bonify and Levi King from Nav to understand what they are doing in this field.

Consumer lending is a very mature area, where processes have been developed in extensive detail. I enjoyed looking into the innovation that some US companies are bringing, such as Upgrade, which is trying to educate consumers at the same time as providing them with lending. It is interesting for me to see how lending is approached in countries with thin credit files, such as Brazil. I spoke with Sergio Furio from the Brazilian firm Creditas to understand how they operate. I also enjoyed looking at what companies in Asia are doing. I interviewed Simon Loong from WeLab to understand what they are doing around mobile lending, and Geetansh Bamania from Rentomojo, a company that is introducing a flexible ownership solution providing home essentials and electronics.

Finally, I looked at several companies that specialize in SME lending. This is an area that is very complex, with a lot of risk, a lot of data sources to consider, and a lot of opportunities for innovation. In the US, I've looked at different companies. I discussed the future of point-of-sale financing with the founders of Financeit. Furthermore, I explored with Sam Graziano how Fundation serves different SME niches, and I talked to Henrique Dubregas about how Brex provides corporate cards to different groups, such as well-funded startups. In the UK, I had a chance to catch up with Rishi Khosla from Oaknorth, who showed me the secret on how to get to break-even within the first year of operation. In Europe, I looked at how Conrad Ford's Funding Options is helping SMEs find the right loans, and I interviewed Christoph Rieche to understand how iwoca fulfills business loans. In Latin America, I discussed with Alejandro Cosentino how Afluenta has rolled out P2P loans in several countries. In India, I looked at how Harshvardhan Lunia's Lendingkart has grown its business lending through different states.

This fintech subsector is very dynamic, and still developing intensely. I hope you enjoy reading the different views from these founders.

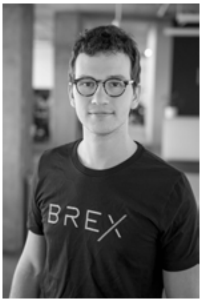
Chapter 1 Henrique Dubugras

Company name: Brex

Location: San Francisco, California, United States

Brex provides a corporate credit card called the Brex Visa for technology companies. It helps startups of all sizes (from recently incorporated to later-stage companies) to instantly get a credit card that has 20x higher limits, completely automates expense management, eliminates receipt tracking, and integrates with accounting systems. Henrique's story is very inspiring; from a very young age he succeeded in business by founding Pagar.me, one of the largest payment processors in Brazil. Brex has been a very fast growing company, achieving a valuation of more than $2.5 billion in just two years.

Roles: Henrique Dubugras, Cofounder and CEO



> *In the next five years I think regional banks will lose a lot of market share in the US and a lot of new challenger banks will gain market share.*

Agustín: I'm interested to know how you started in entrepreneurship.

Henrique: My story starts when I was around twelve, because there was this video game I wanted to play and my parents didn't want to pay for it. I figured out that if I learned how to code it, I could play it for free. I started coding because of that. I basically built a version of this game; instead of being charged to play, you were charged to have advantages inside the game (like a premium model). I did that for around two years, the software became popular in Brazil, a lot of people are playing it and I made some money. But then, after two years I got this legal notification saying that I was breaking some sort of a patent. I didn't know what

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patents were, but my mom got super upset and told me to shut everything down. That was my first experience in coding and entrepreneurship. At that point I was fourteen.

Agustín: So you were an adolescent who wanted a cool gaming feature. How did that transform into being a teenager who is making money out of the whole experience?

Henrique: I think it was kind of natural in the sense that I needed money to pay for the servers, so I found I needed to charge for something and didn't want to charge monthly fees like the original games did, so I found another way to monetize it. Other games were monetizing advantages inside of the game.

When I was fourteen, I was having this fourteen-year-old crisis, and I started to do some normal stuff; so I found a girlfriend and started watching TV shows. There was this TV show called Chuck; he was a really good spy, hacker, and programmer, and he worked for the CIA and he had this awesome life and he went to Stanford. I decided that I wanted to be like Chuck; I wanted to have his life. So I needed to go to Stanford as well. That's how I got interested in studying in the US, but at that time it wasn't easy to do it from abroad, there was the whole application process. You need to take SATs and write essays and get recommendation letters and fill out an application—and I didn't know any of that. So I found this Brazilian guy that was graduating from Stanford and was starting a ticketing company in Brazil. We made a deal where I would code for him for free, and in exchange, he would teach me the Stanford application process. I did that for a year; and after a year, he had raised a bunch of money. He hired a bunch of senior engineers—those senior engineers taught me a lot, I really improved as an engineer. After a year, I decided I wanted to start my own company. And then I joined some friends and we tried to start this education company that helped Brazilian students with their US application process. I did that, we got a bunch of users, but we were never able to monetize it, so it failed after nine months or so. I had invested most of the money I had made on the game into this company.

Agustín: Sounds like a little hurdle along your path. What did you do then?

Henrique: I was running out of money, and there was this Hackathon that was worth fifty thousand dollars and I thought, "Hey, if I can win this thing, it's more time being able to support myself." So I went to a few friends and we built this app called "Ask Me Out," which was basically like Tinder, but instead of geolocation it was based on Facebook friends. You could like and match your Facebook friends. It turns out we won, we got the fifty grand, came back home, and we tried to launch it; and it didn't work. I tried to monetize it and I had a really bad experience implementing payment rails. Around this time, my cofounder Pedro

Franceschi—who's also a programmer and entrepreneur, and who had worked at a payment company in Brazil during his teenage years—and I had implemented a payment system. We decided to build a better system, together. That's when we started our first company Pagar.me, which was like what Stripe does, but in Brazil. We started that company and raised a seed round. It was the only money we raised, but we grew the company from the two of us, to over around 150 employees, very profitable, around a billion and a half in transaction volumes. We sold that company in September 2016 and then moved to the US to go to school at Stanford. But three months after we got there, we decided that we wanted to build another company and we got into Y Combinator for a virtual reality idea. We soon gave up on that idea, and decided we wanted to go back to fintech and payments. We saw all these startups that had no way to get a corporate credit card without personal guarantees, and they had low limits, and so we decided to build something better and that's how Brex started.

Agustín: That's a good summary of a few years of your life. Could you describe the offering and the reason for Brex?

Henrique: Brex—we have three things that are different. The first one is the underwriting model. Today, we're the only corporate credit card that doesn't require any kind of personal guarantee. We can give you ten times higher limits and you can go from zero to a card in five minutes. You can get a card in five minutes with no personal guarantee and very high limits, compared to the incumbent banks, where it takes multiple weeks to get a card, with a low limit and you have to personally guarantee it. The second thing that we did was we rebuilt the entire technology stack from scratch, and that allowed us to basically build our own functionalities so we have better expense management, better reporting, things like that; so just better software in general. The third thing is that we built a rewards program that is geared toward startups. You get 7x points on rideshare, 4x on travel, 3x on dining, 2x on software. Software and rideshare are not categories that existed in traditional cards, as opposed to Brex, and those are things that a company can spend a lot of money on; so they can actually accumulate a lot of points. S, those are the three main advantages of Brex. While today we are focused on startups, the vision is expanding to other sectors, so other types of companies can also use Brex as their corporate credit card. Not only startups, but restaurants, retail, consulting, all construction, all the industries, is the vision. As well as building other B2B finance products over time.

Agustín: How many employees have you got right now at Brex?

Henrique: We're around eighty.

Agustín: Eighty, that's a lot. How did you go about funding the company? Records say about $182 million has been raised.

Henrique: We raised a Series A back in March 2017 led by Ribbit Capital, Peter Thiel, Max Levchin—a bunch of people participated in that round. Then we raised a Series B of around $50 million in April 2018 led by Y Combinator. And then we raised our Series C; that was around $106 million in September 2018 and that one was led by Greenoaks Capital and DST Global.

Agustín: In terms of funding, this is obviously not your first company, so I'm assuming this one was a lot easier to do; but how did you approach asking for money in Pagar.me for example?

Henrique: Pagar.me was more like a begging situation. We were both sixteen, we didn't know what we were doing, and we were hoping that someone would fund us. They funded us, really quickly, and we were able to raise three hundred thousand dollars. But then over the lifetime of Pagar.me, we built a lot of relationships in Brazil and Silicon Valley, so it was easier because we already knew people, we'd already had a successful exit and so it was easier.

Agustín: How do you see Brex growing? Where are you focusing?

Henrique: We're focusing on expanding to new sectors and going to larger companies. Today we serve, really well, companies from up to a couple hundred employees to more than a thousand, two thousand to three thousand employees.

Agustín: There's a lot that's been written around your partnership with Pedro. How did you get that started and what are the dynamics between you? Is one of you good at something and the other good at something else? How do you guys get along?

Henrique: Pedro is really strong. We're both engineers by training but in Pagar.me I ended up doing more of the business stuff and Pedro doing more of the internal technology and operations. I'm really good at pitching things and product and strategy; Pedro's really good at internal stuff, like technology, operations, and integration of the company.

Agustín: I'm really surprised about the whole coding thing. Is there any secret sauce that you guys have created to be able to have launched such successful ventures?

Henrique: I think a little bit of the secret sauce is that we rebuilt the entire technology stack from scratch. That allows us to have a lot more control over what we're doing, versus if we did the same thing as banks where they just used third-party software, then our business wouldn't be working. So it's the fact that we can control the entire technology stack, and it's good software, a good system. It allows us to do anything we want, but building all the stack from scratch was very hard.

Agustín: When you say hard, what does that mean?

Henrique: It means that we asked a lot of people, "Hey, so we're thinking about building this technology stack from scratch," and everyone said that we were crazy, that no one had done this in—I don't know how many years. But because we had already built a fintech platform from scratch in Brazil, we were more confident, "No, we think we can do it; we kind of know how to do it," and then we did it. But the hard thing is, there's a lot of stuff involved in processing a lot of money, and there's a lot of stuff where you can't make mistakes, there are many parts in a delicate system.

Agustín: I was looking at the start date of Stripe, it was 2010, did you get inspiration from them when you created your own payment mechanism?

Henrique: When we started, we didn't know about Stripe. But as we grew, we found out about them and some things they were doing right, we did similarly. A lot of things in Brazil were very different though, so it was a bad idea to directly copy.

Agustín: How do you hire people? What you look for and how do you create a culture of people that think like you?

Henrique: Our culture was heavily influenced by a few different external factors. Silicon Valley, having really good engineering, product, and all the things that Silicon Valley believes; but also a little bit of our Brazilian inspiration. Having a culture where people can dream really big; we're both very ambitious and work really hard. We have our core culture and values that are having an owner's mentality, understanding why, being a fixer and dreaming big—and that's kind of our values. We try to recruit for these values.

Agustín: I want to explore your competitive landscape. How do you see yourself against competitors? Who are your competitors?

Henrique: Our main competitors are the bank cards, for example, American Express and Chase.

Agustín: Makes sense. I hear that you have loads of partnerships in Brex. What is your approach here?

Henrique: We have a lot of partnerships. A lot of people, a lot of companies, want to get access to our customers. We help them with that and in exchange give us a good offer for our clients, which will generate value for our customer base.

Agustín: How do you see Brex expanding? Is it different products? Regionally? Different customer groups?

Henrique: We have very big ambitions, so we want to do all of those. We are going to focus on the card for a little while, expanding to new sectors and industries, like I said, and also geographically—eventually, not this year, but maybe next year or the year after.

Agustín: Do you see Brex getting to Brazil, a market that you know really well?

Henrique: Eventually.

Agustín: It would be good to add new products to Latin American. I wonder if you miss living in Brazil.

Henrique: We want to keep building products for America. I want to keep living here in the US. But Brazil is a really big market, and we know that market, really, really well, so it would make sense for us to do it. Eventually.

Agustín: You started really early in your career and have grown really fast. Where do you see yourself going from here?

Henrique: I think we don't want to build another company, we want to keep running this one for a long time. I think that building and running this company keeps us motivated and we have our friends here and people we like.

Agustín: What motivates you to keep working hard?

Henrique: Honestly, money was kind of a big motivation for us with our first company but then after we sold it, money has a utility logarithmic function, so it's not that anymore. I like building something really massive, really ambitious.

Agustín: How do you see fintech evolving in the future years? There are a lot of new technologies. From your perspective, how do you see the industry evolving, how will life be different in a few years for customers?

Henrique: As an industry, I think a few things. One, more challenger banks will certainly get market share. So in the next five years, I think regional banks will lose a lot of market share in the US and a lot of new challenger banks will gain market share. I think that the big players, like Chase and Bank of America, they still will be very, very big and will still succeed in the future, but the number seven, eight, and nine and ten, will be more modern banks instead of the traditional ones. That's one thing I think will happen. I think that it will get more competitive. Margins will get slightly worse than they are today. Regulations are going to get a little bit tougher, which is going to still be a barrier to entry for new entrants but not impossible, so I think fintech will be more revolutionized in the next ten years than it was revolutionized in the last decades.

Agustín: You never completed the circle, what happened at Stanford? Did you get to go to Stanford?

Henrique: Stanford, I went there for just six months.

Agustín: Just like Steve Jobs and your hero, Chuck. <laughs>

Henrique: Yeah.

Agustín: Did your priorities shift once you were studying at Stanford?

Henrique: The work priority was definitely first. We came to Stanford knowing that it was likely that we weren't going to finish, but we wanted to come and check it out.

Agustín: That's interesting. As a final question, what is your perspective on financial inclusion? This is a topic that has been gaining more attention over the past year. How can fintech help people that need it the most? Do you do anything in this area?

Henrique: We definitely do this, because there are all these people including internationals and minorities that, say, they raise a lot of money, they do the due diligence of raising money from investors, and then they can't get a card. We at Brex allow them to get a card which was impossible for them before. We feel that we are doing our part there and I think fintech can have a big part there, by allowing people who had trouble getting bank accounts to get bank accounts—and for credit and life insurance and all those things. By having better technology and better algorithms that can underwrite these people based on not only FICO scores and other traditional methods.

Chapter 2 Renaud Laplanche

Company name: Upgrade

Location: San Francisco, California, United States

Upgrade is a consumer credit platform that offers affordable credit and free credit monitoring and education tools. Upgrade caught everybody's attention as it attracted excellent VCs, raised more than $100 million, and issued over $1 billion in loans very quickly. It has a great business model, which stays frequently in communication with borrowers by offering credit alert and credit education features to help them understand their credit better.

Roles: Renaud Laplanche, Cofounder and CEO

> *In fintech, when we develop a new product and put it in the hands of consumers, we have the opportunity to profoundly change the lives of our customers for the better.*

Agustín: How did you get started in financial technology and, obviously, how did you come up with LendingClub?

Renaud: It really came out of my personal experience as a consumer. The idea of LendingClub came to me one day in 2006, when I was in my living room and I was opening the mail and I opened a piece of mail that was a credit card statement from the bank. I was on vacation, so I probably had too much time on my hands, so I actually read the statement—which was not a thing I would usually do. I found that if I was going to carry the balance to the next month, I'd be paying an 18% interest rate on that balance, which felt like a very high interest rate. Then, the next piece of mail I opened was my savings account statement, where I was earning 0.5% on my money. It was just striking to see the spread between the two rates and I felt, "Okay why is it that if I lend my money to the bank, they give me 0.5%, and if I borrow money from the bank on my credit card, I'd be paying 18%? Where's the money going?"

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So I just started doing some investigative work out of curiosity. I think what became pretty clear was that a lot of the spread was caused by the cost of operations of the banks and all the thousands of branches and tens of thousands of people that go into the process of capital transformation; people that work in the process of collecting short-term liquid deposits and transforming them into a longer-term illiquid loan, particularly on credit cards; and all the legacy technology and the physical infrastructure that enables that capital transformation process. The very basic idea that came to me at the time was to set up an online marketplace that would streamline that process, operate on very modern technology, be very efficient, have no physical infrastructure, and essentially work to lower the costs of operation. We could establish a more direct line between the borrowers and the depositors—and turn them into investors. That's how I came up with the idea of LendingClub. I started the company very shortly after, within a couple of months, in October 2006, and then we launched, we made our first loan in May 2007.

Agustín: Did you have any entrepreneurial experience before starting LendingClub?

Renaud: Yes, I did. LendingClub was, in fact, my second company. Six years earlier, in 1999, I launched my first company called MatchPoint, which was a software firm that got acquired by Oracle.

Agustín: So you already knew the basics about raising money and setting up a team?

Renaud: Yes, I had experience as an entrepreneur, but I had really zero knowledge of financial services and I actually think that's helped me. Not having any preconceived ideas about how banks should work, really helped me understand that the bank is merely an intermediary. Just taking money on one side and funneling it to the other side. In the age of the Internet, you don't need all that intermediation cost of operations anymore and you can set up an online marketplace that operates at a lower cost and then pass on the cost savings to consumers and obtain a lower interest rate.

Agustín: You're considered a father of online lending. How did that happen?

Renaud: <laughs> Well, it sometimes just takes, yes, just takes a lightbulb moment, the lightbulb goes on and says, "Okay, wow! Why don't we do it this way instead of that way." That actually was what happened that summer of 2006, but then obviously it takes a lot of execution and people and luck to make it all happen. I think also the timing ended up being pretty good. We launched in 2007, so we immediately got into the financial crisis of 2008 that really exposed a lot of the inefficiency and unfairness and mismanagement of the banking system. We were really able to make the case that while people need banking, they do not need banks, and we should be able to establish a more direct flow of capital among people that really circumvent the traditional banks.

Agustín: Yes, I totally agree. You mentioned the word "execution." Of course, there are other companies which launched at a similar time that you did such as Prosper and Zopa, but your company seems like the one that attracted the most funds and attention.

Renaud: I'd say, at the end of the day, there are a lot of people having good ideas all the time and a lot of these ideas won't make it into a great company. It does take a lot of focus and discipline in execution. I found one of the hardest things of being an entrepreneur is finding the balance between, on the one hand, being creative and trying new things that nobody has ever done before, and, on the other hand, remaining somewhat conservative and disciplined in the execution. I think it's really about trying to understand what works and what doesn't, and then being patient during the execution phase. Particularly in financial services, where there's no shortcut and it's dangerous to grow too fast. We might get excited about a new idea or market, but we should always remain patient and disciplined about credit, compliance, operations, and all the things that can break if we go too fast.

Agustín: You are a person that gets loads of ideas! I'm just wondering from the first case, in LendingClub, from when it was a very little company to the final days you were there, when it was a huge company, did you see your role changing a lot?

Renaud: Yes, quite a bit. My role essentially changed from being an entrepreneur, to being a CEO. These are some different skillsets, different ways to spend your day. I think, over time, it becomes less about doing everything yourself and more about hiring the right people and empowering good people to make great decisions. It's an evolution that's hard to come by, particularly for entrepreneurs who can be control freaks and want to do everything themselves. It's sometimes hard to take a step back and understand that at a certain scale, it's really more about building the right process and environment for others to innovate and execute, making sure new ideas get a chance; people get rewarded for speaking up, for pointing out issues, and bringing up new ideas. Because when you have a thousand or two-thousand employees, you lose some of the ability to impact the business directly, but you can impact it a great deal by just setting up processes that empower and reward the teams to innovate and execute.

Agustín: Out of these two roles, entrepreneur and CEO, which is the one which excites you more?

Renaud: <laughs> You know, a bit of both. I actually truly like both. I feel blessed that I had the chance to experience both. Now I'm back into more of an entrepreneurial position and hopefully will take that journey again, with all the additional knowledge I acquired over the last ten years. But yes, I think both can be really rewarding. I think what's really important is to recognize where you are in that journey and what the company needs at a particular time. Because clearly what the company needs when you're twenty people, in an open space, in a temporary office, trying to establish a new market and build a brand, is very different from what the company needs ten years later, with two-thousand people, particularly as a public company. The rules of the game are different and the mechanisms in place to deliver a positive impact are very different.

Agustín: Let me take you back to the LendingClub journey. You got the company listed publicly, gathering a market capitalization over $4 billion. I'm just wondering, in your words, what happened? Now its market capitalization has gone down to about a billion and a half.

Renaud: Yes, so I think when you look at it now and say, "Hey, it's a billion-dollar company," it's still a big success. Obviously, when you look at the last three or four years, it's been up and down. The market cap actually reached $10 billion, shortly after the IPO in December 2014. Clearly it is not as highly valued now. I think there are a number of factors that contribute to a different perception of value from investors. Some have to do with the growth rate of a company, some have to do with profitability, some with the environment. At the end of the day, if you focus on the fundamentals, the company is the market leader in personal loans. It has established a brand and large customer base, and generates now more than $600 million in annual revenue. I think it has a very bright future.

Agustín: Yes, it's definitely a great success. I'm very impressed by its story. Then you moved quickly on to your new venture which started being called Credify and then was renamed Upgrade.

Renaud: It's funny, we actually never intended to use Credify as the final name, but somehow some journalist found registration paperwork and that name got out. I think it's a revolutionary business model that really incorporates everything we learned over the last ten years. It's still built on the same model of an online marketplace but incorporates key differences. One of them being the relationship with borrowers. I think what we found at LendingClub was that we had a pretty transactional relationship with borrowers, who would come to the site, take a loan, and then nothing would happen for two or three years and then maybe they'd take a loan again. So it was very transactional and a very infrequent relationship. With Upgrade, we found ways to make that relationship more ongoing and more meaningful by giving something of value to our customers every week or every couple of weeks through a series of credit monitoring, credit alert, and credit education features, and content and tools that help our customers better understand their credit and better manage it. We call it "credit health." That's been hugely successful. More than 99% of our customers are signed up for it; more than 25% of customers use the tools at least once a month, and the customers who use the tools more frequently perform better on their loans and are more likely to stay current on their loans than those who don't. It also helps establish a more ongoing relationship, making the brand and the company more relevant in our customers' lives.

Agustín: Basically, you are offering a set of tools for borrowers and these tools will end up having an impact on the lifetime value of the customer. Is that a fair summary?

Renaud: Yes, it certainly has an impact on lifetime value. It also has an impact on their lives and their ability to manage their credit and it has an impact on credit performance.

Agustín: There's one question that people always ask about marketplace lending. They say that it was born after the crisis and since then interest rates have been fairly low, that it might be a problem once interest rates go up to 7% or a high number. What's your view on that?

Renaud: Yes, I think it's a misconception about the business. Online marketplace lending is a two-sided marketplace, and interest rates on both sides move in the same direction. When the Fed raises interest rates, credit card rates go up because all the credit cards in the US are on a variable rate. When the Fed rate is raised by twenty-five basis points, rates on credit cards go up twenty-five basis points. The loans we make are mostly used to refinance an existing credit card balance or compete with a credit card. If the credit card rates go up, our rates can go up as well. So all these rates move up at the same time. On the investor side, obviously investors would demand a higher rate because they can earn more on bonds and other fixed income investments, and we are able to deliver that higher rate because we are raising the rate on our loans. So there's really no impact; we've seen that over the last year and a half, the Fed has raised rates several times, and the business still operates the same way.

Agustín: Got it. One thing I was impressed about at Upgrade is the amount of initial funding that there was, which is not typical for a startup. Would you mind explaining? Did Upgrade need so much capital to get started?

Renaud: I don't know if it fundamentally needed it, I think it was more an opportunity that presented itself to us. I mean, it happens sometimes for repeat entrepreneurs, who had a bit of a success with their first company. It gets a lot easier to raise capital for a second venture at a reasonably high valuation. We were able to do that, with a high enough valuation that we could take in more capital in a way that's not very dilutive for the initial shareholders, the founders, so we took advantage of that opportunity. We felt that we could grow pretty quickly from the get-go, just because we know the market so well and we know the players. Fast growth is less efficient and requires more capital than slow growth. We did raise quite a bit of capital, but that enabled us to grow and originate close to a billion dollars in loans in our first year. With LendingClub, it took us seven years to get to one billion.

Agustín: Looking at the future now, I know that it's still the early days for you. How do you see the Upgrade business model developing? Is it staying in lending? Is it offering other things?

Renaud: Our goal is to build a mainstream consumer credit brand. We have no plans to do anything other than credit. It's already pretty hard to get credit right, in general. Consumer credit markets in the US are very large. There's a trillion dollars in credit cards, a trillion in auto loans, a trillion in consumer loans, and twelve trillion in mortgages. So it's going to be some time before we saturate that fifteen-trillion-dollar market. Our goal is to help our customers with every aspect of their credit and really meet all their credit needs, including, again, with credit health, and helping them better understand their credit, manage it really well, and lower the cost of their credit. We want to help our customers with personal loans, with credit cards, with auto loans, with mortgages. We really want to be there for every life event, every financing need, whether they're buying a house or a car, or sending their kids to college, these things require credit. That's what we're going to build over the next few years. We have a pretty aggressive product roadmap that's enabled by a very modern technology platform designed for fast and efficient product development.

Agustín: As a respected visionary, I must ask you this question. Where do you see the credit industry going in the near future?

Renaud: I think it's going in a direction where credit is more readily available, but in a way that's more responsible and more affordable—because we don't want more availability of credit that comes with higher cost, or a situation where consumers access too much credit in a way that isn't eventually helpful to them and doesn't help them be responsible with how they use it. I think what's going to be important is to combine these three factors to make credit more available, but also more affordable and more responsible. At Upgrade, we've been very attached to using responsible credit products that have a fixed interest rate, fixed monthly payment, that are easy to budget for, are very transparent, and very simple to understand. I think that's a challenge for the industry, but that's one of the benefits of fintech. I think we have demonstrated that we can operate at a lower cost than the banks. Now we need to demonstrate that we can also be more transparent, more responsible, and continue to drive costs down for consumers and businesses.

Agustín: Sounds really good. I should have asked this when we started—you're French, but you live in the US. I'm just wondering if you ever think of expanding into Europe and France?

Renaud: Not in the short-term. I think yes, there might be a good time for it. Some of our loan buyers, some of our investors are based in Europe or in Asia, but all the consumers, all our borrowers, are based here in the US. There are lots of different regulations and credit dynamics to take into account in order to deliver consumer credit in different countries. The US market is so large, again, that there's no rush to go anywhere else at this point. We want to continue in the US for now, and at some point in the future we'll go international.

Agustín: Let me ask you one final question. You're a very successful entrepreneur, you've founded three companies which have done really well. I'm just wondering what keeps you going, and what keeps you excited about business?

Renaud: I think about having an impact and that's one of the things I love about fintech. It's, no disrespect to photo-sharing apps or other things like that, but in fintech, when we develop a new product and put it in the hands of consumers, we have the opportunity to really profoundly change their lives for the better. For a small business owner, getting affordable credit can help the business flourish, create jobs, and expand. For a family that's struggling to pay the 18% interest rate on a credit card, being able to finance that at 12%, because a fintech company operates at a lower cost than a bank, that's a very meaningful difference. That's hundreds of dollars of difference in their budget. Getting an affordable, responsible loan can mean the difference between sending the kids to college or not. It's a really profound impact on their lives, so that's what gets me fired up in the morning. It’s knowing that we have the opportunity to have a really positive impact in the world.

Agustín: That’s really honorable and inspiring, it’s really good that there is a wave of people who are trying to make a difference for the people who need it the most.

Chapter 3 Levi King

Company Name: Nav

Location: Draper, Utah, United States

Nav bridges the gap between small business owners and financial institutions by bringing transparency, certainty, and efficiency to B2B credit and financing. Nav is a free site and app that gives business owners the fastest, easiest, and most trusted path to financing. Nav gives free access to personal and business credit reports from major consumer and commercial credit bureaus and hosts a marketplace with more than 110 business financing products including loans and credit cards.

Roles: Levi King, Cofounder and CEO

> *One thing's certain, you've got to have profitable unit economics, because it doesn't matter how fast you grow, if you're only ever going to project losing money, that's a losing business.*

Agustín: You have a long history in entrepreneurship and in lending. Would you mind telling me a little about how you got started, and how you've developed over the years?

Levi: I left college to start my first business. It was a manufacturing company, where we made electric signs, awnings, and neons. It was successful and I sold that. I went on to start and sell several other successful small businesses, in different industry verticals. The one thing they all had in common was that it was always difficult to understand how credit and financing worked, because when the industry changed, the options changed. Your time in business has an impact, but there are just so many factors and so many options that you have to learn. The first fintech business I started was my sixth business—Lendio—

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which is now a later-stage business. We bootstrapped it before we raised venture capital and we built a business loan brokering model, that was technology enabled, but not a true fintech company. It was more of a business services company. We raised venture capital, working to convert from what we were doing to a lead generation provider. It was the late 2000s, when we were raising money and getting started. We had close to $10 million in revenue at the time. Then we raised venture capital and it was around the time Zillow went public and lead-gen models were kind of a rage, and so we thought we would be a lead-gen for small business loans. We raised venture capital, but it didn't work out very well—that model was very difficult to scale. We eventually pivoted back to being a loan broker marketplace and scaled that to where it is today, which is pretty meaningful in size. As a small business owner, I've been approved for thirty different types of commercial business financing over the years. From SBA (Small Business Administration) loans, to equipment leases, to business credit cards, lines of credit, and it was just, it was really difficult not just to understand what the options were, but why? Why am I in the situation I'm in? At Lendio we had tens of thousands of small businesses just begging for answers. Either they didn't have any options, and they wanted to know why; or they had options that they didn't like, and they wanted to know why. We would refer thousands of these small businesses to a law firm that helped them sort through the web of business credit, because in the United States there is no protection around business credit like there is consumer credit. So Caton Hanson, an attorney at this law firm, and I had this idea, that we should start a Credit Karma for small business based on education first and foremost to help small business owners understand and take advantage of their data through the life of their business. Because that was the common thread between all of them. They just didn't understand their data, and when you don't understand it, it usually means something's off—so that's what Nav does. We help you understand, improve, and take advantage of it. That's the quick version, the fifty-thousand-foot view of how I got to this point.

Agustín: Right, got it. First of all, I'm impressed that you started from scratch with no corporate experience. Most of the people that I talk to did some years in corporate before they actually said, "I'm going to be an entrepreneur." In your case, you've gone directly into it and you've been successful. So how did that work?

Levi: Before I started my first business, I'd never held a professional job. I'd done plenty of manual labor during college and things like that, but never a professional position in any company.

Agustín: How did you find that in terms of the first year or so? Did you make a lot of mistakes?

Levi: When I decided to leave college early to start my first business, I thought I'd better read a lot of business books. I made a rule for myself that I wasn't going to read any fiction anymore and I've devoured hundreds of business books over the years. I learned a lot from business books, even learned a lot from magazines like Inc., Entrepreneur, and Fast Company. As a pretty voracious reader, I read those magazines for years and years. I should have probably sought out more mentors along the way. It's not something that I really did until more recently. But yes, tons and tons of reading and then just the school of hard knocks, making mistakes and learning from them.

Agustín: You mention mentoring, which is quite interesting. Do you mentor people or do you get mentored yourself? Or both?

Levi: Both. The best, and probably the first real mentor I've had, is a partner at Kleiner Perkins (a venture capital firm), where I raised Nav's Series A round of funding. He was a three-time business operator himself, having two very big successes, and one very public failure, maybe the most ignominious venture capital failure of the 1990s. Then when I met him, he had been a partner at Kleiner Perkins for about ten years. He's just been an incredible mentor over the years and frankly where I learned the value of a mentor. You can read books all day long and magazines and the *Wall Street Journal* or whatever, but you have to interpret the information yourself, versus a mentor that can help you recast that information and help you understand or make decisions about how it applies to you and your business.

Agustín: And you said you've started mentoring yourself, as well.

Levi: Yes, a little bit along the way. Here and there. Not consistent mentoring. I've done some advising. There's one person now that I consistently mentor. There's another venture-backed technology company that I co-founded a couple of years ago, that's not fintech related. I recruited a long-time executive to be a first-time CEO and so, for a couple of years now, I've been mentoring him in that role.

Agustín: Is that an education startup? I could see in your profile that you've invested in an education company, Zinch.

Levi: Yes, Zinch is one of the companies that I invested in and advised a long time ago. There were two guys who worked for me. I think I gave them each their first professional job in life. It was in sales. Eventually they had this idea with one other guy to start an ed-tech company, Zinch as you mentioned. I and another individual invested in that business and they eventually were acquired by Chegg, and then Chegg went public sometime thereafter. One of the folks that used to work for me, who cofounded Zinch, started his own venture capital fund and led the seed round of my most recent startups. So we worked together for 15 years in various relationships.

Agustín: Your story sounds really interesting. Loads of companies. I saw that you started another business focused on lending to Hispanics. That's quite an interesting market, I was wondering your opinion on that segment.

Levi: That's El Centro—and it is still in business today. My brother-in-law and I cofounded it. The business model was his idea. He was an insurance agent and noticed that people who speak Spanish were being taken advantage of by insurance agencies and just had this idea around bundling financial services under one roof. In the US, this isn't particularly common for Caucasians, but for the Hispanic culture, it was a good fit. Out of a single location we would offer home insurance, auto insurance, tax prep, mortgages, real estate services, and cash paychecks. We even got set up with the IRS, to issue ITIN numbers to immigrants. My first taste of financial services was El Centro.

Agustín: Sounds like you've been involved in many startups and working very quickly on them. What's the secret to being a serial entrepreneur? How can you manage to work on so many different things successfully?

Levi: The only common theme that my first seven businesses share is that they're small businesses. I find that most of the small business owners I know choose to start other businesses in the same industry. For example, if they start a restaurant, and that's successful, they'll start another restaurant. While this is true for others, it wasn't with me. None of my businesses were very similar other than Lendio and Nav which both focus on lending or financial education for small businesses. But I think with the successful entrepreneurs that I've met along the way, there's always luck involved. That's the thing people seem to forget, and the most successful people never want to admit, because they feel like it takes something from them to admit that luck was present—but it always is. The one thing that all entrepreneurs have is a relentless curiosity. Curious people are imaginative. They can see things just a little bit differently from other people. When I was growing up for example, I got in trouble in school all the time and it was because I just viewed the world differently. I saw rules as arbitrary and I did the minimum work required when I wasn't interested in something and then I went all out when I was interested in something. There are two pieces I think to the entrepreneur puzzle, one is that curiosity and creativity and ability to see things differently, but that has to be matched with determination and good old-fashioned hard work. If you have just one of those, then you're a dreamer; if you don't have the other one, then you probably won't invent much, which is fine because we need all types in business. Those to me are the two things you just see present over and over in successful entrepreneurs.

Agustín: Yes, that's a very good point. I'd like to focus a bit more on your last ventures: Lendio and Nav. You mentioned that you left Lendio, and I was wondering, why did you decide to exit Lendio?

Levi: I invested a lot of money in Lendio. And a lot of time. I didn't leave until I felt like the business was out of the woods. But I had been a small business owner. I've told you how difficult it was to find financing or affordable financing, and get answers. So there are two sides to the coin. One is, what are the options? The other side of the coin is why? I was just way more passionate about the why, because with Lendio, the vast majority of the people we helped, we were putting into expensive loans because that's what they qualified for. Much of the time they would get trapped in this cycle of reborrowing, not unlike consumer pay-day loans or title loans, where the consumer is always one paycheck behind. I just had a hard time staying passionate about that, because I would always think of the business through the lens of having been a small business owner. Sometimes I had to use expensive financing and I sure as heck didn't like it. I worked hard to figure out why, so that I could get myself in better shape and get better options. I had a hard time staying in love with the business model where you make money, kind of taking advantage of a problem, versus now, we make money by fixing problems by making sure folks get in a better spot and get better and better financing options over time. That was why. It was just driving me nuts that there was nowhere we could refer them that was inexpensive, let alone free, to understand all their credit, financial data, and to take action toward improving it so that they could get in a better spot, which ultimately means a higher likelihood that their business succeeds.

Agustín: Sounds really inspirational. And focusing now on Nav, I was wondering a little bit about the business model and how you compete with the big names out there in credit reports.

Levi: We don't compete with any credit bureaus—we're partnered with them. So with all the credit bureaus, their core business is not to help a consumer or small business owner understand their information. That's kind of a side business at best for all of them. At Nav, we're partnered with two consumer credit bureaus: Experian and TransUnion. The reason for that is, there are scenarios where consumer credit will also be an important factor in the role of getting approved for business financing. Then we have native integrations with Experian, Equifax, and Dun & Bradstreet for business credit scores and reports, and with FICO for FICO business scores that are used in the US primarily in SBA loan scenarios and some other scenarios with banks and credit unions.

We also have moved into providing revenue insights by integrating business checking accounts on Nav.com, and we have an integration where we bring in revenue and processing data from small businesses that use First Data's Clover point-of-sale system. Essentially, we bring in all the different datasets and model it through the eyes of a lender to benefit the small business owner. That's just very different than what the core business of a credit bureau is—where the products that they offer to a small business owner are kind of just repurposed from what they offer to a lender. If you are an underwriter at a bank, you can understand a complex business credit report. If you are a small business owner, it's usually not your expertise. At Nav, we specialize in taking all of that data and then wrapping software with dynamic content that speaks directly to the small business owner based on thousands and thousands of data points.

Agustín: So in terms of partnership with suppliers for data: Do you pay them, or do you go together, like profit-sharing, in case somebody takes up a product? How does that work?

Levi: One of the big challenges in starting the business is a cost-prohibitive barrier to entry. For Nav, that was the cost of the data. Each credit bureau has a minimum that you have to pay, just to integrate it all, then there is a transactional charge once you get above that minimum. That's one of the reasons why we've raised over $100 million in venture capital, because it's a very expensive model to run, especially given that our core product is free. At Nav, we make money in two different ways. One is when someone upgrades from a free Nav account to a premium version, and the other is when someone is approved for a business credit card, business loan, et cetera, from our financing marketplace. Since we pay all the credit bureaus we work with—and that's kind of a barrier of entry around our business—it's difficult for someone else to get into this type of business and compete. We only have, right now, one direct competitor in the US and they only have two integrations whereas Nav has six.

Agustín: You mentioned the barrier to entry. I was wondering about breaking even. You've had several businesses. How important is it seen by investors to have a company that has broken even? How long do you think is recommended to wait until you can break even?

Levi: There's not a good, one-size-fits-all answer to that. Obviously, if you're in a business that can't raise venture capital, you've got to get there as fast as possible. Venture capital is the most important thing early on. In the first, call it, one to five years, it's the profitability of unit economics. So even though our company's not profitable, our unit economics are. Then if you feel like it's a race, you can say, "well, I'm going to lose money, because I'm making money on customers. So I'm going to let the company lose money so that we can gobble up the market and move faster than everyone else." That strategy doesn't always work. Uber for example, is a different vertical entirely and that worked for them to just raise boat-loads of money and run faster than anybody else. But, there are plenty of industries where the opportunity is not winner-takes-all. Whether it's an enterprise SaaS (Software as a Service) product or a security company, there are plenty of companies where that's not necessarily the best approach. Along the way, you've got to balance driving a higher valuation by having better numbers or legitimate assets of value that you can justify, now that you're worth more money. Because of course as you raise every round of financing, you're getting diluted, you're selling ownership to someone else.

It ends up being pretty complex and frankly it all becomes pretty dynamic, the industry that you are in, what's happening around you that you can't control, what's going on in the economy. Things sometimes are sour, we're probably in a pretty loose environment still in the world of venture capital because of the influx in corporate venture funds that have started; of hedge funds or private equity funds starting venture funds; of foreign money coming into the US market, and even in the UK market. I would say we're probably in a very favorable time for all this, but there's just not a single path to profitability. But one thing's certain, you've got to have profitable unit economics, because it doesn't matter how fast you grow, if you're only ever going to project losing money, that's a losing business.

Agustín: In terms of Nav, you said you have a vision to educate small businesses and get them some cheaper lending. How well is that working right now, compared to your vision?

Levi: It's working quite well. We touch more than one million small businesses in the US. We aspire to help way more than that. It was back in 2010 when my business partner, Caton Hanson, and I had the idea for this business, but we weren't able to get started until 2012. Sometimes I step back and think, "Wow. I just, I can't believe it. I can't believe we've made it this far and accomplished this much." At the same time, I'm always simultaneously proud of what we've done and ruthlessly dissatisfied with where we are. We aspire to have a positive impact on tens of millions of small business owners around the world, in fact. We've made one trip out to the UK to do some due diligence. We believe there is an incredible opportunity in the UK and that's something we aspire to—to have an impact outside of the US, in other geographies. It doesn't matter where we've been in the world. My wife Rachel and I love to travel—it's one of our biggest passions. We've been to about 80 countries together and it doesn't matter, in China, London, Dubai—small business owners always have the same challenges. Their customers are slow in paying them, they've got to front money for inventory. We're proud of what we've done, but we've got a long way to go both here and abroad.

Agustín: In the UK, the market is quite interesting. Just listening to the integrations that you've done. I think all of your suppliers in the US are the same, and are also present in the UK. Is that the reason why you are thinking of expanding there?

Levi: Yes, it's very similar and mostly the same credit bureaus. You have different sets of banks and lenders, but they operate very similarly to the US and so, yes, we see the UK as a very seamless market for us to go into.

Agustín: The market is big as well. It's not lacking competition, but it's worth having a go at it. Then, I think my last question is, what keeps you going right now? You've been successful, you probably don't need to work anymore, but you still have a lot of thunder. What keeps you excited about business?

Levi: There are lots of things. The big one: I love the people that I get to work with. One thing that brings me as much joy and satisfaction as anything else in this world is watching the people that work in our company learn, grow, develop, and see their lives improve. So there are the people that work for us, there are the investors that have invested in us. They've taken financial risks on us, career risks, we take that seriously. I'm proud of that and I'll be proud to drive a great return for all of them. I feel like we're just getting started with the impact that we could have. I love work; I love entrepreneurship. I aspire to not have to work—but I want to—but I don't aspire to not work. I can't imagine not wanting to work. I'd probably shrivel up and die fast if I didn't have the desire to just keep going.

I should mention one other thing. Rachel and I have six daughters. That's six educations, six weddings, and so on . . . There's an expensive future ahead of us.

Agustín: <laughs> Yes, so you have been very lucky to have all women in your life.

Levi: Yes. Indeed.

Agustín: Still aiming for a boy or . . . ?

Levi: No. We are done.

<Laughter>

Agustín: Fantastic.

Chapter 4 Sam Graziano

Company Name: Fundation

Location: New York, United States

Fundation is a credit solutions company that enables banks and other financial institutions to modernize the way they deliver credit to small businesses. Fundation also acts as an originator of small business credit through a network of partnerships. It has modernized the way small business credit is delivered in the market. Its technology helps top regional and community banks develop a great experience for their customers and employees who serve small business customers.

Roles: Sam Graziano, Cofounder and CEO

> *The technology infrastructure that banks are using to deliver credit to the small business community is, in some cases, antiquated, and, in other cases, less than optimal. Our goal is to change that paradigm for as many of them as we can.*

Agustín: How did you get started with fintech?

Sam: I had been an investment banker and spent some time briefly in private equity for about ten years, from 2001 to about 2011. I had spent most of that time doing work oriented around financial services companies, doing advisory work and transactional work—both M&A [mergers and acquisitions] and corporate finance. I had a good career and was doing quite well, but I just didn't feel professionally satisfied with what I was doing. No matter how successful I may have been by conventional terms, I had this nagging feeling that I didn't really find transactional work gratifying. I gravitated toward things that were more creative in nature. So, whether it was coming up with ideas of new initiatives

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that our clients might consider pursuing, or thinking outside the box in terms of how they thought about themselves from a strategic perspective, these were the things that I really gravitated toward and found exciting. That made me realize that I had an entrepreneurial spirit and I think maybe that was a matter of my DNA as well, because both of my grandfathers were immigrant entrepreneurs. From that point, I was looking for the right market opportunity to formally make the transition to entrepreneurship and found that in the small business market.

Agustín: How did the idea of small business lending come onto your radar?

Sam: I met my future cofounder when he was still in college and while I was working on Wall Street. He had talked to me about an idea he was working on around crowdfunding small business loans. At the time, I coincidentally had started paying some attention to some of the early entrants in the crowdfunding arena in lending, like LendingClub and Prosper. I was pretty intrigued by those business models. But, as someone who had spent my career in financial services, I knew that the concept of retail investors being able to supply enough capital to the consumer lending markets—or the small business lending market in our case—was unlikely to be the driving force of success. Although it could be a nice add-on to a business model, peer-to-peer or crowdfunding wasn't going to determine success and scalability given the amount of capital that would be required in a lending business. So I started spending time really thinking about what the business model could look like and I did that in my spare time while I was still employed. Ultimately, I gained enough confidence that there was a clear opportunity in the market in small business finance. I was at a point in my career where I felt like it was the right time to take a leap of faith and so that is exactly what I did.

In the early days of our business, we were still orienting our business model around an asset management model or what's become known as marketplace lending, where our platform would sit in between small businesses that had a need for capital and that weren't being adequately served by the banking system and institutional investors that would supply that capital through a professionally managed process by us. That said, what we realized was going to determine success in our market was the ability to create a really sophisticated process of assessing credit risk efficiently and intelligently. We had learned through our research that there were some real structural challenges around the complexity of delivering capital to small businesses and that was one of the core issues that needed to be addressed.

That said, our story is a lot like others, where what we started as from a business model perspective and what we have become over the last seven years is substantially different. We pivoted pretty substantially and I'm happy to talk through some of that as well.

Agustín: That would be really interesting. So initially your business model was to become an intermediary, offering a marketplace; but that modified substantially, probably as in many of the B2B lenders. How would you describe that transformation?

Sam: I think what we ultimately determined was a couple of things. One was being able to have your own pool of capital, at least as a meaningful part of your capital supply; your balance sheet is a competitive advantage when you go through difficult market cycles. If you're purely reliant on there being a buyer for the next loan and those buyers can walk away at any given time, that can present some real challenges for your business, because markets are of course cyclical. I think this industry has now learned that and I think we were cognizant of that early on.

The other thing is that we felt that the unit economics of a pure intermediary business model was going to be challenging unless you could get to substantial scale and we weren't convinced the small business market would offer that level of scale. I think that's also proving to be the case, where there are some businesses in the market today that are originating billions of dollars of annual volume and they are still not profitable, because the margins as an intermediary are thin and the fixed costs of running a large lending enterprise are high. Whereas, if they had a balance sheet and they were retaining the majority of the earnings of the assets that they were originating, they would absolutely be profitable. Now obviously the other side of the equation is the amount of capital that they would need to hold as a company and the cost of that capital, and that is a valid point and valid criticism. It is one of the age-old questions that gets debated in this industry. We had a point of view early on and that's what we decided on. We decided to adopt a capital-intensive balance sheet-heavy model with a strong institutional sponsor.

I think what you are starting to see now is that even the companies that are still intermediaries are adopting a bit of a hybrid approach, where they have more permanent pools of capital to be able to bring to bear, which helps create a more defensible business model through cycles. That is what we decided to do, right or wrong, relatively early on and we continue to operate on that basis today, although I think we would say diversity of funding is important and we may very well decide to adopt an approach where we're both keeping some on our own balance sheet as well as selling some to make sure we have diversity of funding sources. All that said, I think that describes a less interesting part of our journey as a business model. The more interesting thing is what we've become from a business model perspective, less so about the way we fund our loan portfolio.

Agustín: Exciting. Does this relate to looking for partnerships with banks?

Sam: When we started the business, we had generally the same point of view that many others did, which is that banks big and small had more or less decided to step away from small business lending and ignore the asset class altogether, leaving this massive void where the online lending community was apt to step in and take substantial market share to meet the needs of small business customers. I think what we found over time was that wasn't exactly true. We have certainly come across banks along the way that have ignored the market or stepped out of the market, but we've also come across many more that never went away and, in fact, are quite good small business lenders from a credit risk management perspective. Those banks have continued to serve what we would characterize as the prime segment of the market even during and after the credit crisis. The conventional narratives around the online lending community coming to the rescue of small businesses was true to some degree, but by and large not true to another degree. Research studies show that the majority of small businesses still do approach banks first for financing and the ones that are successful do get bank financing and the ones that don't obviously will go explore other alternatives. That is changing little by little every year where non-bank lenders are becoming more of a common place to search first. But, by and large, the online lending community is really serving the underbanked or just customers that generally don't qualify for bank financing.

We also realized that while banks are still present in the market, they are there because small business relationships are very important to the bank for other reasons, one of which is that small businesses are very deposit-rich. The loan-to-deposit ratio in small business banking is 20%-ish on average, or maybe a little bit higher. So this business segment is a net supplier of deposits to the rest of the bank's business lines. What became clear to us was that the technology infrastructure that banks are using to deliver credit to the small business community is, in some cases, antiquated, and, in other cases, less than optimal. Our goal is to change that paradigm for as many of them as we can. We decided much earlier than our competitive set that it was better to position ourselves as a long-term partner to the banking system rather than as a foe, and I think that has served us quite well. We were one of the first digital lending platforms that struck a partnership with a major bank in this country, our first partnership was with a company called Regions Bank in the south, which is an integrated referral program where we are serving customers that they can't serve. What we've evolved to since then is providing a platform solution on a private label basis for our bank partners allowing them to digitize the delivery of credit across a number of different products within the small business product suite. This solution allows them to fundamentally change the experience that they are offering their customers, the efficiency in which they can offer credit, the precision with which they can assess risk, and overall just apply technology to all the different dimensions of delivering credit to that particular market. This is a fee-for-service business for us and we are going to be doing that across a number of different products, not just a standard term loan or line of credit.

That is where our business model has been going for quite some time and we feel really good about our market position from a competitive standpoint, as well as the clients that we already have and the client roster that we're working on right now. We think by the end of this year we will emerge as the leader in offering platform-as-a-service to the banking community in the small business space.

Agustín: So it's mostly offering white label solutions for lending to banks? Or at some point offering capital?

Sam: Yes, that's right. We look at our business as two different things. One is what we call Services and the other is Lending. Services is where we are offering our platform as a capability to banks to bring a white label solution to their distribution channels, but we do that in a pretty interesting way. It's not just the technology where a customer can apply and make decisions, we also employ our own people to operate in the name of the bank, both from a customer service perspective and customer engagement perspective as well—a true process outsourcing model. We will staff teams that are operating in the name of the bank according to the bank's policies and procedures. We will also provide our own capital as a second option for customers that don't meet a bank's underwriting standards. We look at our solution as being far more than just technology and we found that banks put a lot of value in that, because it's a truly comprehensive solution.

That's what we call our Services business, and then we have our own Lending business, where, in addition to our bank relationships, we are delivering capital in various formats, whether it be term loans or lines of credit, where we are sourcing customers exclusively through partnerships. One of the unique things about us is we don't invest a dollar in direct marketing—we are really not trying to drive anybody to our website. Every customer that we do business with is coming to us through some form of partnership. On one end, it is commercial loan brokers or some of the online marketplaces. On the other end of the spectrum, it's things that we would characterize as more exclusive in nature, where we have developed a relationship with an institution that either sells their products and services to small businesses or just has small businesses as clients and they can introduce our credit products to their small business clients through their touchpoints with those customers.

Agustín: That decision on partnering, has it been something that you evolved as well from Day One? How did you come to that decision?

Sam: Good question, so I think it was part of the same learning lessons that led us to decide that we wanted to work the banking community. We are not a high rate lender and therefore don't assume a tremendous amount of credit risk on a relative basis. We sit somewhere in between some of the larger lenders in our market in terms of how much risk they're willing to take and how much they're willing to charge customers, and the banks on the other end. What we've found is that segment of the market was probably not as big as we originally anticipated. The cost to acquire customers by going and trying to find them directly is substantial. In our lending model we are only going to monetize a small share of the customers that are coming through our application funnel. Therefore, it was going to lead to very challenging unit economics for us by trying to build a direct-to-customer brand and doing direct marketing. And so, for that reason and the fact that we were becoming a partner of the banking system, we felt direct marketing and building our own brand was a bit of a conflict of interest with our partners. So, for both reasons, we decided it wasn't the right thing for us and we decided to adopt a partnership-driven strategy, both from a lending perspective as well as a service offering perspective.

Agustín: What do you think you do better than your competitors? There are a few competitors in this space and you mentioned that you might be the biggest lender right now in this category?

Sam: I think we will have the largest client roster of regional, super-regional banks using us as their platform to deliver small business credit. I don't think we are going to be the largest lender in the space. What we do better than others is deliver credit through a materially better product and a better price point than our competitors, through the same or better experience for the customer from a time and efficiency perspective. I think our ability to both combine ease of process with disciplined credit risk management is the best in the industry. The other thing we're really good at is flexibility. We have architected our systems from the early days to be flexible in terms of the way that we can interact with a partner or a customer, so not everything has to go down the same process in order to get to the same end result. I think the flexibility and modularity of our platform is something that we've done pretty well. The last differentiator is just how we run the business from a compliance perspective. We really have focused on things like information security. The way you run your business from a compliance and privacy perspective is really important, and we made those investments early on which matter to a number of prospective partners.

Agustín: What do you consider more important—technology or process?

Sam: My perspective is if you don't have both you are going to have challenges, in particular in our business model. On the credit risk management side we've been in a great environment for a long period of time, everybody knows that, and things will change. We haven't been compelled to take more risk than we should and we feel we are disciplined in pricing risk the right way. That will prove itself out over time. From an operational perspective, some of these large institutions are in effect outsourcing their credit delivery process to us. If we're not doing it really efficiently and with the right controls in place, we are going to have challenges. So it's really the fact that systems and processes have to work hand in hand in this business.

Agustín: Where do you see the lending industry going? You explained a bit about the challenges of SME lending; how do you think it will develop in the future with the help of technology?

Sam: My point of view on both the consumer and small business credit markets is that the platforms that have dominant mindshare with customers and advantaged data on those customers are going to be in a position to deliver capital to those customers. You are starting to see institutions in a variety of different verticals, non-lending companies, that are starting to introduce capital in some form to their customers, whether they be payments companies or otherwise. Lending directly to customers, through a website, is in a growth phase because the awareness of it is increasing and consumers are just more willing to do just about anything online. But, as virtually every aspect of our economy becomes digitized through platforms and marketplaces, a lot of data gets created in that process. As a result, the delivery of capital is going to migrate more and more into those types of ecosystems. Simply said, capital will be available to facilitate just about any type of transaction and through platforms that have dominant mindshare with customers. We are trying to position ourselves to participate in that paradigm. I think that companies that don't and are just continuing to stick to a model of going directly to the customer through their website or through some type of marketing program, are going to have a challenge in the long term.

Agustín: We can see a lot of change in the retail space already. How did you fund the company originally and how that has evolved with time?

Sam: The first year or so, we didn't have funding, it was our own dollars. We were really just working for nothing in the first year or so, to figure out where we were going to go with the business. We weren't one of the fortunate companies that had money from venture capital on Day One. It took a while for us to earn some credibility from investors and some friends and family that contributed capital in the early days. We actually started by not taking salaries or anything like that for quite some time. About a year after starting the business, we were able to do the traditional seed round. Then another year later we were able to find a very progressive multi-family office that stepped up to provide us more operating capital and some capital to start our lending program. Very shortly thereafter, we realized that in order to really scale the business we were going to need institutional capital. That is when we partnered with the primary investor we have today, a firm called Garrison Investment Group, based here in New York. They convinced us to collapse the corporate structure we had and become a balance sheet business. They've been our equity partner ever since, but we've layered on debt facilities since then. We've got a few debt facilities in place, so we've really started to optimize the structure of the balance sheet between debt and equity over the last few years.

Agustín: In terms of advice for new entrepreneurs and wannabes, what's the best way to keep capital with your equity, without having to give too much away in terms of all of these funding rounds?

Sam: What I would say is that you usually need more than you think in the early days. I would say you probably should be willing to take a little bit more dilution in the early days to get more money, so you can make more progress before you have to do any subsequent rounds. The other is, be careful not to give too much equity away to other people even if you think they are the right person and have the right intentions. Everything feels good in the early days because everyone is excited about the opportunity and there is a tendency to give quite a bit away in the early days to people that you think are going to be important parts of the journey. But what you believe you are going to be getting out of others doesn't necessarily play out. In fact, it often doesn't. What I would say for a founder is just be very careful with who you're giving what to. What are you giving them, why are you giving it to them, and what are the expectations of that? And then have the right control mechanisms in place to where people don't necessarily walk away with quite a bit, without actually providing value. Most companies that have more than one founder don't make their way all the way through the journey together and that is not because people aren't necessarily valuable, it's just because people decide to go in different ways with their interest or skill sets, or the needs of the business change. Building a company from the early days to becoming a real institution, it is an evolutionary process to say the least, and things are constantly changing. I would just say, be very thoughtful about where equity is granted, both to investors and to other individuals in the early days and what the expectations of that are.

Agustín: That's really good insight. To close the interview, I want to get your perspective on how it was for you to become CEO and how has that changed over time.

Sam: That's a great question, I was just talking to somebody about that over the weekend. It is incredibly different to be a Day One founder CEO and to be a Year Seven CEO. To state the obvious, we've got a lot more people in our company now than we did then. Today, we employ about 120 people; obviously in the early days there were very few. In the early days, you're the CEO and you're the janitor. You're in the weeds, you're doing everything. But, as the company grows, you can't do everything, not only because you can't physically do it, but it also gets in the way of other people being able to perform and help the company to get to the next level. You also risk burnout. What also becomes more important over time is that I'm spending my time on the things that are going to help the company continue to get onto the next level, the next level after that, and the next level after that; thinking about what's ahead and then putting the systems and the people in place to be able to do that with very clear direction. But I wouldn't say I have done it perfectly and I would doubt any CEO that you've talked to that's been both a founder and remains a CEO at this point, would honestly say that they have done things perfectly. I have made all kinds of mistakes along the way and I have learned a tremendous amount about who to hire, when to hire, and how to hire. I have learned a lot about how to motivate people, how to make sure that everybody is rowing the same direction and a tremendous amount about how the words that I use and the actions that I take manifest themselves inside the company. I am somebody that realizes that I am not perfect and that life is a journey of constant learning, and I am always looking to learn more both about how to be a good leader, but also about the skills necessary in the different disciplines that we use around the company. I try and enforce that same thought process with many of my team members here. I have spent a fair amount of time reflecting on what it means to be a CEO of a larger company with time, and I think I have changed my behaviors along the way, both through learning and through trial-and-error as well. I have been willing to take advice and been willing to accept constructive criticism. I think if you don't have that open mind, it's tough to make the evolution between startup CEO and an institutionalized CEO. I'm not suggesting by any means I have reached the end state, but I think at least, generally speaking, I have had the right mindset, which has allowed me to evolve with time.

Agustín: Having done both the startup CEO and the institutional CEO, have you got a favorite between those roles?

Sam: I would say right now I'm enjoying being, as you call it, a more institutionalized CEO, because I feel like I am still in a learning process here, and I just feel like we as an organization still have a way to go to achieve the level of success that I want this company to achieve. But I have a real infrastructure around me and I still have opportunities to be really creative. I know that's the way my mind works. I love the feeling of creating something from nothing. I think whether it's going to be inside of Fundation or elsewhere at some point down the road, I do expect that I'll yearn for that opportunity again, to create an entirely new venture again from nothing. Not only because I love the feeling of creativity, but just all the things that I have learned of what to do and what not to do along the way. I feel like I want to be able to put that to work from ground zero again at some point.

Chapter 5 Michael Garrity, Paul Sehr, Casper Wong

Company name: Financeit

Location: Toronto, Canada

Financeit focuses on the home improvement market, offering a platform that allows businesses to offer consumer financing to their customers from various devices in Canada. Financeit has a vision of being the largest home improvement point-of-sale lender in North America, distinguished by technology and innovation. It has done such a good job that Goldman Sachs acquired a majority stake in the business.

Roles: Michale Garrity, CEO; Paul Sehr, CTO; Casper Wong, COO

> *You really need a team that can wear multiple hats, that can see every crisis as an opportunity to get better and to learn something.*

Michael: Just so you know who you have on the line, you have Casper Wong, chief operating officer of the company. You have Paul Sehr, chief technology officer. And you have me, Michael Garrity, I'm the CEO of the company. The three of us really were the founding group that had started the Financeit entity.

Agustín: Great. Thanks for that explanation. I would like to know how you came up with the idea of creating Financeit.

Michael: Financeit wasn't always Financeit. I am the single founder of the original company called CommunityLend. CommunityLend was meant to be a peer-to-peer

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lending platform like Zopa. In fact, the launch of Zopa, back in 2005 I believe, was my personal motivation to create a similar platform in Canada. Zopa was the first, and Richard [Duvall] and Giles [Andrews] and a few other folks there had put that platform together. I was working in the tech industry in electronic bill payment and presentment, working with banks and working with billing companies and credit card companies. I had been thinking about debt and the debt industry, and when I saw Zopa launch, I got really interested in what a debt exchange could look like.

The idea that you could take out the middleman and bring people looking to borrow, and connect them to people looking to invest their money, and take out all of that middle layer of financial intermediaries and investment banks and securitization structures and ratings agencies and there are just so many layers in between, it just made logical sense to me. Where a platform could ultimately become like an eBay for money, which was the original concept behind peer-to-peer lending. I actually flew over to the UK and met with Giles and then I flew down to Silicon Valley and met with a similar company called Prosper, that at the time was being run by Chris Larsen, and really got infatuated with the idea of how we would do it. I then started the company in Canada and at that time I was the only founder of the organization. As I mentioned, it was called CommunityLend, which was really trying to hone in on that peer-to-peer component of what it is that we were trying to do.

I hired a development shop to help build the code, because that wasn't my expertise. Paul Sehr was one of the people on the development team who ultimately was under contract with us to develop the technology platform. He was represented through a third-party company he had hired, and so that was where Paul came in. Ultimately, as we continued to put that first peer-to-peer lending company together, Paul joined us as our head of engineering and eventually our chief technology officer.

Along the journey of putting together that peer-to-peer lending platform, the entire financial market melted down in 2007 and 2008. We were in the middle of trying to get a set of approvals to be able to launch the platform so that it could be compliant with regulatory laws governing predominantly the securities industry in Canada. We had a painful two-year journey of essentially creating our data and trying to get the business model pulled together, and then essentially just waiting for regulatory approval and the regulatory construct to come together. Whereas the Prosper guys and the Zopa guys were able to get their platforms up and running right away and then figure out regulatory stuff later, we were in the middle of the meltdown and were told that if we tried to do that, we would get shut down and never get back up again. We wasted a lot of time and money at the beginning of our company trying to create the thing that we ultimately wanted to launch.

Along that path, we came to the realization that even though we were going to get our licenses to be able to do a version of what we wanted to do, we were never going to be able to do what we ultimately wanted to do—as you are seeing with LendingClub and Prosper, specifically, the way that they had to convert their businesses ultimately into brokers in the capital markets business has made their business models very inefficient.

We realized that in the early days of the service and we had quite an existential crisis as we thought this business that we wanted to build was not a business that we expected would ever turn into a success in Canada and decided to pivot the company away from peer-to-peer lending and over to point-of -sale lending. As we made that pivot, we converted the company from being called CommunityLend into something called Financeit, and we started putting together what our business model would be. That's when we attracted the attention of Casper Wong, who had also been in the financial services industry and specifically in point-of-sale financing. He proactively reached out to us and said that he would be interested in helping us on that journey, and he joined us right at the point where we created the entity called Financeit. That's a long-winded answer to what got us started, but hopefully helps you to see the path where it went from being a single founder-led organization—with a good idea that could never turn into anything, unfortunately—and through a pivot, and where the second phase of the company picked up when Paul and Casper became key parts of that change, the foundation of that team, as we built the Financeit entity.

Agustín: Right, so CommunityLend was your original name or did you create a new entity? How did that happen?

Michael: We changed the name of the company from CommunityLend to Financeit. CommunityLend is still the name of our holding company.

Agustín: So what happened with CommunityLend?

Michael: That entity, we turned into a holding company. We kept all the original investors and their participation in the company, even though financially the better bet would have been to close that company down and start a new one. But because all of those investors were people that I knew—they were friends or connections through friends or family members—the idea that we would write off that investment and then start another company just felt completely disingenuous and not at all the values that I was trying to bring in building a company. When we pivoted, we just renamed the core entity—and then Casper and Paul became founders of the new entity, which was now a business that had been operating for a couple of years but was on a new path with a new name called Financeit.

Casper: Michael tried to launch CommunityLend right before the financial crisis happened. There are some pros and cons to timing. The con was that it was very difficult for the regulators to wrap their heads around a new way for individuals to invest in loan assets at this time, and that made it very difficult to scale the business. It wasn't for lack of effort or passion or any of that hustle, but the benefit is that a lot of the US lenders in the point-of-sale marketplace pulled out and Michael and his team started getting a lot of phone calls from large point-of-sale merchants saying, "Hey listen, Wells Fargo just pulled out of Canada. GE Finance just pulled out of Canada. We need a point-of-sale provider." Michael and his team saw a huge market opportunity during that time, that was just kind of a once-in-a-decade opportunity. The second part is a little bit of a personal story, if that's okay, about Michael's kind of hustle. During that time, Michael ran a radio show every Saturday morning called the Finance Hour at 9:00 a.m. I don't think there were a ton of listeners but Michael was very resourceful and used that radio show to get the CEO of ING Canada, Peter Aceto to come on the show.

Michael: <Laughs> Listening in.

Casper: He created that connection and was able to convince ING and Peter to back Financeit during the creation of the company as its primary lender. Shifting the model away from individual lenders and consumers to institutional bank grade capital was probably one of the biggest reasons for that shift. Paul had joined already. He was thirty days before me and used to be a contract developer. I was in discussions with Michael because I thought CommunityLend was one of the only interesting prime online lenders at the time in Canada, and this was all before fintech was a word.

Paul: Yes, I believe, I believe I finally came on contract . . . This is Paul speaking. <Laughs>

I came on full-time in October, and I believe in November we said, "Okay, CommunityLend is not going to work, but we have this new idea: point-of-sale financing, Financeit, let's go"; and I was the only developer, I was the only person on the tech team at that point. We had a big team on contract a bit before that, but now we were down to just me, full-time pretty much, and one of the resources helping on the CommunityLend side. By February, we added a merchant layer into the CommunityLend platform, branded it Financeit, and had our first point-of-sale financing loan. It took only about two crazy months where we added this brand-new concept, rebranded it, and we had our first loan on the books—which was already a much better indication compared to the difficulties we were having with CommunityLend.

Casper: People often ask me, “How did you and Michael and Paul meet each other?” and there isn’t a really great story. It almost happened by serendipity. I reached out to Michael online, Paul was a developer on contract, and we all came together for this moment; and so far, things have been working out, but yes, there was a little bit of randomness there.

Agustín: During the crisis in 2008, at some point did you think it’s time to close down and do something else? What went on in your mind during that time?

Michael: I think a smarter person than me probably would have decided to stop <background laughter>. In the early days I was the only founder of the company and so my wife and I had put a bunch of our personal savings in to get the company started—more than we had expected to. Then when I finally was successful in closing an investment round, about halfway through the money being spent, we realized that we weren’t going to get the model we wanted and ultimately had to go back to shareholders with some story, and you have three options. You either say, “We don’t know how we’re going to do it, but we’re going to need more money to do it.” That’s one option—lots of companies have taken that path. The second option would be to say, “We’ve got a different idea for the rest of this money, and here’s what it is.” Then the third option is, “You give the money back and close it down.” There are a lot of companies that have taken each of those paths.

We decided to go with path number two, which was to come up with a different model where we could stay in the general industry—financial services, disruptive financial services led by technology—but just avoid the overwhelming part of it, which was trying to get regulated under security law. Our new model was both; to Casper’s point, feedback from people who were calling us to say, “Hey guys, I don’t know what this CommunityLend thing is, but you know where the market is? It’s in point-of-sale lending”—some of that market feedback. Then also a realization that it was a very hard, expensive road to try to get regulators in the middle of a financial crisis to agree to some new innovation, that required their pre-approval. Our ultimate business model was defined by those inputs and those realities.

Agustín: If we move on a bit onto the operation, when you started, you were small and now you’ve grown to have plenty of employees. How was that transition managed when you have a lot of employees and are building the company culture and needing to respond to more demanding shareholders? Has anything changed from the first days? How did you manage that process?

Michael: Sure, I think things have changed about a hundred times. We went from a relatively small group of people, under ten, at the founding of the Financeit entity after the pivot, to where we are today, which is over two hundred employees in Canada and the United States, and four offices that are part of our group of companies. Many changes have happened along the way.

In the early days, I had focused on bringing in some folks that had banking experience, you know, that had professional experience. They were some of the early team that we had when we created CommunityLend. Those teams really struggled with startup life. If you were used to working at a bank or a bank-backed company, even if you did something innovative at some point, the rollercoaster of daily existence in an early stage startup really can be nausea-producing if you're not ready for it.

The first team that I had before Casper and Paul joined, the executives that were helping me to build out the first idea, weren't able to survive to the second idea. It's hard to go through that process; and Paul and Casper, you can't physically see them, but they're both relatively young guys and certainly were young guys in the early part of their career when they joined at the foundation of Financeit. They were just way better suited for the: "What hat am I wearing today?" "What problem are we solving today?" "What crisis are we averting today or dealing with today?" As people, they were just much better suited for that early stage of our life, and that's one of my observations in terms of operations and operational growth, because there are so many. When you are trying to create something that didn't exist before and you are trying to do things differently in a market that you didn't come from, you are going to make mistakes and you are also going to see things differently that will ultimately contribute to your success. We had both of those experiences and you really need a team—if I could compliment both of these guys—you really need a team who can wear multiple hats, who can see every crisis as an opportunity to get better and to learn something. If you don't have those people on your team, certainly if we didn't have those people on our team in the early part of this company, we never would have made it, because some crisis just would have taken us down. It was too hard to get through.

Then, as we grew, at each stage that we grew to, we collectively said, "Okay, what's that skill set that we're missing now?" "We need somebody, a chief financial officer, who represents a pedigree that we don't have," or, "We need a new head of sales, that has a pedigree that we don't have." So the three of us just kept identifying skill sets that we would need to get to the next level of our success. And I'll say our success rate probably is only about 50% on those picks, maybe even less, if we added them all up. Because we would think about the skill sets that we'd need and what was missing. We agreed together as a team, and then we'd go through the process. We would all interview people and ultimately make choices on who those people were going to be and how they were going to add to our company, and some of them worked out and some of them didn't. Then, if they didn't, we'd just go right back to the drawing board and look to hire somebody else. That's really been the pattern all the way to today, where we now have twelve members of our executive team. We started with three, we're up to twelve, and we've really found our cadence as a business and found the right roles of specialization for the people on our team, and each of our jobs has changed. My role as a CEO in the early days has changed materially from my role now in managing a company that has three lines of business and a whole bunch of shared services, where Goldman Sachs is the majority investor. I'm a different CEO today than I was two years ago, than I was two years before that. I am sure Casper and Paul would say the same thing about their own roles. Paul hasn't coded a line of code, I think, in eight years or something <laughs>.

Paul: Four years <background laughter>! Yeah, I'll just to add that. In terms of scaling, I think we've done a lot of things that you would expect from best practices. We hired a management coach for our executives, which I think helped us a little bit as we grew, just to understand, as the chaos inside the company grew. Just to better organize. Who are decision makers? How do you get things done? How do you run good meetings? Just company basic essentials, but sometimes you need someone to point them out to you if you're not executing them as you should. I think our culture has always been one of our strengths as a company, but our culture used to be more informal and, as you grow, you can't maintain an informal culture. I think we've really looked to quantify a lot of what makes our culture great and really write down those values, mission, and vision, and make sure our employees understand what those are. We've also matured in terms of, as Michael said, just using more specialization. Where a lot of situations were one person doing ten things and doing them all in a mediocre way. Now you have ten people doing them and you've also hired the best in each discipline. Some employees that, as Michael pointed out, actually do excel in a one- to fifty-person organization, but don't excel as well, maybe, when you get bigger because you generalize and we're becoming a more specialized company. So a lot of those people turned over and now we are getting people who are more used to banks again, now that we're this size, and I think they're finding it more comfortable given the stability and the size that we're at now. We've seen a kind of full circle of evolution there, in terms of the types of people that we employ here.

Casper: I'll just add one final thing. Michael and Paul did a great job I think of capturing the essence of the experience. Every year we're building, we're reinventing processes, reinventing structures, reinventing the company, and the way we make decisions to scale. One of my favorite quotes I've read is by Peter Drucker in the book, "The Effective Executive." He talks about how really strong organizations build strength on strength. I think one thing for us is, we've all learned a lot about our own strengths and weaknesses as we've scaled, what to focus on and what to not focus on; and that as we hired strong executives, strong specialists, I think we've really done a good job of hiring people to supplement the weaknesses in the organization. Over time, even at a 50% hit rate, it's been a foundational way of how we've been able to get to where we are now and I think, as we continue to scale, we'll keep building off that.

Agustín: Michael, you mentioned Goldman Sachs and the way in which you gave them a majority stake in the company. How was that deal made? You all decided to stay in the company after that deal. I'd like to get the story and your thoughts on it.

Michael: Sure, so our capital path is not a straight line. I would suggest that the real success stories in Silicon Valley are usually the companies that take a seed round and then they do a Series A, and a Series B, and a Series D, ultimately, and then go public. That's what you're supposed to do; that's what the book says. Well we didn't do any of that and part of that was that I was the seed investor of the company—my wife and I, I should give her full credit. Then our real Series A was two and a half million US dollars, and that was a group of about, really it was eight or nine, predominantly angel investors—one UK-based hedge fund that came in through an angel investor and was purely luck and they anchored the round, and then predominantly a bunch of angels who came in around there, who liked the idea, liked us, and invested, and so that was our Series A. Then we did a Series A+ when we pivoted and we needed more capital. That was a convertible debenture round and things really started getting hairy after that, because now we were trying to recapitalize the business without having to take a down round, and because we were really starting from scratch all over again three years afterward.

We did another debt round that was convertible and then we did a strategic round and so all of that was in the Series A category; so Series A1, A2, A3, A4, as we sort of bumped along and tried to get to the next milestone and just raise a little bit. We never were able to raise enough; it was always a bit of a fight to get it done. But we finally got to the point where we were qualified to raise a proper Series A or B, depending on how you thought about it, and that was when FIS Global took a lead position on a larger investment round. I think it was thirteen and a half million US dollars.

FIS Global is one of the largest fintech companies in the world, publicly traded on the New York Stock Exchange. They really liked what they saw in our company and wanted to get us across the border into the US, and they had a venture group. They led that round, participated in half of it and then we were able to form a number of other, predominantly US venture firms, to join them in that round. CVC Capital Partners out of Atlanta, Inter-Atlantic Group out of New York, so really for the first time injected proper venture capital into the company after five previous messy-looking rounds, which really just helped us to survive. Then we, at that point, cleaned up the majority of the cap table and got ourselves on a trajectory for growth.

Goldman got attracted to us in 2015, where they invested, because we were looking to raise that next series—at that point, probably best described as Series B, in normal VC parlance. They took a minority position in the company and were joined by a few other folks in the private equity world, who came in and joined them for an investment. The majority of that investment went toward not just buying our own company, but also buying an app from a major community and financial institution called TD Bank, which is one of the largest financial institutions in Canada. They had a similar service in the point-of-sale lending business and we purchased that service from them, and I think we are the first example of a fintech company that's bought an asset from a bank. Normally, banks buy fintechs, this was "fintech buys bank," and that was enabled by that first Goldman purchase where they took a minority position in the company to help us get that done.

Flash forward to 2017: We had identified another opportunity, which is a software company that we think of as a distribution accelerator for us, a way for us to drive more of our loans through using smart software, which is important to our business. When we identified that company, we went back to Goldman and said, "We want to raise more money and we want to launch in the US, and we want to buy this software company." That's the point where Goldman said, "Hey, given where you guys are, this next strategy is going to require a lot of money and we're going to need to move really fast and we would like to buy out the rest of your shareholders and really become the majority shareholder that powers the growth of the business." That was, you know, to a certain degree, a hard decision to take a big strategic PE firm on, but we had already been working with them for a couple of years, they had been so significant to our success, and so we decided that we were ultimately going to make the decision to make them a majority shareholder. Just to be clear, they bought out our angel investors, but management still participates in the equity of the company; and very specifically for me as the first investor in the company, none of my shares were allowed to be sold in that majority position, because they believed that management needs to be invested in the business and so that's ultimately where we are today.

Agustín: Right, and from your personal view, what is Goldman interested in? Are they interested in this specific market? Do they see synergies with their own business?

Michael: Yes, I'm not allowed to speak on Goldman's behalf, as you would expect, but what they stated publicly is that, this is the merchant banking group. This group invests in majority positions in companies that they think of as category leaders and their ultimate goal is to bring capital and partnership capabilities to those companies and to exit them on the public markets. They are in the business of investing in companies, and then making a lot more than their investment amount in helping the companies to be successful and helping them to exit on the public markets. You would expect, based on that philosophy that they have, that this group would be very focused on making their investment in us turn into a significantly greater benefit to them and ultimately look to grow the company to the scale required to put it on the capital market.

Agustín: Just asking the three of you, what changes have you seen since they took a majority stake? Have you felt you're reporting to a new board now, with new objectives? How did that change?

Michael: Well, why don't I start as I spend the most time with them, as you would expect, as Paul and Casper continue to focus on driving the success of the business. But I'm with them on the phone weekly as we stay aligned on our strategies. I will tell you that having had over thirty-five investors in this company over our eight-year life-span, I've never had a more supportive shareholder for ultimately driving the goal of creating a multi-billion company through the entity that we've got, than we have with Goldman Sachs. They've facilitated two acquisitions; they've facilitated a full clean-up of our cap table. They have converted from a venture-looking cap table with preferred share structures, et cetera, to a common shareholder-only cap table, where we all have the exact same shares with the exact same rights. That's a cap table that you can take public, and so as we've looked at other strategic initiatives launching in the US, other potential acquisitions we would do, they are 100% supportive of these initiatives because they think of them as driving intrinsic enterprise value creation for us. As we pursue our mission of being the single largest home improvement point-of-sale lender in North America, distinguished by technology and innovation—as we pursue that goal every day, our existing shareholder is incredibly supportive of that goal and objective.

Casper: I agree, having been part of almost every single board meeting since joining, the biggest changes I've observed are that we've gone from having a bunch of different views at the board level on what we need to do as a business and what our evolution should look like, to a much more focused view. So far, I think we've built a very strong relationship and they trust us to execute and have been supportive of all our ideas. I think overall it's helped us really focus at the board level around initiatives and what to do, and they bring a ton of resources and are not shy to help us out and put us in touch with their vast network, if need be, so it's been great.

Agustín: I've spoken with several founders that have exited as soon as a big lot of money came in, so it's interesting to see how your case is different. You mentioned at the start that we're coming into a market where there is opportunity. However, now there are many competitors going into your area such as Square, PayPal, Klarna, IBM—these players at a global level. What is your view on competition and where the industry is going?

Michael: I think our view is that our market is still very new and very fractured. I'll give you a quick measure. In the automobile industry, point-of-sale financing drives 80 to 85 percent of all sales. In other words, in that industry—let's just call it half a trillion dollars in sales, annually—that's about the right number for North American-wide vehicle sales. Eighty-five percent of those sales are put through a lease or a loan—predominantly with major banks, all driven off a single platform called Dealertrack, which commoditizes those industries. That's an industry that is heavily evolved, heavily commoditized, tough to innovate in and really saturated, because it's found a way to give banks easy access to that point-of-sale system.

Home improvement lending, in terms of total sales—call it about three hundred billion in size—that industry has less than 10 percent of it going through leases and loan products. The sheer amount of green space in front of all the companies that are in that space today, it's not about market conquest, like it is in other industries, like mortgages and student loans and other industries where you're basically stealing a loan away from another company by trying to be better than they are. In our area, all of us who enter this space, the opportunity is to create an innovative technology to really create point-of-sale lending where it doesn't exist today. Which is in the interchanges that happen between a home improvement installation guy, who's in a house and sitting at the kitchen table, where he's selling a new roof or a set of windows. In that environment there isn't very much point-of-sale lending, so we're really creating opportunity in a green space and there's lots and lots of opportunity.

The second thing I'd say is that there isn't a major incumbent in this space. It's a fractured marketplace and in a fractured marketplace we see nothing but opportunity. The largest company in our space is a company called GreenSky. GreenSky didn't even exist ten years ago. So we are all new at this, and they're the biggest because they are publicly traded, and they are on the market. Then you've got guys like Synchrony [Financial]. Synchrony used to be a division of GE, and then GE split it out and is now running it separately, and they have to decide whether it's a point-of-sale lending company or a credit card company. This market is just open and ripe for a true innovator, with a value system focused on making that exchange between the contractor and the customer in their home, where mobile and data and cloud are going to be relevant and important in making the difference. We see that as a tremendous opportunity. Guys like Square and PayPal or Affirm, they're part of the industry but they are focused on online e-commerce transactions—that's not who we are. We are all about that roofer sitting at a dining room table, with a $15,000 purchase that's a grudge purchase that you don't want to make, but you have to, and making that simple and easy through our toolsets. Square and PayPal and Affirm, they're not focused on that part of the market. I'm not terribly worried about it.

Paul: From a practical technology standpoint, I think we are laser-focused on the home improvement market. I think anyone else playing in the space that you mentioned, the home improvement market is a different beast from where they're playing today. I respect all the companies you mentioned immensely, they are all great companies, but like Michael mentioned, we are laser-focused on this and nothing else. And even this industry, you can't compare what a solar installer does to a heating and air conditioning operator, versus someone selling hot tubs. Even in this industry, you say home improvement, it's actually a vastly different industry depending on what niche area you're talking about and they have different needs in different types of organizations. Even saying home improvement is a vast oversimplification of the different types of customers and workflows that your technology is targeting. It's a huge area and I think our laser focus on this and the greater toolset around the financing, just to help them achieve what they need to, I think is something that is really going to be an advantage for us. I think others are going to nibble around the edges if they're not focused on this space specifically, but this space is mainly going to be for people who really go deep to understand the needs of the people running these businesses, in the home improvement industry, day to day.

Casper: In addition to the differentiation between small ticket online purchases, versus big ticket home improvement purchases in store, we're also focused on the top-end of the market in terms of merchants. If you look at the market breakdown of the home improvement industry in terms of total sales for Canada and the US, the big four, big five, big-box retail stores own 30% to 40% of market share. We're talking Home Depot, Lowe's—those types of merchants. In Canada today, we just launched a program with Home Depot called Project Loan. We actually have the majority of the enterprise-level relationships in Canada and our goal is to continue to grow our network for the US. This requires deep integrations on the enterprise side and the ability to sell into these organizations. Each one is custom, so the DNA of doing that is based on our organization. Companies like Square and Affirm are not focused there at all.

Agustín: You mentioned GreenSky; I believe they did an IPO not long ago, a few months ago. Is this something in your mind—to go public?

Michael: Yes, absolutely. I think acquisitions in our space are less likely than companies ultimately focused on the public markets. The public markets like stories where the company, the entity, creates recurring revenue that's countable and based on their growth continuing to expand over time. As a financial services and financial technology-oriented company, that's exactly our story. We are absolutely going to be focused on the public market at the right time in the business.

Agustín: The last thing I wanted to cover is around innovation. As a fintech, you need to invest in this area and manage it properly. How do you deal with innovation at Financeit?

Casper: Financeit is very dedicated to properly funding our tech and product team. I think one thing that distinguishes us from a lot of competitors is that we own our whole stack. From the merchant onboarding experience to credit decisioning to processing loans to funding, our whole operations team uses our platform and its tools to manage our business. Even servicing and collections is our own platform as well. If there's an innovative idea, we can build it once we've prioritized it. So this means that there is no hold up with any third parties in terms of dependencies. Owning the whole stack end-to-end really helps us do interesting things at a much quicker pace than others.

I would say that as ideas come in, and working closely with the customers in this industry, we're coming up with a lot of unique workflows and ways to innovate as the home improvement industry or the OEMs or the big boxes that work with them are looking to create distribution and channel entry points into lending. I think we have a lot more entry points and distribution points than your typical online lending startup. We give a lot of flexibility to the merchants that are really busy on the road all the time. We are looking to make this as easy as possible for them while they're on the road and they're extremely busy individuals, racing from house to house doing quotes, doing installs, getting teams set up. The last thing they want to do is deal with anything complicated. They just want it to work and to be easy and be on the go. We allow that through all sorts of different distribution channels.

Chapter 6 Sergio Furio

Company Name: Creditas

Location: São Paulo, Brazil

Creditas is a financial technology company that operates a digital platform which offers secured consumer loans. It uses credit scoring systems and borrowers' assets, such as home and automobile, as collateral to offer loans. Brazilians haven't had access to competitive interest rates, and Creditas was born to change this reality. Their goal is to ensure financial progress and help realize life projects.

Roles: Sergio Furio, Founder and CEO

> *Potential investors can be extremely helpful since they will ask you relevant questions about your business, you model, your strategy . . . they will make you think about things that you hadn't thought about.*

Agustín: You worked in management consulting before jumping into entrepreneurship. What sparked that change and why financial services?

Sergio: By 2012, I had been working for more than a decade in financial services, initially at an investment bank and later in management consulting. I specialized in retail banking, advising major banks in strategic planning, product segmentation, and technology innovation. I realized a new trend was coming, with more agile organizations being able to prosper with low capital needs and faster technology development. I wanted to be part of it and decided it was the time to make a change in life.

Agustín: How did your MBA experience help you to become a better startup founder?

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Sergio: I graduated in 2000 from ESADE's [Ramon Llull University, Barcelona, Spain] combined BBA and MBA program. I studied abroad at Cornell's Johnson Graduate School of Business and the experience there was personally life changing. Being in contact with executives from different parts of the world helps you get a broader picture of reality. Having said that, I don't think that this experience helped me in any specific way to be a better startup founder. I think that founding startups has much more to do with a personal desire to change things, an ambition to build things from zero. And that's not necessarily something that you get trained for in an MBA.

Agustín: What mistakes did you make when starting Creditas?

Sergio: Many of them. Starting by not listening enough to potential investors and what their investment theses were. Underestimating the amount of capital required and trying to bootstrap for too long. I was also much more do-it-yourself than focused on building a team, which ultimately leads you to slowing the pace of growing the company. We take one hundred decisions a day and most of them are wrong. We make mistakes all the time and that, to some extent, is good. The big mistake I've made was in 2015, trying to scale the company without having a well-formed management team. So, I think it was a moment of learning. It is not possible to scale a company without having a solid management team. We have lost a few months of work because we have not been prepared for that growth. The first step I took to form a management team was to hire a COO. Besides sharing the responsibility for managing and scaling our operations, I chose someone with complementary skills to mine, thus better balancing the leadership of the organization. After that, I progressively built the leadership team to take the company to the next level—risk/credit, analytics, business development, finance, product, etcetera.

Agustín: When did you feel you had a breakthrough with the business? How easy did you find getting investment for your project?

Sergio: Breakthroughs are easy to recognize. They typically involve a dramatic change in unit economics, a virality index that jumps to the moon. In our case, it was unit economics and our ability to significantly increase our take rates. Unit economics means the returns on each operation. While we don't focus on a profitable business while we accelerate our growth, having positive individual operations can help significantly to attract investors and ensure that it makes sense to keep growing. Life was hard until that moment, with far too many rejections when pitching the idea to potential investors. And then suddenly my life became much easier when the numbers were speaking for themselves. I believe what really matters is to find the path for your business, then the investors will come. Potential investors can be extremely helpful since they will ask you relevant questions about your business, you model, your strategy; they will make you think about things that you hadn’t thought about.

Agustín: You recently had a big investment round led by Softbank to expand your product offering and to enter Mexico. How are you going to use these funds?

Sergio: Rather than using technology to fix consumer problems like other traditional financial institutions are doing, we started out as a technology company that focused on rethinking the lending market in Brazil. That means we don’t outsource our code; we develop our own software—and since we will be launching new product offerings, we will need new platforms to scale properly. We will also ramp up use of automation technologies, like artificial intelligence (AI), that allow us to increase the efficiency of credit processes, and also sharpen our use of data analytics so that our algorithms can improve our prediction, customer profiling and decision-making capabilities. At Creditas we relentlessly focus on creating an amazing experience that provides efficiency and lower prices to democratize the access to low-cost lending in Brazil. With these investments, we plan to accelerate this process and expand our business model in order to improve the lives of the Brazilian population. The new investment round will enhance our resources to leverage technology and hire new talent, expand our product portfolio and the number of customers. With a team of 700, we successfully grew revenues 5x in 2018.

Agustín: Nubank has experienced problems finding the right tech talent in Brazil. Are you in a similar position?

Sergio: The number of software engineers leaving university in Brazil just can’t meet the demand, so it makes sense for local businesses to go to Europe or places like Argentina, where there are more programmers with the right skills. There are plenty of developers in China and India, but that introduces complexities for us around issues like distance, time zones, and their culture, which is very different from Brazil’s. We need to hire 500 people in the next few months, but if we can’t achieve that, we will hire 300. We will not die if we can not have as many developers as we’d like—if anything, we will run a little bit slower. Often developers want to have an international experience and companies end up losing talent for that reason. The Spanish office will give them that opportunity.

Agustín: How do you see secured lending evolving in the next decade?

Sergio: Because of the high price of unsecured lending products in Brazil, and the lack of credit history, secured lending makes a massive difference for the population. It cuts the financial cost by 80% in some cases. The banking industry has been traditionally focused on simple unsecured products, with high margins and low tickets. Now technology is changing everything. Technology is reducing barriers to entry, decreasing fixed costs, and zeroing marginal costs. As this happens, banks will reduce prices and erode margins. To compensate for that margin erosion, they will need to progressively move into lower-margin, higher-ticket products, and secured lending will play a critical roles. Customers are the main beneficiaries of these trends. All gains in productivity, reduced interest rates, digital processes are being transferred to customers in the form of better products and experiences. Moreover, there is huge potential for a higher level of indebtedness in Brazilian families, when the benefits of higher quality credit are taken into account. When people start seeing debt as a tool for personal improvement and realization of life projects instead of only a temporary burden, and have access to good credit products, the Brazilian personal lending market has the potential to grow dramatically.

Agustín: How would you describe the fintech scene in Latin America and Brazil?

Sergio: Latin America is one of the biggest opportunities in the world for fintech, specifically in lending and payments, where spreads are high and there's plenty of room for growth in volume. Specifically, Brazil has gone through an amazing evolution. In the last five years, a full ecosystem has been created, with both companies and investors at all stages. Several multi-billion-dollar businesses have been created and many more will come. More importantly, these businesses are causing real change in the Latin American population.

Chapter 7 Alejandro Cosentino

Company name: Afluenta

Location: Buenos Aires, Argentina

Afluenta is a marketplace lending company for consumer and SME (small and medium-sized enterprises) loans operating in more than one country in Latin America. It has built a very strong marketplace lending company that adapts itself to the different nuances of the Latin American markets. Its technology handles more than 8 million microloans in a very efficient manner, fostering financial inclusion and affordable loans to people that are often not included by traditional financial institutions.

Roles: Alejandro Cosentino, Founder and CEO

> *I realized people never understood why when they go to a bank to invest their funds in a CD it gives them so little, and when you apply for a loan they charge so much.*

Agustín: Hi Alejandro, thanks for the interview. Before we start, can you tell us about the circumstances in which Afluenta was created?

Alejandro: A lot of people associate the things we do with success, but it only comes when companies watch their maturity evolve. Companies survive when they manage to develop a business that is sustainable over time. In the beginning you struggle a lot. The big challenges in Latin America's economy are to stop depending on investors, whether it's institutional or local ones, and when you start having a positive cash flow. This happens because you have changing economies. Argentina in particular has an economy that is way more inconsistent than the rest of the territory. Not long ago, Mexico looked like the steadiest

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place; but now, there's been a change in the government that creates question marks; yet there you have the Latin American entrepreneur, who must have the flexibility to adapt to new territories.

Agustín: You said there are moments when companies depend on investors, and others when they have a positive cash flow. What's Afluenta's status?

Alejandro: There are more variables that you need to look at when you do this —the business model and its focus. It could be a completely local focus, or a focus on expanding the company to other regions, which has to do also with how you diversify your activity. We chose to have a regional company. We can't analyze a company from only one perspective, we must look at multiple vectors. The consumption segment isn't the same as the SME segment, one country isn't the same as other countries, it's not the same if you talk about finances, if you talk about e-commerce, remittances, or B2B services for banks. Everything has different characteristics. In the financial world the most complex thing is credit. And inside of credit, the most complicated is what we call personal loans. Afluenta started six years ago and has credit models tested in three countries: Argentina, Peru, and Mexico. When I say tested, I mean we have a high capacity of anticipation of what a client payment behavior is, which gives us the tools to set up a proper and competitive price. Having three business models, three credit models, and three economic models tested in the territory is a very important asset for us.

I think Afluenta is going through a time that, even if it spread out to new markets, it needs to keep scaling more on its volume where the company operates now in order to reach other countries, where the complexity in our business model for attracting investors will be different—that's why we're looking for investors who have a regional appetite. We're consolidating our operations first in these three countries. In Argentina we had positive cash flow from the first trimester of last year and I think we're going to have positive cash flow by the first half of this year too.

Agustín: Going back a few years, how did you come up with Afluenta? I believe you had another company.

Alejandro: Yes. To tell you a little bit about me, I've been working for 35 years, and I have more than two decades of experience in financial services. First I worked as a consultant for Visa and for banks. I found through experience that consultants often have a more structured vision of the fundamentals of businesses. When you start working in a company, many times the running day by day is a tree not letting you see the forest.

Later I started working for American Express. They are a financial services company with a very different product than a credit card. It was a great place for learning. From there I worked in Banco Rio, that later was bought by Santander Bank. So I worked in the biggest local bank and then in an international one, the one that did the biggest number of acquisitions in the territory. Then I worked at the Exxel Group, which was an LBO [leverage buyout], which taught me about financing companies and understand them as a trading product. I was in charge as Managing Director of all the technology companies in the group. I participated in the release of Musimundo.com and the digital aspects of some of the companies in the group. Then I started working in technology with some friends who created StarMedia. I was a founder and CEO of a company called Gratis1, a free provider of Internet services. We were the first ones in Latin America; we managed to have a million and a half clients.

Afterward, we created a company called VOY Music, it was an entertainment startup for Latin Americans, and I personally took care of the development of the whole business. It was difficult because people didn't conceive of streaming as a product. I was analyzing the whole entertainment business, particularly music. I thought streaming would be good, and I was right. We operated for almost four years. We had five million unique users, and when I saw that clients used streaming and that they started listening to music, I saw the business, and I proposed it to the record companies, but they didn't listen. I said, "These industries don't see that innovation is essentially what the client wants tomorrow." I realized that getting into a business too early was as bad as getting in too late. In the end we sold that company and its technology, and I left.

I thought then about what was going to be my next business. I did a very useful assessment and the result was Afluenta. Of course I was strong on financial services and technology, but we were far from the concept of fintech. We didn't have that word yet. I thought, "I have two skills that are important." At that time, I believed that financial services were always protected, and in that process of the assessment, I talked with a lot of my colleagues, to many friends, experts on different businesses, and everyone told me "forget about technology in financial services," and when I asked them why, they replied that the regulations were too complex and that the regulators in Latin America were particularly demanding and zealous. So, I looked around the world where companies were beginning to apply technology in financial services.

Agustín: You started Afluenta in 2010?

Alejandro: I stopped working at VOY between 2008 and 2009. During the whole of 2009 I looked, thought, talked about, and checked regulatory topics, and when I understood more about regulation, I said "this is possible." I decided to start working on the technology at the end of 2009 and into early 2010. The company got its first funds in June 2011. I did it pretty carefully, I had enough money to just think for a while and investigate and then invest. I've always thought that money is a delicate thing. I have that marked in my head. I think it was in 2001, when I was in Buenos Aires, I went to downtown one day, and saw a group of angry grannies with hammers, beating the blinds that covered the glass windows in the branches. It's an image that I'll always keep in my mind. Money is super important to people; and at that time, the regulator, which was part of the government, forced banks buy a lot of government bonds as the government was broke. The president used the banks to escape default, which eventually arrived; and when the government defaulted, it defaulted the banks. It defaulted the deposits, it defaulted everyone. It was chaos. When you have those images stuck to your mind, you think of money as something very delicate and something you need to be careful with.

The regulators can shut down your business. When I was doing research about this, I happened to be in Brazil, at a company called Fairplace, which was the first Latin American peer-to-peer [P2P], which got shut down in three months. The entrepreneur was arrested for a week and it was total chaos. I had seen some other peer-to-peer businesses around the world shut down in Italy and France.

So when I understood the whole regulatory aspect, I felt confident to go to my friends, to some people I knew, and ask them for their support in investing in a company.

I always worked in banks and I realized people never understood why when you go to a bank to deposit your money it gives you so little, and when you ask for a loan they charge so much. When I worked in a bank, I realized that the channels of distribution that they use are very expensive and hard to manage. They require a large amount of capital, infrastructure, and human resources.

When I was at Banco Río, before it turned into Santander, we launched Home Banking in 1996. In one month, we had the average number of transactions that a branch would have in a year. Of course, in the beginning there weren't many ways of doing operations, but it was almost like an ATM in your computer. You would get in and make a lot of transactions then. Later I saw technology speeding up and said, "People are going to use technology way more, as they did for telecommunications and commerce."

Agustín: Was it easy to get funds for Afluenta?

Alejandro: It was different from my previous capital raises; it was a different time. Even angel investors, individual investors who weren't professional, knew that technology was in everything. When I said I was going to start making loans through the Internet, and that I was going to offer the investors the possibility of funding it, they didn't think it was completely crazy. Many things had started to happen in the online world and technology transformed a lot the different industries. So maybe someone who believes in you, who believes the idea is good, that the story is nice, that has funds to invest, invests. Therefore, I think that was a transformational change in our markets.

Agustín: You can see that, on a global scale, it's easier to invest and way easier to get investments from 2010 on, more or less.

Alejandro: It's interesting what you mention. For example, now, in Argentina, there are many angel investors, but it lacks the investor type required for these businesses to scale. To me, the maturity in a market depends on having the capacity to fund small startups, make them scale, and expand it.

Agustín: I noticed in your profile that you're related to a couple fintech organizations.

Alejandro: Yes. In this assessment process, talking to some colleagues from other countries, I realized that it was going to be very important in a newborn fintech industry having a relationship with the media; and how entrepreneurs had to group into organizations, because the regulators don't like talking to a company. The regulators like talking to organizations who represent the cluster, and in this case the cluster would be fintech. I bonded with many universities in Argentina, Peru, and Mexico. We also participated and worked with a lot of journalists, helping them understand how this industry works. We participated in the creation of the Collective Funding Association, which links P2Ps in Mexico; and we have also founded partners of the fintech association in Peru. Besides those, I'm a founding partner of the Fintech Association in Argentina, and I'm the Argentinian representative inside the Latin America Fintech Alliance that puts together the fintech chambers in Latin America, Spain, and Portugal.

Agustín: How did you deal with the regulators?

Alejandro: We had to contact the regulators, and we had to educate them too. But the regulators in different countries have different priorities. I particularly worked with the regulators in Mexico. Mexico is the first country in the world to have a fintech law, which include all its different categories. It was well made; I played a big part in educating the regulators when we did *cloud lending*. I explained to them how it operated. I must have gone to talk to the regulators more than 20 times in three years. They wanted to learn, and that's fantastic. When a regulator wants to learn and understand, they realize it's going to help the citizens. The Mexican regulator wanted to create competition in the sector, and if there's more competition there are products that lower their prices and there's an expansion in the access to credit. From the Peruvian side, the regulators fear fintech mostly because of fraud, so they are more careful. In Argentina, the regulators were looking for financial inclusion, because the credit rate on the Argentinian GDP per capita is quite low. So when I started to understand that and we started to have contact with the regulators, we showed how fintech helps financial inclusion, that it generates more competition, that these companies can support credit products that banks don't feel comfortable giving, and that financial companies with higher interest rates can give, but don't have the technology to do the product distribution into the widest areas.

Agustín: What did you learn from the regulators?

Alejandro: It was a very interesting process. I learned a lot by talking to the regulators. I learned a lot also about how companies like ours needed to behave and what things they have to do. The regulators are always going to try to protect the clients, but also the regulators try to develop industries, segments, and I clearly see what Mexico was doing. It wanted to be the leader in the territory. There are countries that have settled on solid financial institutions, like the Swiss, but Mexico said, "Technology is coming, we're going to have a legal framework and we will boost investments in Mexico." And that's what's happening. Out of a hundred startups that come from outside Latin America, 76% of the companies go to Mexico first. So, for me, fintech is a topic that is going to have geopolitical implications, because you're going to need capital and talent. You know there are a few centers that fight for the leadership in fintech, like Singapore, Shanghai, London; that has been a big entry point for capital throughout their history. New York is a very important financial center because of the size of its domestic market, not because of its ambition of being a world leader. If you look, in Africa and Latin America, there is no such leader. I realized that regulators are trying to improve the financial services for their citizens in each one of the leading countries. It isn't something that they can ignore. If there's a regulation, there are clear rules, and if there are clear rules more companies want to be there. The regulatory arbitration starts to happen. The companies go to the countries that provide them more operational safety. Nowadays, from one geography you can provide a service in other territories, taking advantage of regulatory advantages, which produces in the short-term regulatory arbitrations.

Agustín: You're doing a lot of work in Latin America. I'm curious about why you chose Peru, because it's not a traditional market.

Alejandro: What you're saying is very interesting. In Argentina you can see that there's a lot of change and instability. Mexico has floating change too, quite volatile, though within bounded ranges. Peru isn't volatile. It's pretty stable. It also has a financial inclusion deficit, three banks control the market, there is low credit penetration for the GDP. So we started checking if we could expand into a medium-sized market, and we wanted to prove to our shareholders, before we went for a new funding round, that we could successfully implement a market with little money. When I say little money, I mean a market where you invest a quarter of what you would invest in Mexico.

We wanted to have a footprint of being in six countries that are 98% of South America. We still need Colombia, Brazil, and Chile. And then we can think about new business models, where we associate, for example, with a financial organization, or with an investment group, maybe in Central America, or maybe we can open up in a different country, with a different system, and share ownership of the operation with partners who can help us with local aspects of the business.

Agustín: When you provide a loan, do you get involved in the financial aspects?

Alejandro: We connect the parts. We do not participate in the economic transaction. Technically we offer a service to the investors. That service is to find credit requests with good characteristics and low risk, so the investors can invest and get good performance.

Agustín: When you think about using a new business model in new countries, is it selling technology?

Alejandro: Or becoming partners. We also receive proposals from different markets where we're still not thinking of landing, so, let's say, we can make the business work together. In that case, we put together the technology and they put up the capital. The technology we develop is pretty evolved. Since the technology we have is very evolved, and the model very developed, we can use it anywhere around the world.

Agustín: Just to close off this interview, what do you believe are the strong points of Afluenta's technology?

Alejandro: First it's 100 percent online transactions. Second, there's what we call digital onboarding, but knowing the online client to comply with KYC regulations, to avoid fraud and be able to make a credit analysis, a precise credit assessment is something very few companies do. This is because, to make a person's credit analysis, you must run some math models to know if a client's payment probability is one that you can tolerate. Third, you also need to analyze the source of the funds from the clients who want to invest, because of the money laundering threats.

To generate a marketplace where the parts can interact is pretty complicated, because an average credit of ours is funded by 400 people who lend $5 dollars each. We've had clients who requested big loans that were funded by 3500 investors, which is the reason for the credit analysis process, and the distribution process can be complicated technically.

Afluenta manages about five million loans, tiny loans, because each one of those grouped loans make bigger ones; but when it comes to the technological complexity, it is not trivial. Estimate that the biggest bank in Argentina must have 750,000 loans. We have a technology that manages five million loans. A loan of $1,000 or of $5 dollars, from the point of view of the mathematical complexity and the infrastructure, is exactly the same.

And last, we manage the collections process. We have tools to perform direct debit, collecting with different technologies to pay back to the investors, so they can reinvest.

Chapter 8 Christoph Rieche

Company name: iwoca

Location: London, United Kingdom

iwoca provides small business credit finance services across Europe. It offers finance for businesses for various purposes, helping SMEs (small and medium-sized enterprises) expand by offering more flexible lending criteria, and a short and straightforward application process, ranging from bridging short-term cashflow gaps to investing in stock opportunities. It brings hope to thousands of SMEs that require funding, and have provided loans to more than 25,000 European businesses. They have built a great technology stack that allows them to provide loans fast and at competitive rates.

Roles: Christoph Rieche, Cofounder and CEO

> *The fastest transaction that we have done from a cold start was for a small business that applied for financing with us and within three minutes of starting the application had funds credited into their account.*

Agustín: I hear an accent, where are you from and how did you get started with fintech?

Christoph: I'm German and I grew up there until age nineteen, just after high school, and then moved on to study first in French-speaking Switzerland to learn some French, which was a very exciting and challenging period. So I've never been afraid of cold water. I didn't really speak much French at all, and the entire university was taught in French. It was everything in French. So it was very, very cold water that I was diving into just after school. Then I moved to London, finished my studies at LSE [London School of Economics] and I moved into finance, and worked for Goldman for seven years. I think over that

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time, I've always been intrigued by the idea of setting up my own business, taking my fate into my own hands. I've always been interested in finance. I thought about the different opportunities that could be in finance, for my own company. In 2011, there was very little disruption in finance from an online perspective. We had seen massive disruption in e-commerce, video streaming was well underway, travel had been completely disrupted, but you didn't really see that much happening in finance at that stage, which is surprising given that it's pretty much the largest industry, and certainly within industries like SME finance.

Agustín: Did you believe the SME sector was worth pursuing?

Christoph: Yes, a massive industry, that I thought was really ripe for disruption. I felt my background in finance made me a better entrepreneur, having a slightly bigger edge than if I had gone into e-commerce, where I had very little understanding of anything. I looked for opportunities in finance and looked at different kinds of things from asset management, to lending, to foreign exchange payments, and I came across small business lending. Out of all the things that I looked at, that was the one that I was most passionate about, because I felt it was a very underserved segment, structurally underserved, not just during or after the crisis, but it's a segment that has never really been well looked after by the banking industry.

The SME segment wasn't getting the attention that you could see at the time in other segments. It was a structural opportunity, a challenge, that was there to stay for a number of years and that I could move into as a pioneer and make a real impact in using technology to reduce friction and enable access to finance, for a very, very large segment, that had pretty much been hung out to dry by the financial sector. So with my microeconomic hat, I felt that not only could I have a really meaningful impact on an individual business owner, to have the business owner access financing and then go on and do great things with it, but to do this a million times over. I would be able to put so much liquidity into that underserved market, that I would create a lot of economic growth by enabling much more business activity than would be possible without that access to financing.

So these three things together: a really structurally broken market; a great purpose in helping small business owners go on to do what they want to do and with my micro hat, having a real impact on the livelihood of many, many people across the economies—and not just the business owners, but also the employees; then, finally, using technology as an enabler, was ticking all of the boxes that I subconsciously had put in my hat. And then I went for it.

Agustín: Why entrepreneurship? You had a safe job, a good job, but how did you come up with, "I want to have my own company?"

Christoph: That's a very good question. Working for a large organization, I felt that I was a relatively small piece in a big machine, but that I was incredibly specialized in what I did and that the knowledge that I had was quite difficult to transfer to anything else on a domain-specific basis. I felt that I wanted to craft my own business, more than as a worker bee in a very large business. Being in a large company, where I didn't quite feel that I was passionate about the purpose of my work, or going to another large corporation in a different industry, just didn't gel with me as a good idea. I couldn't quite imagine working for a big corporation and doing marketing, for example, because I felt my knowledge was so specialized that I would never be able to get to a level where I wanted to be. Initially, I would start from zero. I didn't see that I had an edge in these large organizations. I realized that I was unemployable anywhere outside finance, and then at the same time I was also really, really keen to build something myself and to really take, as I said, my fate into my own hands. As a solution, it seemed obvious to me that I need to set up my own company, to realize all of this.

Agustín: Many times people talk about the SME market being underserved. In your opinion, why is it underserved?

Christoph: It's underserved for a number of reasons. Reason number one: it's very hard to serve efficiently if you haven't built bespoke technology and processes to do it well, and banks haven't made that investment. They have focused their investment on processes that are more consumer-related, and consumers as an entity are relatively simple to serve. It's basically one consumer, one credit score, one entity that applies, and one entity that is served. A small business, relatively speaking, is way more complex. You have an entity that has directors, shareholders, that has a certain activity that can vary in size. Unlike personal customers, a business has got relevant data such as cash flows, balance sheets, profit and loss statements, and might operate in a thousand different industries. So, it's a hugely complex entity to understand and to serve, there might be multiple people in that entity that a bank might want to speak to or have contact with. The systems that they've built, haven't been built to make this service entity as efficient as they could. So that's one element; they are hard to service and so it's very costly for banks to serve them, onboarding this entity and then processing information when they're, for instance, applying for credit. There are multiple different layers, and then bringing back the decision to the small business and then managing the ongoing relationship are just very, very costly to start with.

Then the second reason is they are also high risk. A company that turns over a hundred thousand pounds or euros per year has a very, very different and higher risk profile than a medium-size company that turns over twenty-five million in revenues and makes five million in profit every year and has done so the last five years. In a world where banks are already leveraging their balance sheet, they reduced exposure to the highest risk bid, hence small businesses were certainly at the receiving end of that decision.

Agustín: You mentioned that you quit from a highly specialized job into a founder/CEO role. I was wondering what that was like for you.

Christoph: It's actually been a little bit like the start of my studies that I alluded to, in that it's just jumping into very cold water. Coming from something that was highly specialized, I was able to use my general soft skills in managing projects, which was of course a skill that I learned in the seven years at Goldman, and served me really well, along with the persistence and the ability to work under a large amount of pressure. But other than that, it was literally about surviving. Starting your own business, having to deal with everything and nothing when the water was very cold—I was lucky to learn to swim. One of the best decisions, I guess, that I'd made early on was that I wouldn't set up the business just by myself. So after setting it up, incorporating the company, having a name and feeling that I had an idea that I wanted to pursue, I was looking for a cofounder and within weeks I was able to track down, meet, and then convince James Dear, my cofounder, to join this adventure.

Agustín: That's a really good point. What did you look for in a cofounder?

Christoph: I was looking for someone that I broadly shared values with, that spoke my language, and that I felt shared the same core values. I felt intuitively that we have a common foundation that we can build on—that was very important to me. The other bit that was important to me is that we had a high degree of complementary skills. Coming from my prior role, I actually had very little knowledge about anything that was related to building technology. While I'm relatively quantitative, I was certainly not a quant [quantitative analyst]. I knew from my former job how quantitative people can give big value and a part of our value proposition was building the technology to be able to make better decisions, and I found I was actually quite weak in those two areas and so I was looking for someone to complement me on that.

Agustín: In terms of the growth of a company, when you started you were just two people and now you've grown the company to more than a hundred employees.

Christoph: Yes, so we're actually just under 300 now.

Agustín: How did your role change and how did you find that personally?

Christoph: My role keeps on changing, really. I think that's the beauty of building a company. The challenges are always the same and yet your role in tackling them is changing constantly. When we were two, I was filling in forms to open bank accounts and looking for office space as my first actions, while doing some high-level user research and speaking to some industry experts to figure out whether that actually makes any sense, or was total nonsense. As you grow, you start with having a small team, so you do all of these things with a little bit more resources and new tasks pop up; so I would do our finances, I would do our fundraising, I would do our marketing, I would write content on the website, I would also underwrite our customers, I would account manage our customers—I've done all of those functions. I would recruit people, for any kind of function you can imagine except for writing code. Although James tried to teach me coding in the very first weeks, we realized that I simply didn't have the time to really get into it. Over time, you get more people to do these things and then over time they do them better than you do. You grow with a company, and take over more and more responsibility to do things better, at a higher level.

Agustín: What are your main responsibilities now?

Christoph: They change, is the answer, they vary over time, as some challenges are bigger at some point than others. There's no clear answer to what it will always be. After closing financing to raise more capital so that we can continue to grow, a large chunk of my time has been going toward fundraising and that generally has been absorbing most of my time and mindshare. After having raised financing, my focus shifts a bit toward all of the challenges that come with deploying that financing. I'm spending much more time with our operations and customer acquisition teams. One element is to look at the most important project that I can get involved in where I also add value. For example, I wouldn't add much value in writing code, that hasn't changed, so I would probably not get involved there. But in other topics related to our customer position and operations, I can come in and see where we can do things better. My role is evolving, it's changing, and generally goes with the biggest priority of the company, insofar as I feel that I can add value in implementing that priority. For the last few months, it was very much on the fundraising side. Over the next few months, it will be much more on the customer facing, customer acquisition, and operations ends, and thinking about completely new opportunities and markets that we can be attacking.

That's more on the functional side, and then a vast part of my time is just speaking to people and connecting with people within the company and making sure that we're all going in the right direction. I'm kind of a moving communicator if you wish, across teams that already communicate with each other—but because I have this global view on everything that is happening in the company, I still feel that sometimes I know a little bit more about what one team does versus another one and I can bridge that.

Agustín: A company sometimes is like a family, so there is miscommunication and, at times, a general lack of communication.

Christoph: Yes, you can never have enough communication—and when you're small, you think you're communicating enough. When you get bigger, it becomes a much, much bigger challenge. But even small companies feel that they're not communicating well enough with each other, so as a company grows bigger, that gets to be a bigger challenge.

Agustín: Would you mind explaining the iwoca offering?

Christoph: In short, we're providing financing to small businesses. Our financing is often used to bridge cashflow gaps that these businesses have when they have to pay suppliers or when they have to make their month-end payment to their staff and are waiting for one of their customers, or several of their customers, to pay their invoices; they have a cashflow mismatch. Many companies are using us to bridge that for a short period of time. Another use of our financing is for companies who are making stock purchases and then our financing enables them to buy more stock and therefore increase their revenues faster than they would organically. Then the third use case for our customers is to use us as a one-off investment support. For example, a restaurant would use our financing as an add-on to the cash they have and the cashflow that they generate, so that they can make renovations faster than they would be able to do if they had to save for a year or for two years to have the funds to do the renovation. But, in essence, the millions of different small businesses all do different activities, all have millions of reasons to use financing, and we build a very straightforward product for them that is very flexible to tap when they need it to either, as I said, bridge cashflow gaps or make investments.

Agustín: What technology did you utilize in order to assess companies and what sources of data did you use?

Christoph: The entire platform that we've built has been based on software that we have developed in-house. We are using very few external components and that distinguishes us from many other lending companies. The fastest transaction that we have done from a cold start was for a small business that applied for financing with us and within three minutes of starting the application had funds credited into their account. That gives you an illustration of how well the processes and technology that we've built are linked, to be able to follow all of the different steps that are needed to: understand a customer, make a credit decision, passing KYC [Know Your Customer] and knowing customer requirements that include everything from regulatory requirements to triggering funding from our bank account to their bank account, thereby making this process completely seamless and frictionless. It's a great illustration of the technology that we've built.

In terms of data that we're using, for different sizes of businesses we use slightly different data requirements. As you can imagine, the company that turns over two million pounds a year that we might be able to provide with two hundred thousand pounds in capital, has slightly higher requirements than a company that turns over fifty thousand per year that we might give two, three, four, five thousand pounds in capital. Generally, the data that we're looking at is credit data that we get from credit reference agencies, both on the company as well as the main stakeholders in these small businesses. We complement that with bank transactional data that we are receiving through electronic integrations, either with banks directly or soft accountancy platforms, or if customers wish to do so, they can upload bank statements to our platform, and we would then read and process this information in an automated way. In terms of innovative data services, that could range from integrations with eBay or Amazon, or payment processes that enable us to get a more granular view on someone's activity, if they're trading in e-commerce, for example.

Agustín: I recognize that you have won several awards. For instance, "Responsible Lender of 2018." How do you achieve that and what does it mean for you?

Christoph: The awards when you are a small company are fantastic confirmation that you are doing something special within the industry. As a small company, you don't really have very much. Large corporations, they have their brand, they have millions of users, and everything has been proven and tested. When you are a very small business, no one knows you, no one knows the benefits of your products. It is very hard for them to see benefit versus a larger company and so these awards are really a fantastic way of showing people, "Look, we're not just telling you that we have a product that's interesting, but we've also won a bunch of awards from people that looked at many companies and they felt that we have something special here." It is very important in particular for small businesses to win these awards to help demonstrate to the external world that you do have something special that people should take a look at. Internally for us, the founders and the entire team, this is confirmation that we are on the right track in building up our product. We've been very, very proud of every single award that we have won and celebrated each one. To answer your other question, it's incredibly important to us to be a responsible lender. I started the company with the objective of helping small businesses access financing, to go on doing what they love, to reduce stress and be able to make payroll or pay their suppliers. These can be, for a business, life-threatening situations if you cut off your main suppliers or if you have to miss making payroll. These are things that are very, very common in small businesses. I've been at this level a few times over the last years where at month end, you look in your bank account and you say, "There's not much left," and you really have to manage the cash balance to be able to meet all of your month-end liabilities. We are all about giving small businesses opportunity and helping them to run their businesses better. So responsible lending is incredibly important to us.

Agustín: When you look at the future, I wonder, where does iwoca fit in? What do you see as the next expansion challenge?

Christoph: On a very high level, our mission is to finance a million small businesses, which seems an outrageously large number of companies that would be financed in a few years' time. To give some context, I would roughly estimate that any large national bank has probably financed about a hundred thousand businesses. They generally have a million small businesses that have bank accounts, but really financing, they may have ten percent of that. So, saying we want to finance a million businesses is an illustration of the vision that we have to become a real champion for small businesses at a scale that very few banks have. That's the direction that we're taking, by increasing our footprint in the markets that we're operating in. Our core markets are the UK and Germany. We have a small operation in Poland that we're looking to grow, but in two out of the five largest economies in the world, we're trying to build really significant operations, that serve hundreds and thousands of customers in each region. I do think we're going to expand further into other regions, but it's coming as a second priority from today's perspective. We have a lot to do in the UK and in Germany to rise to the same level in terms of scale as the largest banks in these regions. We're not looking to consumer lending; we're not looking to become a universal bank; we want to be the bank and the provider of financing to small businesses, but within our segment, we want to be leading.

Agustín: If I can close with a final question, we started with your history working in a safe highly specialized job. If there are people that are in a situation similar to the one that you were in at that time and they want to start a company, would you recommend going for it after all these years that you have been working on iwoca?

Christoph: Its worked really well for me. It's been a fascinating ride, but it's also bloody hard. I don't think it's for everybody. I was lucky in many ways that the opportunity, the idea that I had, could make it to this level, but there's a huge amount of luck in really figuring out a product that works for customers and that can scale. It's not the rule, it's more the exception to the rule that it works. Many times, we've gotten lucky, and obviously we've put in an enormous amount of sweat equity into this and that comes at a very high price. I would recommend it to anyone who is crazy enough to go for it, because it's an incredibly intense and, for me, it's been a really rewarding experience. I wouldn't change it for the world; I would do it again. I think people have to follow their passion a little bit more. If they're passionate about building a business and are really serious about it and giving 300% for a very long period of time, then I would definitely go for it, but it's anything but an easy ride. My advice would be more to follow your passion and do the things that you love, because generally doing the things that you love will make you happier. You're probably also better at those things and there is sort of a reinforcing loop. That doesn't necessarily have to be building a business, it could be many other things.

Agustín: Well done, for all of the work that you've done so far. The loans that you give out help the community and so it's really good to see companies that can actually do this.

Chapter 9 Conrad Ford

Company name: Funding Options

Location: London, United Kingdom

Funding Options uses modern web technology to help SMEs find the right financing by matching their finance needs and circumstances to finance providers based on their differing eligibility criteria. Funding Options has won several awards, including winning the *Banking Technology* magazine global award, and has been awarded £5 million by Banking Competition Remedies Limited from a fund set up to boost the quality of the financial services available to small businesses in Britain.

Roles: Conrad Ford, Founder and CEO

> *The life of a startup founder is, basically, constantly being humbled by your lack of knowledge.*

Agustín: How did you get started in financial services and how did the idea of Funding Options come about?

Conrad: My career got a slow start. I spent a lot of time after university not doing much at all actually. I spent a lot of time traveling. That was around the time of the year Y2K bug. At that time, everyone was panicking about the Armageddon that would happen when the clocks hit the end of the millennium and computers would fail around the world. There were lots of contract jobs available at that time, so I spent a number of years basically traveling in the winter and working in the summer in the UK. I didn't get my first permanent job until I was about 27, and I decided to get a qualification as a management accountant, and the only way I could maintain my living standard was to go into investment banking, where the salary is, of course, much higher. I took a

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role at UBS investment bank, which at the time was called Warburg. I worked there for a few years, qualified as an accountant and managed to transfer across to a job with a title that had strategy in it, and gratuitously, because of that, I made a very important career move. I managed to get a job in the group strategy team at Barclays in the early 2000s and I worked in the group strategy team for a number of years. That was a really exciting period in banking—it was the run up to the global financial crisis, so at the time, the major banks were getting increasingly ambitious in their global aspirations and I did all kinds of exciting things.

Agustín: What sort of things were you doing there?

Conrad: So, for example, I was involved in buying a bank down in South Africa and I spent a few months down there. I was supporting their board in terms of their high-level decision making, and, of course, that's a great environment in which to get a general understanding and overview of financial services. In terms of financial services expertise, I am probably more a generalist than a specialist. I never worked up through one of the divisions. I actually went in at a group strategy level, but I have a good enough understanding I think, of most areas of banking and financial services. I then decided that I needed to get general management experience, so I needed to get out of strategy while I still could, because many people get stuck in strategy through their lives, as they specialize too much. Then probably the most important business job I ever took was when I moved into a very small unit of Barclays that was really fintech before fintech was a word. What they specialized in was selling technology solutions to small businesses and it was actually a super successful business. We were selling services like credit control software, accounting software, to small businesses that were customers of Barclays. In the small number of years I was there, we grew our turnover I think, from £10 million to about £30 million during the global financial crisis. That's where I actually learned a real scale-up role. I was the COO, so most of the business reported to me. I learned what it's like to actually rapidly grow a business, which is one of the nicest challenges to have in business, but it is a big challenge indeed. That was my time at Barclays. The intention had been to then move back into the group and take a much bigger role, in a much bigger division. But actually, by that point, I got a taste of freedom and I really had no appetite to go back into a large organization because we'd had a lot of independence in the Barclays unit that I was in. I didn't miss the politics, the bureaucracy, and all those negative things you have in a large organization. I then had what I call my mid-life crisis, and I decided that I wanted to actually go off and do something a bit more exciting with my life—and that was the genesis of Funding Options.

Agustín: When did you start thinking about creating a startup?

Conrad: I began to think about doing my own business in the early nineties, but didn't actually get around to it until about 2012, where I got serious about Funding Options. Funding Options itself is probably a product of the market conditions I was in, because at the time, access to finance for small businesses was a major, major, vertical and economic issue. If you think about 2012, it was probably the peak of the impact of the global financial crisis on SME [small- and medium-sized enterprises] lending. The financial crisis had hit around 2008, that's probably the worst time for SME lending, when the banks were really in cash conservation mode. In terms of the idea of the business, it just looked like the right business, at the right time, back then in 2012.

Agustín: Did you have any experience in lending, from your roles?

Conrad: No, I didn't, obviously I'm a qualified accountant, so on a technical level I do understand lending, but numerous times through my time in running Funding Options, I discovered that I knew less than I thought I did about that particular area. But that is the life of a startup founder. You're constantly learning that you know far less about an area than you thought you did. I knew less than I thought I did, but that's equally true of marketing for example, so the life of a startup founder is, basically, constantly being humbled by your lack of knowledge.

Agustín: How did you go about it, with your business plan, et cetera? How did you take the idea forward?

Conrad: Yes, so I didn't have the option of bootstrapping, I had mortgages and all the other commitments that you get with your emerging middle age. So I had to raise money before launching. I was fortunate in that I had a couple of anchor investors—strong anchor investors. The first was Alan Morgan, he's a very, very, well known fintech angel investor. He has some extraordinary companies in his portfolio, he's put the capital into some of the foremost fintechs in Europe, first round investments, including Funding Circle. He was one of my original investors and remains on my board, so I'm still very close to him. The other one was Rick Traynor, who's a successful entrepreneur. I was fortunate that my network included some wealthy angels that clearly thought I could potentially pull it off. I think if you don't have that network, it's tremendously hard to get pre-launch funding. You're much more likely to have to get some market traction before you can raise money, so I was lucky in that respect. That's how I got off the ground, and as you alluded, yes I did write a business plan. I probably overdid that by the way, which I think is my strategy and accountancy background, because it is true that no business plan survives first contact with the market in startup land, which was a humbling experience I had in the first three years. But I did have a business plan. I know that none of it turned out to be true. But I guess the one positive thing is that somewhere in the business plan it was written, "Money Supermarket for business lending." That was a phrase that roughly speaking turned out to be true.

Agustín: You mean the main pillar of Funding Options remains the same?

Conrad: The market is the same, and broadly speaking, the aggregator offering is the same, but everything else is different. I imagine every single number in the business plan turned out to be off by a factor of ten. But, I am lucky that fundamentally I chose a good market and a good proposition, because that has been successful—though it took a long time to get right. But I think a really important lesson that I took from that is that, in many ways, if you were that stellar, A-rated player, rising up through a large organization business strategy, it's actually very easy to massively overestimate the value of that skillset in planning a startup. You hear about the lean startup methodology and finding product fit and customer development. You hear about these things and you've got a little voice in the back of your mind saying, "Well, I'm sure that's true of most people, but I've got strategy background," so you do have an inclination to do too much desktop research, too many surveys, too many things that allow you to avoid actually getting a product in front of the customers and testing in the real world. I had a difficult first two years in Funding Options, I can tell you that, and the root of that is I overestimated the value of my background. The foundations that I had in strategy and accountancy are not particularly valuable in the very early stages of the business; they become a lot more valuable later on.

Agustín: How was the experience of managing people, because strategy people don't do a lot of people management, do they?

Conrad: I did, in fact have some experience from a people management perspective. In the smaller fintech division I worked in at Barclays, I had something like fifty people working for me, which is a bit less than I have now. In that respect, my people management skills are by no means exceptional, but I had a rough idea how to do that, how to do performance management, et cetera. But I think the most important concept is that running a large organization is like running a super tanker. In the fintech world, we tend to talk about the negatives: they are lumbering, hard to steer, hard to pivot, which are all true. But it's easy to forget that they also have tremendous momentum as a supertanker does, and the path of running a large established business is basically like running a supertanker—it's small tweaks of the course. Decisions that I didn't realize at the time, actually have an extraordinarily high confidence. For example, if you're making a pricing decision, if you're increasing your prices 10%, generally speaking you've probably got an 80% chance that it's going to have the impact you expect in raising revenue, because you've got plenty of data and tests and surveys you will have run beforehand. Whereas running a startup is completely different. You just don't realize that you have a huge boulder in front of you and you end up trying to make it roll. Once it's rolling, it's got a momentum, but that first step is really, really, hard and you've got to be extraordinarily agile. The lean methodology absolutely has to be used and you really can't be arrogant enough to believe it doesn't apply to you, because it absolutely does.

Agustín: Did you get a minimum viable product out quickly with Funding Options?

Conrad: I think it was approaching, a year before I actually first got a product in front of the customer, and, in retrospect, I could have gotten a product in front of the customer within a week. It wouldn't have had any technology behind it, but it would have real customers. It just would have had just me processing every request manually at the back end. If I ever start a business again, I would 100% go down that customer development route. Obviously, with a caveat, of course, in financial services that if what you're doing is regulated, you can't do it without the licenses et cetera. But you know, things are slightly different in the fintech world. What you absolutely shouldn't do is build a really complex product, over a period of a year or two and then launch it, because it just doesn't work that way. So the first couple of years of Funding Options were, well let's call it "finding product market fit," is a nice way that people put it. Which brought me to about the end of 2014, when I knew that the market was there and I knew the proposition that we needed to deliver. Ironically, given that we'd actually reached that stage, that was probably the shakiest time in the history of the business because, by that point, my existing investors' doubts were growing rapidly. But my confidence was growing, just at the time that their doubts I imagine were growing. The key point is that by that point, we had a proposition that was going to work and the market was big enough. So, fortuitously, that was probably about the peak of the fintech bubble. At that point, I managed to raise a couple of million pounds in investment. I think in the current market that would not happen. I would have been able to raise a minimal amount of funding, given the progress that was made, but that happened to be the right time in the market and really from then it's been an extraordinarily positive story.

Agustín: When you mention the progress that you have made, how was it judged? Number of customers, revenue?

Conrad: Well, actually, any of those, but revenue of course, is the one that matters in the long-term. Our revenue has grown genuinely, exponentially. Exponentially is a misused term, but our revenue grew by more than 250% last financial year, and more than tripled the year before. One statistic that brings it to life, from the time when we raised two million pounds—in the two-year period after that—lead generation grew by fifty times. Lots of things came together at once, and it was a really a golden period for the business and, basically, we've got acquisition right across a number of channels. We began to get fulfillment right. What's really happened for me is that, in that period, we transitioned from startup to scale-up because now my daily problems are much more focused on optimization of what we have, rather than fundamentally trying to make something work that's not working. Things that really might change for us is the business and the lending segments. That means the credit cycle, which is not talked about enough in the alternative lending segment. But, essentially, we genuinely went through a period of exponential growth, year-on-year growth, for a number of years now, which is a really exciting thing and is exhilarating, because you just feel you've got a following wind.

Agustín: You mentioned that in your experience in Barclays, you had the challenge of managing fast growth. What are the things that you really need to control when you're growing fast?

Conrad: It's 100% a question of focus and prioritization. The hardest thing about being a CEO of a startup or scale-up, is that there are ten things you really have to do but you generally come in and do three of them. It's the decisions about what you can't do and the things that you can't spend time on, that is the hardest bit. We have some really bold plans; we have some bits of the business that feel like they're broken. But, ultimately, neither of those get done, when you've got three things that are more important to get done in this quarter. I think that's the fundamental challenge. It's really the constant tensions in the leadership team, because we all have subtly different views around what that is. It's that bits of the business feel unloved, because they feel that their problems are not being taken seriously and fundamentally that's one of the reasons why being a CEO is a very lonely job, because you have to make the decisions. You have to make decisions in terms of prioritization and focus that inevitably leave as many people unhappy as they leave happy. I think above all else you have a tiny amount of resources. In our entire lifetime, we've spent a few million pounds and, frankly, a bank would probably spend that on getting some PowerPoints done by McKinsey. I've actually built a business with the money that they would spend on PowerPoint slides. It is an extraordinary test of your discipline, and one that I don't claim to have cracked by the way. It still causes enormous problems to just force yourself to be disciplined and shut down the project that you don't have time for right now.

Agustín: What's your relationship like with investors?

Conrad: We've never had a shouting match in the boardroom. I've been in companies where there are shouting matches in boardrooms and it's really incredibly unhealthy when that happens. It really is a sign of a death spiral. I think at the heart of it is that I'm honest. What investors don't want to hear is essentially a rose-tinted view of the world. They want to hear that you understand that there are challenges to the business and there are threats to the business and that some things are not going well and some things are going well. My relationship is good, and I think at the heart of that is honesty. Something that really rang true with my experience was, essentially, if you see your investors or your board as a necessary evil, then something is going wrong. Because, fundamentally, you're actually meant to find their insight useful and find their support is important to your business. I think that's why having an open dialog with them, just telling them about the good things and the bad things, is how you manage that relationship.

Agustín: Can I ask you about how you see the lending market developing? Where's it going and how will Funding Options grow in the future?

Conrad: Firstly, I think in the UK, it feels like we're beginning to enter overheating territory. I think this time around, it is very different from the financial crisis. The fundamental difference is that this time bank lending is looking very sensible. If you go back five years, bank lending was way too constrained; if you go back ten years, bank lending was way too open. But we're now in Goldilocks territory with the banks, it's not too hot, and it's not too cold. They've definitely come back into the market, but in a sensible way. But I do think there's probably an oversupply of non-bank capital trying to lend in the market at the moment and I think the cause for that, of course, is the desperate chase for yield. My take is that we're probably running toward the end of a credit cycle and that's probably the biggest factor that's going to dominate life for anyone in the lending markets over the next two or three years. If you look at consumer financial services, the purchasing is now dominated by comparison sites, because they have an inherent economic advantage in customer acquisition. I think we will see that happening in my market, which I think is a positive for the business we're building. It's just at the moment, that you're actually seeing there's too much private equity, too much venture capital in our market, which means that lots of nontraditional players are simply spending too much money and wasting too much money. When that money flows through, I think the aggregators will be strongly positioned.

Agustín: In terms of competition, how are you positioned with other comparison engines for business funding?

Conrad: We have direct peers, but we are bigger than all of them combined. We don't really see any of them as a current threat, at least certainly in the UK. The biggest, real source of competition and challenge is the traditional way of doing what we do. There are literally thousands of traditional commercial finance brokers, as they would call themselves around the country. They do very manual and relationship-based brokerage, and collectively it is a very dispersed market that is enormous and so they originate somewhere between ten and twenty billion pounds a year of finance for small business. So collectively, they're way bigger than us. Really, the big question is whether our market goes the way of other markets such as travel agents, and slowly but surely the traditional manual business will be replaced by online and if it does get replaced by online, it's almost certain that we will be successful because we're so dominant in that category, but right now our big competition is getting a bigger part of that huge traditional market.

Agustín: Thanks a lot for your time, and all the best for the future.

Chapter 10 Gamal Moukabary

Company Name: bonify

Location: Berlin, Germany

Description: bonify enables customers to benefit from their credit scoring and financial data. The company gives customers free and easy access to their credit scores and enables them to correct erroneous entries. Then it offers tools and personalized recommendations to help optimizing the customer's financial situation. bonify is providing great recommendations to customers and calculating risk factors that are effectively being used by financial services institutions.

Roles: Gamal Moukabary, Founder and CEO

> *We are entering the most interesting part of fintech, in our case, and that is understanding the risk, understanding the customers we have, and brokering the right product to the right customers.*

Agustín: I know you worked at McKinsey before. How did you decide to go into creating a startup and how did the McKinsey experience help you?

Gamal: First of all, I think that's my personal trait. That is my personality—every four to six years to just disrupt and reinvent myself to see the world from a different perspective, and during all my life that has been one of the key elements. If you look at my bio, you will see those kinds of radical changes. It's always painful, but usually combined with reflection it helped me to grow as an individual, as a person. That was more or less why I left McKinsey. I went to a different company Regis24, which was a credit agency, by the way. I joined Regis24 not in an early stage, but in the growth phase, and I was privileged to lead the company for six years and then decided to move on and to take higher risks. I love to take risks and to make big bets. I decided to start my own new company together with friends. How did McKinsey help? My cofounder,

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Andreas, we got to know each other from the first training at McKinsey in Kitzbühel. I think it's more than twelve years since then, and Andreas and I have been friends ever since. Starting a new company with all the risks and having the same culture, the same values, was very helpful.

Agustín: Did you get any financial support from your ex colleagues?

Gamal: Yes, many of our McKinsey friends invested in the very early stage of bonify. They knew us for a while, and they were more or less our seed investors. We included a few big names and new great investors, but many of our "family and friends" investors were from the McKinsey network. Another aspect of how the time at McKinsey helped is that many of the external partners we are dealing with now were former colleagues. It is a well-connected network and we could easily reach out to them. So I think that the network is one aspect of it as I have been describing. The second aspect is that I learned a lot about different strategies; how to start a business; the kinds of struggles; the business strategy; how to put it all together in presentations to investors; to present the vision and mission to our employees and to onboard them. That was a lot of stuff we learned deeply at McKinsey; and Andreas and I are benefiting from that a lot.

Agustín: Interesting. How did you put the management team together and how did you come up with who is the CEO, for example?

Gamal: <Laughs> Who is the CEO? I never thought about that. I'm not a title guy. The same applies to Andreas. When we talked about titles and who is doing what, my cofounders came up with it; that I should be the "CEO." But, to be honest, I'm not behind the titles. We decide a lot together. We, as management team, have distributed and shared responsibilities. There is no real hierarchy, like in a more mature company.

Agustín: In terms of your experience, when you put together a management team, what are the key roles in a fintech company?

Gamal: I have seen different types of companies. I think this one has evolved a bit over time. If I could start again from the beginning, I would think that you need, specifically in a B2C [business-to-consumer] business as we are, a very strong marketing person—specifically online marketing at the beginning. In our case, we need a tech guy who has some experience in building an infrastructure, in showing that something is working and not boiling the ocean with concepts—that is pretty important. Another topic, that we didn't put our focus on, and now we focus a lot on, is someone responsible for partnerships. In our case, we broker different products, specifically loans, so it was very important to reach out to all the external partners to let them know who we are, what we are doing, how we are doing it, and to get on the priority list at a higher place than just a smaller startup.

Agustín: Let's talk a little bit more about the business. You offer credit scoring and financial data services?

Gamal: Yes. When users sign up with us, they have two options. They can sign up with their German ID, or with a bank account. The majority of the users are registering bank accounts. We fetch the credit report from the credit bureau, they can see not only the score, but they can monitor the underlying data: negative and positive entries, who requested their data, when items are going to be deleted, and so on. Our users have plenty of information they can get.

In addition to that, we provide what we call the FinFitness, an indicator of their current financial health based on the transactional data from the bank account. Once we get the transactional data from the bank, we have our own algorithm going through it and providing the answer to the question, "How is your current financial health?" That is an indicator based on different criteria and people can see how they are doing here and now, and can take a look into their credit score and see how they did in the past, because usually the credit score is reflecting the last few years, how your financial behavior was in the past. That's what we provide.

Then we look into whether our customers could refinance debt, if they are in financial need, and we offer them different products to refinance or to take a consumer loan, and we broker those kinds of products. What we do in addition is, when we see you are paying, for instance, too much for your utilities, we offer you a way to change the contract with better terms and conditions.

We have a special service in Germany. I don't know, where do you live Agustín? Do you live in Europe?

Agustín: In London, UK.

Gamal: I don't know if you have that requirement in the UK. Usually here, tenants have to provide their credit score to the landlord before the can rent an apartment.

Agustín: Right.

Gamal: Is that the same in London?

Agustín: They will do a check on a credit reference agency, such as Experian, which is the equivalent.

Gamal: Yes. Here is the same. You have to provide your credit score; you have to provide your salary statement and a kind of certificate from your previous landlord that you have paid all the rent. When people register with us, we offer them that service, they could get the tenant information certificate free rather than spending thirty euros and sending copies and faxes to the landlord. When users register, we will issue a certificate with the credit score and other relevant information.

Agustín: So your business model, is it around the product referrals that you offer?

Gamal: Yes, we get a commission from third parties. We get a commission from banks, from utility providers, from insurance companies. The business model is straightforward. Users never pay for it and when we broker a loan, we get a commission from the bank.

Agustín: Is that from Day One, or have you changed your business model?

Gamal: No, it's from Day One. That was always the business model. We never changed it.

Agustín: Right, yes, because in the UK, what I've seen is that customers used to pay for their credit score and alerts on changes to their credit score and now it's all free.

Gamal: Yes. That was always for free with us and we never changed it. What we are getting is a higher commission as the business is growing and third parties are more interested in offering products through our platform. The users never had to pay; third parties pay us.

Agustín: When you were starting this business, do you feel you made any big errors that other people could learn from?

Gamal: Oh yes, we have made <laughs> so many errors. I think the big one, which we did at the very beginning, we hired too many people at the very start. If I had a time machine I would hire fewer and hire more carefully, so that people fit. Not only that, but we had a lot of need for people who could code and such and we were desperate just to hire at the beginning. We didn't look into the other aspects, like do we fit with their values, are they people we could work day and night with or just have a glass of wine with. So we hired too many people, too fast, at the beginning. I think that was a pretty big mistake. Related to that, we had done the MVP [minimum viable product], which was good, and then we started to build a lot of features. If I were to go back, I would do fewer features and do the features that customers required. Let me give you an example. When we started, we had a lot of analytics engines to analyze the transactional data and to give you an indication whether you were going to have an overdraft.

Usually, if you have an overdraft, you pay a high interest rate, even if you are creditworthy. So you could have financed your debt with a consumer loan. At the beginning, we didn't do the analytics in that thorough way. We just put the feature online and so on. If I could go back, I would do that. Fewer features and for the features we did do, make them more thought-through than we did in the past.

Agustín: When did you think you had a breakthrough with bonify?

Gamal: It was getting the first external customer—not family and friends, just a customer from the outside and we onboarded this guy. That was a great feeling to go online and to see the first customer signing in with his credentials, getting the data, the data went through analytics, sending him all the onboarding details—that was a great breakthrough. The second one was when we connected our first external bank and we saw the first customer checking out. That was a few months after the first registration. That was a breakthrough. That was the first euro we earned.

Agustín: Sounds exciting!

Gamal: That was truly exciting. And the third one is what we now call the PD model. PD is the "Probability of Default." That is a risk model based on the data we have, and we could predict whether you are going to default in the future. We tested that with external benchmarks and our second iteration of the model was better than anything we have known in the market until now.

Agustín: Is that something offered to customers or to the supplier?

Gamal: We never sell the data, but we tell you as customer in advance. That is, an offer from bank A and, if you apply, you will get a yes or no and you will get this interest rate and other terms and conditions upfront. If you agree, as a customer, we submit the data to a third party, to the bank, to the lender.

Agustín: By "default," you tell the banker it is 5% likely that this customer will default on the loan? Is that what you mean by default?

Gamal: Yes. We tell the bank up front. We don't tell them that it's Gamal or Agustín, we tell them the risk profile/the PD, and the partners decide if they have the right offers for our customer.

We tell them the distribution of the PDs and they tell us, these are the interest rates, and so on. We display to you as a customer the different offers. In case you apply, then, with your consent, we submit the data to the bank.

Agustín: So those are the three current breakthroughs?

Gamal: I think that is where we are now at this stage. We are entering the most interesting part of fintech, in our case, and that is understanding the risk, understanding the customers we have, and brokering the right product to the right customers.

Agustín: Where do you see credit scoring going in the future?

Gamal: I think there are two views on it, or maybe just let me go a step back. The market for credit bureaus started more than hundred years ago. The business model was to collect data and to sell a score to third parties as a neutral platform and to get money per request, or whatever. I think that kind of business model is going to be changed or challenged utilizing different aspects like participation on commission, or giving data for free but getting part of the commission on the risk. Data is more available than a hundred years ago. Through the digital platforms, you have more access to data and credit scoring is more or less a data business. In general, you have four sources to calculate credit scoring. One is, as an individual you want to share something about you, like you paid something that nobody else knows about, or maybe only your bank knows, but not the credit agency. The second one is what a credit agency knows from collecting the data. The third one is your bank transactional data. That gives a lot of insights into your financial behavior. There is a source number four and that's your tax declaration because you can see a lot of assets, you can see a lot of interesting numbers in it. Credit scoring is moving toward having digital data and building on the digital data—not like the traditional credit scoring now—and we, as a company, have one to three. We have that people are providing us with their data; second, we are getting the data through the credit agency; and third, we have transactional data from the bank account. Combining all three factors give us, or specifically our customers, more insights into their real creditworthiness than they ever had in the past.

Agustín: Do you see new sources of data coming up, such as social media? Is that something that you consider in your assessment?

Gamal: Not at all, and to be honest, I don't see it in Germany at all. I would be always skeptical about social media data. We have the registries here in Germany and you can rely upon their trusted data sources and you have the transactional data from the bank account. I think if you have that data and you can process it, it's more valuable than any data from social media.

Agustín: How do you tackle the unbanked? I'm assuming that Germany will have some unbanked, especially with all of the refugees that have been accepted.

Gamal: That is always is the case with new entrants to any market. If you move to the US, you don't have a credit history, so you will encounter the same issue. Once you build a bank account you can start having a credit history and start doing the scoring on it. The social media and other data is so widespread. You can do a PD model based on social media and there are some countries are doing that as there is little choice. I don't think that is an option for us. What they do is put 100%+ more risk on it, just to be on the safe side. I think that is not the right approach. The other approach, in countries like Kenya, is you can let people send their invoices. Many of them are doing that with the mobile phone when there are a lack of registries. You can take the data from your mobile phone, like the invoices, and process that. Here in Germany, or in the markets we are looking at, there is a lot of valuable data and I think we are going to use that valuable and accessible data. Not from social media.

Agustín: Are you looking at expanding into other countries, or are you happy with Germany?

Gamal: Yes, we are happy with Germany, it's a huge and underserved market, as you know. We are going to expand. We have looked into different markets; we haven't made a final decision yet. It takes a lot of attention to enter into a new market. Unless we have very stable operations here in Germany, and we have the growth here in Germany, it doesn't make sense to start a business elsewhere. That was one of the goals for this round, to look deeper into other markets. By other markets, I mean continental Europe. We see continental Europe as our playing field and we look at different markets where we see a credit agency that we can work with, that have a kind of open banking, that we can have access to the data, and there is a broker as your commission market that we can tap into. Then when we expand our businesses, we look into more complex business models that don't require that kind of partnership or kind of access to data.

Agustín: Those have been really great insights, thanks for that.

Chapter 11 Geetansh Bamania

Company name: RentoMojo

Location: Bangalore, India

RentoMojo is a flexible ownership solution providing home essentials and electronics on easy, hassle-free monthly lease rentals. An excellent example of how fintech can reach the masses, RentoMojo's model allows for young people in India to lease all sorts of assets at a fair value, taking advantage of advanced analytics to assess their credit potential.

Roles: Geetansh Bamania, Founder and CEO

> *I think this philosophy of not having to own assets, which kind of restricts your mobility in a certain fashion, that's the DNA that has been adopted by the large new generation.*

Agustín: How did you get started as an entrepreneur?

Geetansh: My parents tell me that from childhood I was always trying to find shortcuts, very unique ways of trying to solve a lot of problems. I remember back in the early days I started playing with a lot of gadgets—I was renting out my toys, renting out my comics, et cetera. I wouldn't call that the beginning of my entrepreneurship, but still I've been trying to solve problems. The problems only got more mature as I went into college and, from all that, I tried to solve a few real estate issues because I was trying to figure out an apartment for a friend of mine and I just felt how it was to actually deal with a bunch of real estate brokers. After being in college for a couple of months, I realized that several of the companies that were in the apartment rental business had pretty much scaled-up. I graduated from one of the premier institutes in India. After graduating from there I became a consultant for a very short period. But while I was consulting, I thought, why not build a marketplace or a platform or an

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application where two LinkedIn profiles would be able to book to each other's calendars.

For instance, I could buy some time from you and try and learn. Or if I go through your profile, I would be able to possibly book an hour or two and I can consult for you. That was my first venture. I essentially made numerous mistakes with that, as I was not much of a sales guy, but I became a great product guy, a great tech guy with good design sensibilities. Some of those were learned in that period, but some parts of the business led me to venture into my second startup which was essentially a platform where I was crowdfunding for a bunch of NGOs [non-governmental organizations]. Essentially, I used to go to a company like Google and tell them, "Hey, I have an NGO that is making a computer lab for street children." When I used to tell that kind of a story, a brand like Google used to get excited, because it aligns with their brand. Certainly, people will take notice if I tell them that Google is championing a cause which was making a computer lab or computer laptops and technology accessible to street children, or something like that. We used to create all these stories and basically help NGOs get funded by some of the biggest corporations. So at the time, corporations used to fund them. We would take the story out to the platform and we asked individuals to participate along with the corporations and share it. The corporations used to get a lot of brand visibility and so the NGOs got funded. So yes, that was a good twist on crowdfunding where we were a kickstarter for NGOs. That venture got acquired in the first seven to eight months and provided me with confidence that we could build something valuable.

Agustín: When did the idea of RentoMojo come about?

Geetansh: After that, I joined a large e-commerce company. While I was working with them, I realized that when it came down to furnishing my own apartment, I decided to rent it from a local manufacturer. What I realized was, I could rent it out from a local guy, who was right there. There was a manufacturer with a very local setup at the place where I was living. He gave me the same pieces of furniture and appliances that I was looking to buy, and I was able to furnish my entire apartment at about 25 dollars a month, which was easy and hassle-free financing. I was really surprised that, instead of spending 200 dollars for a piece of furniture, I was able to actually furnish my entire apartment for 25 dollars. From a consumer standpoint, the rental economics just works out really well and that was pretty much why I started. I decided that the entire consumer proposition was the need of the hour with the millennials because, in India, growth is happening at a humongous rate and with that growth a lot of jobs are created everywhere in different cities. That's when a guy like me, who's from a small city or from a small town, has to migrate to a bigger city in terms of new opportunities. Since I've been displaced once from my home, and I'm ready to be displaced again or get displaced again in terms of better job prospects or better experiences, I don't want to get tied down with a bunch of chairs, sofas, furniture, bikes, or cars. Basically, that's what our proposition became, a flexible way of ownership of any assets.

Agustín: You got your idea by experiencing the rental process yourself. What made you think you could improve that market?

Geetansh: Basically, rental traditionally as a concept has been short-term in nature. A rental is often at a fixed value per month. If you go out and try and pick a chair, the guy will say to you, "Give me five or six dollars a month," irrespective of the time period that you're taking it. Because of that, a consumer has no incentive to commit to a longer tenure, because the guy that's holding that chair for six months is paying the same price as somebody who's paying for twelve months or eighteen months, for that matter. As you keep committing to longer tenures with the chair, you essentially have paid a very hefty amount, which does not make much economic sense, if you look at the market value of the product. Because of that, we made a slight twist. We felt that this problem was one of the biggest reasons why rental, as a market, never really got big, because it was always a short-term phenomenon. The consumer will come, take that product for three to four months, and return the product, which never really generates value, because that proposition becomes realistic only for those people that are looking out for the short term. We wanted to expand it. We started reducing the monthly rent that someone was paying over time. If somebody has a twelve-month period, they will pay a lower price. If somebody is committing to an eighteen-month period, they'll pay a much lower price. What we started seeing was that people were committing to eighteen to nineteen months in a certain product class, and that was definitely not rental. We distinguish between a lease and a rental. A lease is typically long-term in nature; rentals are pretty much short-term in nature and a fixed value per month. That's one of the ways we differentiated ourselves and we started looking at ourselves as a leasing company. We then thought, "Why just offer it on furniture and appliance rentals? For most of the rentals in the local area, that is what was happening. We started applying that lease philosophy on bikes; we started applying the lease philosophy on mobile phones; and we are pretty much seeing that different use cases are working out in favor of each category.

Agustín: Who holds the assets? Is it RentoMojo?

Geetansh: We work just like any large lending company like a Lending Club or an Affirm would, which borrows at a certain rate and lends to their customers at a higher one, thereby earning a spread in between. We too borrow capital from the biggest banks, NBFCs [non-banking financial company], and financial institutions for our products that we lease out to our consumers and make a healthy spread in between. We also have terms like net spread interest margins, Non-Performing Assets, etcetera.

Agustín: If you are leasing a product, is it used or is it new?

Geetansh: In our case, it's the consumer who picks and chooses whether our flexible lending solution is on a brand new product or will be fine with "as good as new." Depending on the above question, they decide to either come to our own website platform or choose to go to point-of-sales that are selling brand new products. When they take "as good as new" products from our platform, we refurbish them and promise them a good-looking, functioning product, which they can reject at the time of delivery if they are not satisfied with its quality.

Agustín: I can see that working really well in your local market in India. Do you think it would work in other markets?

Geetansh: I think this kind of a proposition should work anywhere. I mean, that's where I think the entire generation of the millennial class is moving. Rather than having a car, people are more toward Ola, Uber, Didi, or Lyft, or services like these, because they're receiving a certain value from it. People are happy paying maybe ninety dollars a month rather than having a car. I think this philosophy of not having to own the assets, which restricts your mobility in a certain fashion, is the DNA that has been adopted by the new generation of millennials out there. Because if you look two decades back, everyone wanted to buy houses. I would say most of the millennials don't want to get stuck with a twenty- or twenty-five-year loan. They want to expand their geographies; they want to look for new job prospects, new experiences, and people have started thinking of spending in the right places. Spending your hard-earned money on a bunch of chairs, tv's, and sofas doesn't look as enticing as using the same capital, if you'd like, to go on vacations, for example. People have started becoming more and more intelligent around where they want to spend; they focus on having better experiences.

Agustín: How did you go about getting the recent Series B funding for RentoMojo?

Geetansh: When I met with Bain Capital Ventures and Renaud Laplanche [founder of LendingClub and Upgrade], it came out of a cold call. I used to do a lot of cold calling those days. Thankfully, it was very nice of them that I got a proper reply back and got to meet them. For a small town guy in India, very typically, to reach out to somebody in the US and get a quick reply is unique and, yes, that happened. They liked us, fortunately, and the round was closed, but that was for the last round. In India, the likelihood of getting funded for a model that exists elsewhere on the globe is higher than a completely new model. Our business model is completely new as we are creating a new market. Since we knew funding would not come so easily, we were capital-efficient from the early days. This DNA of being very frugal has helped us from the very beginning. We knew banks would not entertain us in the initial days, so we started working with many high net worth individuals to provide asset financing for our products. As we got sufficient repayment history with them, we started onboarding private wealth institutions, banks, and NBFCs to fund us. RentoMojo has been a rockstar when it comes to reengineering and structuring to raise capital financing for the assets.

Agustín: Do you have a lot of competitors in India?

Geetansh: The way we are structured, we don't see anybody doing things exactly similar to us. As I said, most of the other companies are still in the rental domain. We have pretty much gone out and started positioning ourselves as more of a leasing set-up.

Agustín: I suppose the name of the company is a bit deceiving. You have rent inside the company name.

Geetansh: That has been a constant, big point of discussion, but how I see this is, even if it's a lease or a subscription, basically the monthly installments that you pay, can always be called rental. Be it a house lease that you are paying rent for, or be it a car lease that you are paying rent for.

Agustín: That clarifies a lot. I was curious about the growth of the company. You have more than 500 employees now?

Geetansh: We have more than 650 employees all over India.

Agustín: How did you go about hiring these employees and how did your role change while expanding?

Geetansh: Yes, different phases of the company have different elements of the culture that kick in. I think with a hundred people, the culture is very different or has to be very different than when it's a team of five- or six-hundred. Because this is a fairly operationally heavy business, there has to be a lot of people in the warehouse, and logistics, and people handling customer experience, the collections, the recovery. There are so many different elements of the business that need to be handled and that's meant a large employee base.

We also have a heavy reliance on fintech. We wanted a lot of people who understand the dynamics of raising this kind of a capital, over and over again, and have experience in terms of securitizing cash-flows. Some of the folks that work in there have that kind of talent and experience already. We are a tech company and a data company. Because we want to ensure our assets are making money, how soon are the assets getting to break even, what sort of a ROI [return on investment] are they generating, et cetera. For that to happen, our data science team is pretty huge and we are building our own proprietary algorithms to try and minimize the risk, because somebody can just run away with that asset, to try and sell it in the secondary market. That is, we have our own risk mechanisms and proprietary algorithms that we have been able to figure out, ranging from which company somebody is working for, to which society somebody is living in. There are over a hundred parameters that we work with. The data science team is really, really important and of course a key pillar. We've got somebody who has experience in that, and the data science team is a new creation all together, the planning part of the company had to be very, very important. Somebody had to innovatively go out and impart the consumer behavior change for people to start leasing, rather than buying and paying the entire amount. This kind of a purchase behavior needs to be inculcated within the users. This means that somebody has to be very innovative at branding, so that's the kind of a guy that we call in.

Agustín: I was interested in your thoughts on artificial intelligence. Do you think it is more about deterring fraud and getting a good credit assessment or are there other uses?

Geetansh: I don't think it's so much of a credit assessment, because credit is for the lending companies. It's more about the probability of somebody defaulting on the payment. The worst-case scenario in our case, if somebody defaults on the payment, is we want to get our asset back and redeploy it to better consumers—that's what we want to do. But in lending you can't do that, because you have given somebody a thousand dollars and it would have been spent by the time you have figured it out, so the credit risk is much higher in a lending company than in ours, because it's the asset that's more at play. For us, it's more of an asset risk, we want to get our assets back. So traceability of the consumer becomes of prime importance for us. So, because the objective is different, we look at our assessment or our verification models very differently and we have our own variables and parameters in which we are able to verify a certain user and give our product to them. That's why we have some really, rock-bottom low default rates in the business, compared to other lending companies that are operating in India.

Agustín: Where do you see the market developing? Do you see it being more commonplace around the world in the future?

Geetansh: Yes, we have very strong aspirations to grow. Now we have been able to figure out a certain engine and we know how the moving parts work, I think now it's all about the pace. That's where we want to move in the next two or three years, specifically, I'm looking forward to running fast, within India and outside India as well, in possibly a year and a half or two. But it's not so much about capturing the market, it's more about this kind of a lifestyle that is good for society as well. You're utilizing the same assets over and over again, which I truly believe is the need of the hour. I think as more people, and more countries, geographies, adopt this, it's going to be much better. It's just a more sustainable way of doing commerce, I would say.

Agustín: You have been awarded entrepreneur of the year many times in many places. What is your secret sauce?

Geetansh: For any successful milestone, there are numerous people behind it. In my case, I have an incredible team that do their jobs like no one is watching. Also, my wife and family has been a tremendous support all the years.

I believe that teamwork is key. Having a vision is one thing, but working on that vision and having visibility on it is another. To get that visibility, only a team with a common shared vision will be able to work successfully on that. That's something that I truly believe in.

Agustín: There will likely be many young entrepreneurs reading this, what advice do you have for them?

Geetansh: I would say, don't start it for the money. Money cannot be a milestone. People who want to do a startup, because there's a lot of glamour and all in entrepreneurship, need to know that there are a lot of hardships. You keep failing every other day and finally there's a small burst of happiness, a small amount of success that happens and then you are under, once again. It's a very long journey, and it's a very difficult one and money cannot be the destination and the milestone. I think we need a lot of people thinking about solving some of the more difficult problems out there, and make it more sustainable by, of course, making it profitable, so that more money can be attracted and more capital can come in. I think if great value in the company can be created, money is going to be the outcome anyway.

Agustín: That's a great reflection. Thanks for your time and all the best.

Chapter 12 Kelvin Teo

Company name: Funding Societies Modalku

Locations: Singapore, Indonesia, Malaysia

Funding Societies | Modalku is an SME digital financing platform for SMEs to acquire loans and fuel their growth, crowdfunded by investors for a fixed income return. Funding Societies | Modalku is building a business based on financial inclusion—one that benefits not just customers, but the country's traditional banks as well.

Roles: Kelvin Teo, Cofounder

Having cofounders is like a marriage and marriage is not easy.

Agustín: How did you get started in entrepreneurship and how did Funding Societies come about?

Kelvin: Reynold Wijaya and I started Funding Societies | Modalku as the stars aligned. We give loans to small- and medium-sized enterprises (SMEs), crowdfunded by individuals and/or institutions. We are passionate about SMEs because we know how hard it is for them. Reynold's family business was saved from near-collapse thanks to a credit line from a supplier. And working across Southeast Asia (SE Asia) showed me how huge a problem SME financing is. We chanced upon peer-to-peer (P2P) lending while studying at Harvard and found it to be a great solution to the SME financing problem. Hence, we took it upon ourselves to bring it back to SE Asia—where we call home.

Agustín: How did your MBA at Harvard and consulting at McKinsey & Co. help you to become prepared for being a founder?

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Kelvin: I had first gotten to know and work at startups while studying at the National University of Singapore. However, as a young undergrad, I didn't feel ready. I was fortunate to start my career with Accenture, McKinsey & Co., and subsequently KKR Capstone, where I honed fundamental analytical and leadership skills, and witnessed real leaders in action. The truth is, I am no founder by nature. I simply wanted to pay it forward and make a positive impact in SE Asia. Perhaps due to its inspiring mission "to educate leaders who make a difference in the world," Harvard gave me the conviction to start.

Agustín: How did you approach finding funding for your business?

Kelvin: We had planned to bootstrap like many other startups in textbooks. However, we realized the window of opportunity for our business was small. Speed and quality of execution were of the essence. Six months after founding Funding Societies | Modalku, we flew back to Singapore for our summer holidays and participated in a pitching competition organized by Tech in Asia (a Singapore-based technology website and media and events company). We got lucky. With our early results, we won the competition, drew media attention, and attracted a term sheet from venture capital firm Alpha JWC, despite being full-time students. We never looked back. To us, it is all about execution. If we execute well, VCs will come to us; if we don't execute well, going to VCs will not help. It worked. We closed our Series A with Sequoia Capital upon graduation in 2016, and Series B from Softbank Ventures in 2018.

Agustín: When did you feel you had a breakthrough with your startup?

Kelvin: There have been numerous milestones, each signifying a breakthrough to us. The establishment of the company, hiring of our first employee, Vikas Jain, and getting our first SME borrower/individual lender, while Reynold and I were physically in the US, were all momentous to us. Signing our seed funding from Alpha JWC on the back of a cab, before we returned to the US for the start of school, was a major affirmation to us. Winning over Sequoia reinforced our path toward market leadership and securing Softbank has inspired us to think big. Though truthfully, we are still in Day 1. There is much more to do and learn, many more breakthroughs to achieve.

Agustín: How easy do you find it to work with the Reynold?

Kelvin: Odd as it may sound, having cofounders is like a marriage and marriage is not easy. Yet I couldn't create a business on my own. Reynold and I cofounded Funding Societies | Modalku not in the textbook fashion of having known/worked with each other for years. We got lucky. We share a similar value system, same passion and vision, and complementary skills and character. We learned a ton from books like “The Founder’s Dilemma,” and had all the hard conversations upfront. They almost broke us, but we emerged stronger together. We believe in trust and fairness. A mistake we made as a consequence is to overly trust others. Now, we still trust, but we verify.

Agustín: Where do you see the digital lending market evolving in the next few years?

Kelvin: Digital lending has taken different paths in different parts of the world due to local constraints. In SE Asia, after years of development with the hindsight of benefits from other countries, we expect digital lending to mature and gradually move into the mainstream as an excellent complement to bank services. As more unserved/underserved customers get plucked into digital lending, the overall pie for financial services shall expand, benefiting everyone. The evolution for digital lending will take place for consumers much faster than SMEs, given their relative speed of digitalization. This growth will consequently attract greater regulations, which we believe is necessary when appropriately drafted, for the sustainability of the industry.

Agustín: Sounds like the SME market will have a lot more opportunities in the future. All the best with keeping the business growing.

Chapter 13 Harshvardhan Lunia

Company name: Lendingkart Group

Location: Gujarat, India

Lendingkart is an online financing company dedicated to help entrepreneurs and small businesses with working capital loans. Lendingkart has grown very fast, lending to entrepreneurs and small businesses—a traditionally underserved segment. Proprietary technology, including ML (machine learning) and Big Data, has enabled much of this.

Roles: Harshvardhan Lunia, CEO and Founder

> *Today, we have an SME approaching us for a loan every 10 seconds, we evaluate a new application every 40 seconds and disburse a loan every four minutes.*

Agustín: How did you get started in fintech? How did you decide to start Lendingkart?

Harshvardhan: During my employment with large private sector and multinational banks in their small loan divisions, I realized how many small business owners were denied financing despite being creditworthy. I realized the pain area where new small businesses, MSMEs [micro, small, and medium-sized enterprises], and startups are many times unorganized and hardly maintain their books of account, and so they do not get loans from conventional channels like banks. In 2010, I returned to India after a successful stint in London with the aim to build a platform that makes Indian MSMEs bankable.

I started with an advisory business and realized the various inefficiencies that marred the MSME lending space in India. The credit decisions in banks took months. Any potential analysis was hindered by a lack or complete

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absence of data. Information asymmetry was widespread. MSMEs had few resources to execute financing transactions, and the ones that did needed handholding with processes. Despite doing well in the business, I realized such a business would be scalable only when the entire process was taken online and a means to arrive at a credit score to make decisions could be created.

Agustín: When you realized this, what did you decide to do about it?

Harshvardhan: I then joined hands with Mukul [Sachan], an ex-finance director and an old school friend, to give shape to the business plan. In the beginning, we actively interacted with small business owners to understand their needs better. The pilot loans helped us realize that there is a big subset of small business owners who do not have access to organized finance. India is a hugely underserved lending market for MSMEs. Formal sources only cater to 22% of the total MSME debt financing. Lack of credit history, collateral, and accounting discipline further harm their capacity to procure funds from sources other than money lenders and friends and family. What we learned from these interactions helped us identify a niche and design the product our borrowers wanted. They formed the underlying principles that continue to guide us today.

There was an unmet demand of short-term (up to 12 months), small ticket size (Rs. [Indian rupees] 50,000 – Rs. 10 lacs [1 lac equals 100,000]) loans for these MSMEs. We then ventured on to build a comprehensive online lending institution dedicated to help MSMEs with working capital finance and that's how Lendingkart came into existence.

Agustín: You have grown Lendingkart into a sizable company. How did you transition from a small company into a bigger structure?

Harshvardhan: Over the last five years, we have grown at a healthy pace. From disbursing loans in a few locations to creating a strong SME customer base in cities ranging from tier 1 to 5 in India [cities in India are classified based on population]. We have grown our customer base 25 times since January 2015. Our revenue growth and loan book have been growing at approximately 2.5 times year-over-year.

Back in 2014 when we started, I still remember the very first loan we disbursed in Guwahati, 2000 kilometers away from our headquarters. That's when we realized the potential of the platform we are building and the disruption we are set to initiate. Ever since then, we have been a part of many customer success stories. By arranging loans for MSMEs from Agartala to Surat and Srinagar to Kanyakumari, the Lendingkart Group has become geographically agnostic. Today, we have offices in three cities (Ahmedabad, Bangalore, and Mumbai) but our service has impacted SMEs in more than 1300 cities across all 29 states and union territories of the nation. We initially tapped customers from a few industries, and today our customers range from 28 diverse business sectors, such as apparel, textile, electronics, manpower services, FMCG [fast moving consumer goods], et cetera.

Agustín: Sounds like you have really tapped into an underserved market. What has been your approach to technology?

Harshvardhan: Over the past couple of years, we have developed sophisticated technology tools based on Big Data and analytics, which help lenders in assessing the borrower's creditworthiness. Machine learning algorithms which use data derived from the application form, collected documents, as well as third-party sources, facilitate the Group in having a turnaround time of less than three hours to process an application. Approved loan disbursals now happen much faster than traditional financial institutions. Today, we have an SME approaching us for a loan every 10 seconds, we evaluate a new application every 40 seconds, and disburse a loan every four minutes.

From inception, we have disbursed more than 50,000 loans to over 40,000 MSMEs. We have evaluated more than a million MSME loan applications to date.

Agustín: How do you use analytics and Big Data to support your decisions?

Harshvardhan: At Lendingkart, our usual process requires applicants to visit the Lendingkart Group website at www.lendingkart.com to apply for the loan. They then need to give background information and upload the minimum required documents. Those documents then flow through integrated systems to Lendingkart Finance that verifies and determines the creditworthiness of the applicant. The entire process is integrated with technology and the NBFC (non-banking financial company, Lendingkart Finance) disburses the loan faster than traditional financial institutions. We have multiple third-party integrations to get data to access a borrower's creditworthiness. The data is validated and then fed into an analytics system, which classifies the applicant as accepted or rejected along with a risk categorization. Our proprietary credit model uses 5,000+ data signals based on financial performance, business performance, social profile, and statutory compliance.

Agustín: What initial failures did you have that others can learn from?

Harshvardhan: In its initial stage, every startup goes through a phase where they need to figure out many things. There's no single stop solution to surmounting the challenges a startup faces. Having said this, startups also need to experiment a lot and learn from them. In order to tackle the challenges, startups need to be resilient and focused on the end goal. There are many enhancements and improvements that are needed to bring the best product out. Aside from this, customer experience and service quality hold equal weight. Despite the failures and lows in the business, the team needs to keep at it. Similarly, we've also had our share of hiccups, but every time we've come out stronger with a fantastic team like ours and made Lendingkart what it is today.

Agustín: How did you approach finding funding for your business?

Harshvardhan: We've had a great bunch of investors supporting us right from our seed funding. Given our healthy unit economics and the huge market opportunity that lay ahead of us, we had a fair amount of traction from the investor community post our Series A funding. Additionally, both Mukul and I come with a strong domain experience that further instilled belief and confidence among investors. This helped us in raising a total of $307million (equity of $117 million and debt of $190 million) from investors such as Fullerton Financial Holdings, Sistema Asia Funds, Saama Capital, Bertelsmann India Investments, Darrin Capital Management, India Quotient, and others.

Agustín: How do you see business lending evolving in India?

Harshvardhan: There are more than 50 million SMEs in India and the credit shortfall they are facing is astonishing—$400 billion. Given the pain they have been going through with traditional lending, it has been one of the major impediments in their business growth. Hence, the Indian government has mobilized the credit and funding for this critical sector of the nation's economy. With the likes of the Digital India, Financial Inclusion, and other campaigns being introduced, new-age and nimble alternate lending companies are being approached by many MSMEs. According to ICRA [Indian Credit Rating Agency], the share of lending by NBFCs to MSMEs is projected to rise to 22–23% by March 2022. With their technology-led solutions and AI-driven algorithms, the alternate lending platforms are set to help Indian MSMEs access legitimate credit easily. Another notable point is that the MSME business lending in India is a supply-constrained sector whereas the demand is huge, given the above statistics. Therefore, business lending in India is going to be way more streamlined than what it is today. Additionally, with continued innovation and favorable government policies being introduced, the horizons of MSMEs will certainly get widened, which will help achieve economic mobility.

Chapter 14 Simon Loong

Company name: WeLab

Location: Sheung Wan, Hong Kong

WeLab analyzes unstructured mobile Big Data within seconds to make credit decisions for individual borrowers. WeLab has created a great credit scoring solution and has managed to grow from Hong Kong to the Chinese market by creating the Wolaidai brand. It has won several fintech awards.

Roles: Simon Loong, Founder and CEO

Rejection, while unwelcome, is an inevitable part of the entrepreneurial journey.

Agustín: Please let us know about your background before starting WeLab.

Simon: Prior to founding WeLab in 2013, I had served in senior risk management positions at both Citibank and Standard Chartered Bank [UK] for over 15 years, including managing Standard Chartered's unsecured lending business in Greater China, one of the region's most profitable business units.

Agustín: How did the idea of WeLab come about?

Simon: Looking back at my experiences when I took a sabbatical at Stanford University in 2012, I recall how fintech companies in Silicon Valley were revolutionizing the way financial services were being offered with the use of technology. I also recognized that financial freedom could be achieved through lending, and that would be a fundamental step to improving people's lives, in unlocking their dreams and aspirations. I believed that there was a huge opportunity to further the cause of financial inclusion by applying technologies such

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as Big Data and AI technology in Hong Kong and the mainland to offer financial services, especially among the tech savvy, digital natives demanding convenience, connectivity, control, and the ability to do so through their mobile devices.

The mission of WeLab is to improve lives through technology and innovation. There are still lots of pain points in traditional financial institutions, therefore we established WeLab with the aspiration of making financial services more convenient to improve people's lives and change the world for the better.

Agustín: When did you feel you had a breakthrough with the business?

Simon: We started our business in Hong Kong in 2013 with "WeLend," the first and the largest pure online lending platform in the city. Hong Kong is an ideal launchpad for fintech startups because of the stable regulatory environment and the mature financial system. However, the population of only seven million is a natural constraint on market size.

Agustín: How did you overcome that barrier?

Simon: In order to provide financial services to a wider audience, we expanded into Mainland China in 2014 under the brand "Wolaidai," taking WeLab to the next level—reaching the 1.4 billion population. We made a conscious decision when entering Mainland China to take a 'mobile-led' approach while others were using offline stores or web-based Internet. We were able to build relevant mobile-based technology to deliver a favorable user experience, combined with risk management technology utilizing Big Data and artificial intelligence to process thousands of data points to assess the creditworthiness for these users. Most of our customers are young, tech savvy, well-educated, between the age of 20 and 35, without a solid credit history, and likely to be rejected by traditional banks.

Leveraging on the success in Hong Kong and Mainland China, we expanded into Indonesia in 2018 with a fintech joint venture "AWDA" with leading local conglomerate PT Astra International to further expand our reach.

Agustín: How hard did you find getting investment for your project?

Simon: As with many other startups, we have gone through a difficult time of pitching for funding, especially the first round of funding. For the Series A, we had a limited track record but were pitching to the established investors and big boys who wanted to see 'some results,' so it was about striking a balance between what we had already achieved and persuading potential investors to believe in our ability and vision to turn WeLab into a promising company.

Luckily, our founding team had professional experience and strong networks in the financial industry, and this helped us to connect with potential investors.

We are fortunate to have been supported by a diverse group of first-class shareholders including sovereign wealth and government funds (for example, Khazanah Nasional Berhad is Malaysia's largest sovereign growth fund and Guangdong Technology Financial Group is the municipal government technology investment fund in China), established banks and financial institutions (such as the World Bank's IFC [International Finance Corporation], ING [Dutch multinational bank], and China Construction Bank International), strategic investors (such as leading Asian conglomerates CK Hutchison's TOM Group, China Post's Ule, and Alibaba) and leading venture capital firms (such as Sequoia Capital). Our shareholders have contributed to our rapid growth, not only by providing capital support, but also by assisting with business development and partnerships.

Agustín: What mistakes did you make when starting?

Simon: No matter how much knowledge you have, information you have read or think you know about the challenges and obstacles of starting a business, only an entrepreneur will fully understand the obstacles and hardships that come along with it. Notwithstanding my experience and insights of the finance industry, I faced adversity at every turn—from something as minor as opening a bank account or renting an office space to something as crucial as finding suitable talent to join the company and raising funds to grow the company.

One of the words etched on our office wall as one of our core values is "Persistence"—rejection, while unwelcome, is an inevitable part of the entrepreneurial journey. However, it was through numerous and repeated setbacks that has molded the banking professional into a resilient fintech entrepreneur with the willingness to dream beyond traditional boundaries and a never-give-up attitude to follow through. While persistent, it is also important to balance the need to grow with potentially missing out on opportunities by being too prudent. Together with my cofounder, we have attracted a team of top-tier professionals from leading financial institutions and technology companies, sharing our vision and willingness to preserve and push ahead in difficult times when facing rejection and other challenges.

Agustín: What will be the impact of Big Data on the world in the next five years?

Simon: New technologies are helping all us better understand every facet of life through the collection and analysis of Big Data. There are a few phases in this process: defining what the data is; collecting the data; learning how to process the data; and, most importantly, incorporating and using the data in a useful form.

Many traditional industries and companies are in the nascent stages of defining and collecting data, without the know-how of practically utilizing it.

Agustín: How is WeLab approaching the future?

Simon: At WeLab, we believe that there is great potential in combining the old and new worlds, whereby, as a fintech company, we have developed specialized technologies to provide financial services. By providing a B2B solution, we are able to connect traditional banks and other enterprises to our technology, which enables them to access our technology credit solutions through modularized offerings across the lending value chain to better understand and serve their customers.

WeLab specializes in analyzing consumers' creditworthiness based on advanced Big Data analytics capabilities and innovative AI technologies. We have accumulated over 36 million registered users since inception and we acquire a new user every 2.5 seconds as well as approved loans in as quick as 3 seconds.

With the adoption of Big Data and AI technology among financial institutions, we think that financial services will be more efficient and inclusive. For example, the Hong Kong Monetary Authority issued four virtual banking licenses in early 2019 and also promotes an open application programming interface (API) to encourage a more collaborative approach to provide innovative and integrated services to improve customer experience. WeLab is one of the four license recipients and the only homegrown Hong Kong innovator and fintech company with the unique edge of bringing a new digital experience to customers. The future of financial services can be integrated onto one platform and the customers can enjoy a full suite of services via their mobile devices.

[Note that since this interview, the HKMA has issued 4 virtual banking licenses in Hong Kong, one of which has been granted to a WeLab's wholly owned subsidiary WeLab Digital Limited.]

Agustín: What is the fintech scene like in Hong Kong? Do you get good government support?

Simon: We are lucky to be at the favorable position in Hong Kong and China where the regulators are warm to the idea of deregulation and financial inclusion. With the government's blessing, the Hong Kong fintech industry is booming. We see many startups come to set up their offices in Hong Kong and tap into the local market. According to Invest Hong Kong's survey, the number of startups in Hong Kong in 2018 increased by 18% to 2,625 and the number of staff employed in the industry increased by 51% to 9,548. Fintech is one of the top business sectors and the number of fintech companies in Hong Kong has increased to 550-plus.

The fintech ecosystem in the city has become well-developed in recent years. For example, the Fintech Association of Hong Kong (FTAHK), where we are a founding member and where I am a founding board member, was established in 2017 with a view to provide an ecosystem for the budding fintech community in Hong Kong.

Agustín: How does WeLab interact with regulators?

Simon: WeLab seizes the chance to grow our business. For example, the Hong Kong Monetary Authority launched a number of initiatives in 2017 that laid down a good foundation for Hong Kong moving into a new era of smart banking. The promotion of virtual banks is one such initiative. WeLab [submitted a virtual bank application in August 2018 and we] received a virtual banking license in April 2019, which means that we will be able to provide all the products of a "traditional" bank without branches, but more importantly with a digital platform and customer focus. This will allow us to diversify and broaden our business beyond lending to a more holistic suite of financial services.

Part 2: **Banking and Savings Fintechs**

Companies in this section
86400
ClearBank
Monese
Tandem
Squirrel
Professional Development GmbH
Raisin
SaveDroid
Moven
Ualá

The business conducted by banks has not changed much in a long time. Bill Gates has been quoted saying that we need banking but not necessarily banks. There are many replacements for banking services, such as payment services and alternative lenders. What banks definitely provide is a trusted store of value, which is guaranteed by the government. So it looks like banks are here to stay.

The western world has seen the rise of huge banking institutions that haven't felt the need to change, or to change at a fast pace. This has opened a window of opportunity to challenge the incumbents and make banking more fun and inclusive at the same time.

Many of the banks I've interviewed were chosen from Europe, since they have taken the lead thanks to European regulations, especially in the United Kingdom. Regulators have been very keen on introducing competition to very concentrated markets.

Starting in the UK, I interviewed Ricky Knox from Tandem Bank, who bought their license from Harrods Bank. I then spoke with Norris Koppel from Monese, which specializes in travelers and has created a dual pound/euro account. I also talked to ClearBank and his serial entrepreneur founder Nick Ogden. ClearBank is the first clearing bank the UK has seen in more than 250 years, built on the latest technologies. Last, I spoke to Squirrel, a company which has the mission of helping people to save. Its innovative idea halts money for important payments and upcoming bills.

Moving on to continental Europe, I stopped in Germany to talk to Matthias Kroner, who founded Professional Development GmbH, the incubator for Fidor, the first digital-only bank in Germany. We discussed the Banking-as-a-Service platform. I also talked to Dr. Yassin Hankir, who has created an intelligent savings product and also ran one of the most successful ICOs (initial coin offerings) in Europe. Lastly, I talked to Tamaz Georgadze from Raisin, a savings and investment marketplace that operates all over Europe.

In the US, I was happy to talk to futurist entrepreneur Brett King, who founded Moven, a company that provides a disruptive mobile centric banking app. Finally, in Australia I reached out to marketing and fintech legend Anthony Thomson, who was creating a new bank, called 86400, after giving birth to Metro Bank and Atom Bank in the UK.

Chapter 15 Anthony Thomson

Company names: Atom Bank, Metro Bank, 86 400

Location: Melbourne, Australia

Anthony Thomson has founded three banks. Metro Bank is a different kind of high street bank in the UK. Atom Bank is a mobile banking application that offers a range of personal and business banking products. 86 400 is a new Australian neobank. Anthony has got one of the best track records in banking. He founded Metro Bank, the first new high street bank to launch in the UK in 150 years; and innovated with the first European mobile bank.

Roles: Anthony Thomson, serial banking founder

> *It's easy to start a fintech startup that's not a bank with a relatively small amount of money, but if you want to be a bank it requires a lot of capital.*

Agustín: I am interested in how you got started. I know you founded Metro Bank, but what were you first steps into fintech and banking?

Anthony: I'm a marketer by background. For many years I ran a marketing services company which specialized in financial services. In the 80s and 90s it grew to be the biggest agency of its kind in Europe, so I tend to look at market data to see insights that drive opportunities. Back in the early 2000s, looking at the market data, it told me that what customers wanted from banks was value and the banks perceived this simply to mean price. All of the High Street banks were competing on their headline rates for savings and their headline rates for loans; while what customers were saying was, "We want service, we want convenience, we want consistency from our banks." That led to the launch of Metro Bank in the UK in 2010. If you move forward to 2012, I saw the most seismic shift in consumer behavior, from traditional branch-based banking to

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digital banking in general and mobile banking in particular, and that's what led to the launch of Atom Bank.

Agustín: In your opinion, couldn't you have done that in Metro Bank? How did it come about moving from Metro Bank—your baby—to Atom Bank?

Anthony: Yes, that's a good question. My fellow board members at Metro Bank felt that the future of banking still would largely be driven by branch networks. I didn't share that view, so I stepped down to create a new bank that would be delivered entirely digitally.

Agustín: And so you've founded the first bank in the UK in a hundred years; then you've founded the first bank delivered on mobile phones in Europe.

Anthony: Yes, it was the first bank delivered on mobile devices in Europe.

Agustín: And then you moved onto 86 400; what will that be? The first what?

Anthony: Right, 86 400, it might be helpful if I explain the name. As you know, economists think of us as cool, rational people when it comes to money. All of the research around the world—with the UK and Australia being very similar—tells us the reality is that most people are worried about money; they're afraid of money; and their relationships with money are very difficult. They don't like thinking about money. We thought we could use Big Data, data analytics, and artificial intelligence to look at our customers money, every second of every minute of every day, so that they don't have to; and there are 86,400 seconds in a day, hence the name: 86 400.

Agustín: That's a good one. I am very curious about the emerging technologies that you are using there.

Anthony: In the past, banks have relied upon their systems of records, which is the software provided by people like Fiserv, which I was a non-executive director of for a number of years, using SAP, Temenos, and so forth. The reality is that increasingly those systems of records are becoming more like utilities; really just like plumbing. The real value add in a digital bank, is the piece that sits between that system of records and what the customer experiences on the screen. We think there are tremendous opportunities to create real value there and what we have done—I think uniquely, in 86 400—is to create what we call a digital working memory. That means every piece that sits there, everything from the document workflow, to the credit bureau, to the data analytics, to the AI—all of those pieces are interoperable. What I mean by that is, they're connected by APIs, so that if a better document management system, or a better credit bureau solution, or a better data analytic solution comes up, we can unplug the existing one and plug in a new one, with an instant exchange. We think we've designed a middleware that is future proof and I think that gives us a big advantage over other banks, particularly the big banks, who are very much constrained by what their technology is capable of doing.

Agustín: As a part of this middleware, where would you fit in the artificial Intelligence? Would it just be a component?

Anthony: That's a great question. There are several ways of looking at it. Yes, there are component elements to this, so increasingly we are seeing contact centers using AI incredibly well to deal with customer queries and indeed my friend will.i.am, who you probably know as the musician and rapper, has built an extraordinary business called Omega providing artificial intelligence that you can talk to, so I think that's one element of it. The second element is the people that have the understanding of what AI is capable of doing and I think there aren't many people who really yet understand fully what its capabilities are. It's about recruiting; we have a great data scientist and other people in our technology department who really understand what AI is capable of doing. Then I think the third piece is how AI fits into the culture of the business that you are creating. For us, AI is not a way of reducing costs by using technology instead of people; it's a way of creating a better customer experience. Everything we do is driven by, "How do we create a better customer experience?" For us, culturally, AI is an enhancer of the customer experience, not a means of driving down our cost space; although that it is an additional benefit of it, obviously.

Agustín: Thinking about 86 400, it's based in Australia; how did you decide to get engaged with Australia?

Anthony: It was a lifestyle decision, Agustín. It was clear to me from the moment that BBVA became a shareholder in Atom Bank, that over time they would become the owner of Atom Bank. I was very relaxed about this, they were very, very good as a shareholder, but I made it clear to them that at some point I would step down and earlier this year, in January of this year, they called me to say that they would like to go up from 29% to 38% ownership, which I was very happy to support and recommend to the board, but I felt that was a good time for me to step down. My wife and I have been thinking for some time about what we want to do with our lives, and we decided that we would like to go live in Australia for a couple of years. So it was a lifestyle decision first, then I spent quite a bit of time in Australia looking at fintech, looking at the banking marketplace. I met a company called Cuscal; and Craig Kennedy, the managing director, and I shared a similar view of banking which is that it's lost sight of the customer and there was a real opportunity for a digitally led bank, that puts the customers first, to take market share. Cuscal is the largest independent provider of payments in Australia, one of the biggest issuers of credit cards, so very experienced in a lot of the mechanics of banking. They had the capital, but they had never built a bank before from scratch, whereas I had done that now twice, so it was a very happy coming together, a partnership to found a new bank—86 400.

Agustín: Anthony, I hear you have written a book. Would you be happy sharing a bit more about it?

Anthony: Yes, so the book is called 'No Small Change,' and I coauthored it with a long-time colleague—in fact many years ago a competitor of mine—named Lucian Camp. It came about really from my first experience in financial services over thirty years ago, when many financial services companies seemed to view marketing as a zero-sum game. That they could only win at the customers expense. I felt that this was wrong. I felt that good marketing should be good for the customer; and indeed in 1998, I cofounded a membership organization in the UK called the Financial Services Forum. The aim of the forum—it's still running today—is to improve marketing effectiveness in financial services, on the basis that good marketing is good for the consumer. Really, the book was an extension of that thinking. It's in a sense a manifesto of what Lucian and I think that companies need to do, to put the customer first to create better marketing of financial services.

Basically the book is about how we think marketing needs to change with the advent of behavioral economics. With the power of the technology and computing and Big Data and AI, marketers have some incredibly powerful tools at their disposal. What we want to ensure is that those tools are used for the benefit of the customer; not just for the benefit of the bank, or any other financial services company.

It has been selling reasonably well. It was one of the five hundred business books on Amazon. We're very pleased that, for a book that has a relatively small potential readership, it seems to be doing pretty well. But as you know, Agustín, you don't write books to make money; you write books because it's a subject you're passionate about and you want to share with people.

Agustín: Exactly, I share the same view. Let me pull you back into fintech. You are a visionary, so, what do you think is going to happen with banking in the next ten years?

Anthony: I think, with the advent of open banking and with the changes that are taking place in technology and behavioral finance, we will see a lot of new entrants. We will see more like 86 400 in Australia; I'm on the Advisory Board of a new digital bank startup in the Middle East. But I think anyone who thinks this will be the end of the existing big banks is very much mistaken. The big banks have huge customer franchises—in some instances selling some very powerful brands—and they also have deep pockets and potentially the ability to change. I think that change comes from leadership and from culture and I think some of the big banks will change and be even more successful; some of them won't change and will become less successful and relevant over time. I think the new entrants will take valuable market share from the banks and some will be banks and some of them won't be banks but will offer banking services. For those that want to become banks, banking is a capital-intensive business. New banks need lots of capital. I know this; over the last eleven years I've raised about a billion dollars of capital. Those that succeed will be those that will be able to access capital. I don't think there will be a lot of them, but some will be very successful. I think a large number of players will each take a quarter, half, or a percent from the big banks; the big banks will still continue, but their market share will decrease; and lots of new players will take over that market share.

Agustín: You mentioned that you raised a lot of capital for your startups. I was wondering how you approach it, because they haven't been small rounds of funding, they've been significant rounds that you have achieved.

Anthony: Well, because banks are by their nature capital consumptive, to start a bank, there is no absolute rule, but in broad terms you are going to need something like seventy-five million dollars of capital at the outset, because you're probably going to have two or three years of losses to sustain; you have the building of the infrastructure to create; all of the costs of recruitment; of building out the technology of going through the licensing process. Then, after that, as you grow your balance sheet, you need more capital to hone those reserves as required by the regulators. So, it's easy to start a fintech startup that's not a bank with a relatively small amount of money, but if you want to be a bank, it requires a lot of capital and raising capital is not easy—as I've experienced over the last eleven years. As I say, I've raised a billion dollars and almost none of it has been easy. I think what helps in raising capital is first and foremost to have a very strong management team; following that, a strong, robust, and well thought through business plan; thereafter, a point of differentiation from the marketplace,—ideally in terms of your product or services or experience—but it may be using technology to create a more efficient business; and then it really is a matter of belief in what you are doing, going out there and sticking with it.

Agustín: Yes, it's been very impressive how you have dealt with it, because we generally see lots of companies or founders that struggle to get even seed funding, so you have done very well.

Anthony: Thank you.

Agustín: Let me just finish with one question. There are a lot of people who want to start a fintech company. What piece of advice would you give to somebody who is just getting started in the world of entrepreneurship and fintech?

Anthony: I think you have to, first and foremost, create a really strong leadership team. No one person is brilliant at everything, so be clear at what your own individual strengths are and then make sure you surround yourself with people who have those strengths that you don't have. You need to be very clear in your vision and make sure that everyone in the business shares that vision. I know from experience you have good days, you have bad days; you have good weeks, you have bad weeks; you have good months, you have bad months. It's just keeping going with dogged persistence if you really believe in what you are doing. If you have the right team around you and you have the right plan, you have more chance of success than many, many other people. But in fact, if I may give one more plug, I am writing, coauthoring a second book with Lucian Camp again, which is called 'How I Raised the Money.' It's a series of stories of entrepreneurs and the challenges they faced and how they overcame them to raise the money to start their businesses. Because I think there are lots of things out there that tell people where the sources of capital are, but nothing that really explains to people the kind of problems they're going to face and how they can overcome them. Many entrepreneurs, sitting alone in their office, or their bedroom, or their garage, or their study, feel like they are the only person who has ever experienced this problem and the whole purpose of our second book is to say, "You're not alone. Here's how other people went through that same problem and came out the other side."

Chapter 16 Nick Ogden

Company name: ClearBank

Location: Oakland, California, United States

Description: ClearBank® is the UK's first clearing bank in more than 250 years. Nick is a serial entrepreneur having created Multimedia Investments Ltd., Worldpay, Voice Commerce Group, Clearbank and RTGS.global. ClearBank is creating a new level of open competition and transparency within the UK market by using state-of-the-art technology to improve the clearing bank experience, making payments faster, cheaper, and more efficient.

Roles: Nick Ogden, Founder and Investor Director

> *You need to empower your team, to be able to think that they can effect change as well. If they don't think they can do that, they're probably in the wrong job.*

Agustín: Let's begin with how you got started in business and how you're moving to financial technology.

Nick: Back in 1990, I was doing work with Sony on their electronic book, you know the electronic books that are now on the Kindle and all the rest of this.

Agustín: You were designing it?

Nick: I was involved in some of the initial development work around the entire electronic book platform, and one of the things that I did was to convince Sony and Panasonic—who were the owners of the intellectual property rights for electronic books—to open the market up, to allow that code to effectively be widely used, rather than being used within proprietary hardware, which is what it was designed for. The consequence of doing all that work, meant that I got very involved with a lot of the publishing houses. Collins, Penguin, all of the big, global publishing houses. In early 1994, I was at a book fair in London

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at the Hammersmith Novotel. We were talking about electronic books and everything around them, and, as part of the exhibition, there was a room with some guys with some computers, showing the Mosaic browser, and saying that this was the way that publishing was going to change and that all of the people in the big room were going to be out of business in a years' time, and all of the people in the little room were the future. When I saw the Mosaic browser for the first time, I realized that it had massive, massive implications. Because it meant navigation of computers would become easy for everybody. Because up until that point, computers had been relatively complex. I got quite excited about the fact that Mosaic was arriving and potentially we could change the way things worked. Moving on from that, I tracked down the guys who were involved with the UK educational Internet, called edX. Again, this is all in 1994. I agreed with them that we would put a lease line into edX and effectively start providing Internet services in Jersey, in the Channel Islands where I lived. So we put in a 64K lease line, which was massive bandwidth then, and that was the information superhighway. Across the English Channel from St Hellier, the capital of Jersey, into Tim Challenor's attic which was in Wimbledon, and that was the creation of the commercial Internet in the Channel Islands. We put a full 14400 US Robotics router on a window shelf in our office, and connected them to four phone sockets. We had a 486 computer called Zippy, and access to the Internet in Jersey and Guernsey was born. As well as doing that work, we also ran a thing called Jersey Card which was a host provider/host providing service for Barclays bank, for the point-of-sale systems in the Channel Islands.

Agustín: How did you move from Internet provider to e-commerce pioneer?

Nick: During the summer of 1994, I had a mad idea that what we could do was to take credit card details off the front of a credit card, off a web page, post them through our system, onto the X25 pad that we had that connected us to Barclays and process a digital transaction—which is what we did. And it worked. By October of 1994, we had built the world's first e-commerce shop, which was called the Wine Warehouse. And what it allowed people in the Channel Islands to do was to buy wine and get it delivered to their homes, from a supermarket group which is still in existence called the Le Riche Group. We had one of the guys from Barclays come to see us a couple of times a year and we showed him this online shop working; in I think it was November of 1994. He was completely stunned, went back to Barclaycard Head Offices in Northampton and, early in January, we had a team show up from Barclaycard and Barclay merchant services, to find out whether what we said we'd done was true and whether it worked and whether it was scalable. We sat in a restaurant in Jersey, after we had gone through and shown him the technical side of what we did, which in those days was very, very simple, and agreed on the back of a serviette that we would build a project called Barclay Square, which would be the world's first bank endorsed e-commerce mall. Virtual Vineyards in California followed us in January 1995.

Agustín: Interesting. So what sort of relationship did you create?

Nick: We worked together; it was a joint venture with Barclays bank. We had three people in our office and Zippy the computer and Barclays bank had thousands of employees. We worked together; we did all the technology; Barclays went out and got all of the customers, so it's Sainsburys, Toys 'R' Us, Argos, major brand retailers, getting involved with online sales in the summer of 1995. That was how, I think, e-commerce in the UK was effectively born. It wasn't a commercial success by a million miles, because we didn't have the end market of users. Anybody that wanted to connect to the Internet in those days, had to go through a torturous process of installing TCP/IP on their computer, getting a browser, getting it all to work, then getting a modem to connect up to the Internet, then hoping that the phone signal would stay up long enough for them to actually download a web page, and then to go through five minutes of waiting for the web page to refresh, when you went to look for the next one. It was far from a user-friendly experience, but even in those early days, we started to get a few transactions going through.

Agustín: Interesting. And how did the idea of Worldpay come about?

Nick: Very shortly after we launched Barclay Square, we started getting emails coming in from people, saying to us, "Could we tell them how much the goods were for sale on the shopping mall." My assumption was that the website had broken and we weren't displaying the pricing file. That turned out not to be the case. When we asked the question, "What did they mean?" it turned out there were people coming from France and Germany and Sweden, because the Internet, even in that very early stage, was international and there frankly wasn't very much to look at and the launch at Barclay Square had been a global news story, and so people were turning up to look at what we'd done. What they were saying to us was, "Look, we don't know what a pound is. We know what a franc is, we know what a Swedish krona is, or whatever, but we have no idea, the value of what you're selling." I guess my eureka moment was realizing that if e-commerce was going to work, we had to present goods and services in currencies that our customers would understand, otherwise they would never buy anything. That was the moment behind the creation of Worldpay.

Then, if you like, the challenge that then came was saying, "Okay fine, now we know there's an issue, that the global marketplace won't work." Cryptocurrencies and all of that stuff hadn't even been thought about then, but using conventional currencies without some ability to provide currency conversions, so people could make value judgment decisions, would effectively minimize sales minimal in this environment. We went back to Barclays bank and said, "Do you have a multi-currency payment processing system that we can connect to?" They said, "No, we're just a bank, go away." And NatWest had also come to us following the launch of Barclay Square, because we'd banked with NatWest, and we'd actually used their overdraft to help finance building Barclay Square. We agreed to start working with NatWest Bank, to connect in to their platform, their streamlined platform, which had built a multi-currency system for British Airways. We spent two years building this technology to allow us to do multi-currency transactions. During the process of that, I was trying to think, "What the hell do we call this then?" One morning, I was trying to think, we've got to call this thing something, and I came up with the brand name Worldpay and that's how that was born. Our first live customer was in September of 1997 and it was the Princess Diana Memorial Fund. We used to run natwest.com, so we ran the NatWest banks web systems for them and we launched Worldpay off the back of the Diana Memorial Fund, off the back of the natwest.com website that we operated for them, and effectively that started the story which is still Worldpay today.

Agustín: That's a great way to create a company.

Nick: Yes, it's what happened, and then from that we reached an agreement with Richard Branson to launch Virgin Biznet with him and we went on to grow—and Worldpay just took off. From 1999, we agreed with NatWest that we had to basically take on board all of the risk assessment processes and all of the banking stuff, because nobody, not even us, really understood the complexities and, more importantly, the opportunities of e-commerce. But we bought a hundred million pounds worth of credit insurance from Lloyds of London, to guarantee the banks that we're covered against insolvency risk. We had an interesting position to move forward from, which reduced the risk the banks had and Worldpay grew from 1999 to 2002, from zero customers to I think it was 12,000 customers. Had I known that it was going to be called fintech, I would have registered it as fintech.com, but I didn't.

Agustín: Well, I don't think it's a very popular website, the fintech.com one. When you started Barclay Square, was that a joint venture or was it a company owned by Barclays?

Nick: No, it was straight joint venture. We handled all of the technology and the intellectual property rights and all the rest of it, and they went out and did the selling. So they just became our sales team. And they'd get very upset by that, but it's an honest assessment, but it was, of course, a true partnership.

Agustín: That was a good decision to start with. You said you started Worldpay as a separate entity or did Barclays Square become Worldpay?

Nick: No, Barclay Square went off and became Barclays Bank's little platform. We ran that for them. Worldpay became a separate business.

Agustín: So, you exited Barclay Square?

Nick: No, we kept that running and it ran out of legs. It's quite funny. There was massive PR for Barclay Square when it was launched, but it needed momentum and commitment and at that stage, all of this was a brave new world. Budgets were tight, banks weren't investing in something that they didn't understand. So, Barclay Square sadly just slowed down, it lacked the sales and marketing investment from Barclays, to actually make it through and we were not in a financial position to do that. We were a little tech company, doing tech stuff. We were not a bank, a UK bank with the marketing budget to go and put a shopping mall service out to the UK public.

Agustín: Then in terms of starting Worldpay, how did you go about funding the company?

Nick: When we set up Worldpay, we started with one shareholder in Jersey, then as we started to develop the whole Internet platform and whatever; we got a number of trade partners investing in our group. Martin Sorrell was a great supporter from WPP. We had Mike Grabiner and Chris Hibbert who were the CFO and CEO of Energis. They were great supporters and shareholders. We had a number of trade investors; because what we were doing was new and the market was new and there wasn't really an established VC marketplace to do this in. Because of the relationships we were developing, and I think because of the luck we had in doing Barclay Square, we met a lot of people who were interested in helping us out and it was more of a friends and family financing, if that makes sense, rather than a formal going out and doing Series A, B, and C, funding, which is the way people tend to talk about these things today.

Agustín: Understood, it was a different time.

Nick: It was a completely different time. The big change to all of that happened in early 2001 when we were working very, very closely with NatWest and they became subject to a hostile takeover from the Bank of Scotland, that turned into a bid from Bank of Scotland and Royal Bank of Scotland [RBS]. We were heavily involved in all of that mess and during that process we were approached by

NatWest to see if they could invest in Worldpay, and we sold them a share in Worldpay, I think two days before they lost the battle and RBS took the business over. It was because NatWest belatedly had woken up to the value of e-commerce and electronic transactions and saw that as a way of saying to the marketplace, look we've been doing all of this, we kept quiet about it, but it was too little, too late. So we ended up then with RBS becoming a minority shareholder in Worldpay following that transaction. If you like, that was our first big cash raise. That was well north of ten million pounds and it was concurrent with the time that we were looking into an IPO, which of course ran out of steam because of the whole failure of the dot-com marketplace, with the share price collapse of last minute dot-coms and everything else that went on with it. The market became overheated and so we aborted our IPO, but we didn't need to push it forward, because we had very significant cash resources.

Agustín: When the takeover took place, did you leave Worldpay?

Nick: No. RBS remained as a shareholder. Then in 2002, they acquired Worldpay. I stayed on for about six months and then moved on.

Agustín: Was that a part of the deal, of the takeover?

Nick: You can read about that in my book! <Laughs>

Agustín: Oh! Sounds great. Yes, I like the cliffhanger. Moving on, what happened next with you?

Nick: What we did then was we set up a new company. I was convinced that mobile was going to change. One of the interesting things that we did in 1995, was work with a company called Cellnet. Cellnet was a BT [British Telecom] company that was involved in providing mobile networks in the UK. We had worked with Cellnet on SMS messaging. Probably one of the first, or first handful, of SMS transactions of a computer in the UK. I was personally convinced that mobile commerce would move forward, as would the use of voice as a tool to effectively take away the requirements of using a keyboard. We set up a new company called Voice Commerce Group, that does what it says on the tin, and started looking at the whole area of telephony. We built a platform very similar to Skype. We had a whole raft of different solutions. I funded that for a number of years, then we brought in a VC. By 2009, we'd been watching the changes in the payment service regulations that were going on within the European Union and by 2009, applied to become the UK's first non-bank payments institution, which we succeeded in being awarded by the FCA [Financial Conduct Authority] in October 2009. That was very important for us, because the changes in rules that were going on within Europe meant that once we had

had that authorization, we could apply to become direct members of Visa and Mastercard, which we did, and we became the first non-bank members of both Visa and Mastercard. Visa first, followed very, very shortly thereafter by Mastercard, in early 2010.

Agustín: I wasn't aware of this product. Is it still running in the UK, Voice Commerce?

Nick: Yes, it's re-branded; it's called CashFlows. So, just visit cashflows.com, it's still in existence. I'm quite lucky I've had three billion-pound financial service startups which has only been possible as a result of the fantastic teams that have supported me.

Agustín: Yes, is this one of them?

Nick: CashFlows is one, Worldpay is obviously one, and ClearBank is already one.

Agustín: So how did the Voice Commerce story develop?

Nick: What I realized, once we got the VISA and Mastercard certifications approved, is that what we could do is turn the merchant services account into a bank account. I went to the FCA and said, "Is there any reason why we can't turn a merchant services account into a bank account and have it operating as a business bank account?" And they went away and cogitated and thought about that and came back and said, "No actually, we understand why you're asking that. We don't see any reasons." Then we spent probably two or three months trying to find a sort code and finding sort codes for non-bank organizations, in fact, did prove to be impossible. We ending up doing a deal with HSBC Bank, to become an agency bank, underneath them, which gave us a sort code capability. That meant that all of the accounts we created became interoperable, interbank, bank accounts, with IBAN [international bank account number] and all the rest of it. What they effectively allowed us to do was then to offer a new type of business banking in the UK which we called CashFlows.

Agustín: So you're thinking there was, "How can we make CashFlows into a business bank?"

Nick: There were a number of reasons why that made sense and still makes sense.

Agustín: Yes, we can definitely see it now. At that point in time, I think it was status quo to have big banks only and have big barriers to entry into the banking business.

Nick: Yes, interestingly, today I sit and look at all the different opportunities there are in the marketplace. I can't do them all; it's impossible. Some of them I can see, but I wouldn't want to do, because I haven't got the skills. Certainly, there are so many opportunities to change the marketplace, which are just not being seized on, and I find it very surprising but, anyway, c'est la vie.

Agustín: Is that part of your book, as well?

Nick: Yes, part of my life probably.

Agustín: How did your move from CashFlows into ClearBank?

Nick: Effectively, we got to a natural conclusion with CashFlows and, in 2014, I was at a conference talking to the interim Payment Service Regulator Mary Starks, about the state of the UK marketplace and specifically in relation a direct provision of access to payment systems. We talked for a bit about what was right and what was wrong. I said to her, "I don't understand why there hasn't been a new clearing bank set up in the UK. Because if you look at the marketplace, when you want to create substantial structural change in an established marketplace, the only way to really do it, is to start something new. Because while the incumbents will promise you that they will change and they will do things differently and all the rest of it, they are not lying when they say that, that's what they would like to do, but the reality is that they can't do it, because it is impossible for them to do that. Because they'd have to change culture, process procedures, everything, and it's just impossible for them to do." So, I said, "Effectively, I think the only way, in the UK banking marketplace or to create change, is to bring in new." The benefit of doing that is you can bring in a completely new technology stack. "So you lose the entire legacy and you can go through a whole process of simplification and automation," I said, "but I'm certain there is a reason why this hasn't happened." And I said to her that I was convinced there was either a regulatory or a political reason why a new clearing bank had not been set up, because it seemed to me as a very logical and simple way to effect market change and one that I was convinced many other people had thought about and considered. So, anyway, she went away saying, "I'll get back to you," and a few weeks later she came back to me and she said, "Look, I've been around to the Treasury, the Competition and Markets Authority, everybody, talking to them about what you said to me." She said, "Nobody knows of a regulatory or a political reason why we haven't had a new clearing bank and actually when everybody thought about what you're saying, they actually all think there's every good reason why we should now have a new clearing bank; so if you want to have a go and talk to us about setting one up, here's the contact at the FCA, over to you." And that's how it all started.

Meeting with Mary was the start of a journey that took us a few years to complete, to get to a point where we managed to create ClearBank, which was the first new clearing bank in the UK in 250 years.

Agustín: In simple terms, could you explain what it means to be a clearing bank, because some of our readers will not be aware of that.

Nick: In the UK, historically, other financial services organizations relied upon predominantly the big four banks for accessing the payment schemes—faster payments and CHAPS [Clearing House Automated Payment System] and BACS [Bankers' Automated Clearing Services]. The problem with that is that the main banks were using legacy technology, access to systems was slow; and what we needed to do was to improve that technology capability to provide a single seamless interface, using ISO 20022, and also create an environment whereby the systems auto-reconciled. That was very, very important, because many of the businesses, prior to the arrival of ClearBank, were using batch processing tools and all the rest of it, which didn't auto reconcile and so they had—and some of them still have—significant costs involved in actually reconciling the data that they submitted through to their agency bank and then the responses that they received back. It was a very costly and non-effective process, but there was no choice. There was no competition in the marketplace, so the capabilities you got from one were the same as you got from the other three.

Agustín: How did ClearBank change that?

Nick: What we did at ClearBank was to change the whole technology platform, invest millions of pounds in building a brand new state-of-the-art platform that effectively delivered an API interface, delivered auto-reconciliation and effectively also delivered transparent pricing and service levels to these organizations, which historically hadn't benefited from that. The ClearBank proposition isn't just about reducing prices on transactions, because that's not the most important thing. The most important thing is actually reducing the overall historic cost of these services, and creating a new market platform, that is independent and neutral. Those two assets are keys to ClearBank's success. By *independent*, I mean, that we have no links to any other banks, we're totally standalone, and we obviously have no legacy. *Neutral* means that we don't actually compete with our customers. We are able to onboard all businesses, and while our customers may compete among themselves, we, as their clearing bank, do not compete with them. Historically, you may have a building society banking with one of the big four banks. Clearly there was an element of competition in that environment. With ClearBank, when a building society banks with us, there's no competition. We have no interest in competing with them in the marketplace. That was very, very important.

Finally, I think of financial stability. We keep all of our clients' funds ring fenced—at the Bank of England. What that means is that we're not using our clients' money for lending purposes. So today, if all of the ClearBank customers phoned me up and said, "Look, Nick, we all want to be paid back now before five o'clock tonight, UK time, we've had enough, give us all our money back," we can do that, instantly. We can pay all of that cash back, there's no delay on that payment to them whatsoever. I'll have some pretty upset shareholders and highly concerned members of the team, but from our customers' point of view, that financial security that their money is always whole, and safe and secure within the Bank of England, is equally important, and also market unique.

Agustín: Yes, it definitely is, in terms of clearing banks. Obviously, there's the big four and you. For them, this is like a business unit. It's not like there is another bank that exclusively does clearing, right?

Nick: No. The financial services marketplace is changing with Open Banking. I've been involved in this for a long time now, since it began. Where I see things going is that there is a split between transactional banking and financial services. Historically, those two services have been interlinked within the main banks. So you expect to go to your bank for an overdraft, you expect to go to your bank for a loan, and normally that's your first port of call for those financial services. If your bank says "no," quite often you then don't do anything. That has quite a detrimental impact to the economy, because your bank might be declining you on a funding application because they have their own liquidity constraints, which has nothing to do with your business. Where I believe the market's going, is a market where transactional banking and financial services will be split. So you pick your transaction bank, which will deliver the best high-speed instant service, brought to you. Clearly, we hope ClearBank will be doing that. Then you have access either via ClearBank or via open market sources, to a portal of financial services providers, where you can source the best deal that is appropriate to you, at that moment in time. So you're not in a marriage of inconvenience to a specific clearing bank, or to a transactional banker. You're in a market where you are actually encouraged to get the best deal possible for your business, because there's no interlink between the transactional services that you use, which relate to your cash flow; and the financial services that you consume, which relate to your financial investment in your business.

Agustín: Sounds like a good perspective. How long do you think it's going to take to get to that kind of situation?

Nick: It's happening now. So, during 2019 in the UK marketplace, you will see that happening. I can say that with 100% authority as I am non-executive Chairman of Funding Options.

Agustín: How do you see ClearBank expanding?

Nick: We're bringing up a bank in Ireland at the moment for a European bank, so we'll have euro processing; we'll have identical capabilities within the eurozone to those that we have within the UK. So the market reach of ClearBank, by the end of 2019, will be substantially greater than it is today.

Agustín: You mentioned Europe, you mentioned the UK. I'm supposing that this technology could go to other geographies as well?

Nick: Correct, it can.

Agustín: Is that in your plans?

Nick: I think we're going to see how 2019 goes. If a UK business today makes a payment to France, it takes about three days for that transaction to get there, and a French business making a payment to the UK faces the same time challenge. That's nuts. We will be delivering instant euro to sterling settlement in 2019, which will have a profound effect on commercial cash flow. Why that change hasn't happened before, I don't know. But we think that the opportunity that we have in front of us relates to transactional speed, efficiency, and customer service, that is, actually listening to what customers want. If you go and talk to banks, building societies, or businesses, they will say the same thing—we'd like to know that when we've made a payment, the other person's received it—and ironically that's exactly what happens if you pay somebody five pounds in a pub. You know you've paid them, and you know they've received it.

Agustín: In terms of your customer acquisition, you've obviously created a great product. How easy has it been to get people interested in using this platform?

Nick: When we launched ClearBank, nobody knew. We managed to keep the project silent or private for a couple of years; and part of that was my personal reason, that when you're setting up a bank you have no guarantee of success. The authorization of your bank is down to the regulators. You can't say, "Well, I'm going to do this test and I know what the pass mark is, and I think I'm going to get 85% and it's 80% to pass, so in two years' time I will have a bank." It doesn't work like that. What you have to do is go through a complex regulatory process, which ends up with a committee at the PRA [Prudential Regulation Authority] having a meeting to decide whether they're going to authorize you. And only post-second meeting do you know that you have been authorized and have actually become a bank. So, you have no certainty. What we didn't want to do was go out saying, "We're going to do this; we're going to do that." We kept the whole ClearBank project silent. When we launched it in February of 2017, it was quite an interesting moment in the UK marketplace, as you may remember. What we then ended up receiving was hundreds of inbound sales inquiries, which today we are still working our way through. Because last year, I made very clear when we launched ClearBank, that we were going to do it at our pace and in our time, because nobody had brought up all the payment schemes together before, nobody had created a new clearing bank, and no one would thank us if we made a mistake or the systems went down, or we had issues. So therefore, it's better that we went slowly; slowly testing everything out; building a platform carefully; resolving issues that we would have, we knew that we would, because everybody has issues, you know, it's an accepted part of creating a business. We ended up doing about just north of a billion pounds worth of what we would regard as test transactions, to actually prove the platform. Which I think was vitally important for our customers to know that we were doing that; and also I think it was important for the ClearBank team, to know that we'd gone to that level of testing and due diligence, to make sure that everything was working as well as it could.

Agustín: I completely agree with that. You mentioned that it's not only the fintechs or small banks that are interested in your platform, but also the other clearing banks might be interested in your platform.

Nick: We've had approaches from, I would say, the majority of the top twenty-five banks in the world, to talk to us about what we're doing. Many of those conversations are still ongoing. Those organizations are very large, they take time to make decisions. Our organization is very small, and we only have finite resources to devote to a long-term sales cycle with a large bank. So we just follow the process that they're running, rather than trying to accelerate it. That gives us more time to focus on the parts of the market where I believe true innovation is occurring. Frankly, that's the bit that excites me as an entrepreneur.

Agustín: When you say there is a bit of innovation, what do you mean exactly?

Nick: Market innovation, you know like looking at new ways that consumer current [checking] accounts can work. Looking at new ways that various different products can be sold and serviced; looking at how the internet of things [IoT] can be effectively structured, so that you can pay on demand for a whole raft of different services. A hundred and twenty thousand cars are going to be on the road in 2020, which effectively have ATMs built into them, and it's how you make all that technology work, because it actually needs to link in to a very tech-savvy bank to deliver the capability that the car manufacturers believe that they need to entice purchasers to buy their next generation of cars. There is a whole massive raft of innovation going on at the moment, which, as I said earlier, is personally very exciting.

Agustín: Sounds really interesting and you see ClearBank going into that arena?

Nick: We are already in that arena. We're already supporting a whole raft of innovation. Whether some of that innovation goes to market, whether it's successful—I have no idea, because I don't have a crystal ball. What I do know is that there are significant amounts of money and funding being allocated to a whole raft of innovative financial services projects, by some major players.

Agustín: What is your approach to innovation? Do you allocate a certain budget per year?

Nick: ClearBank's split very simply into two units. Innovation and operations. We've got about 150 people who are effectively innovation in relation to driving the technology, and the service delivery, and the new services forward, and operations who deal with risk, finance, all of the other onboarding challenges that we have, as a regulated bank.

Agustín: You are putting it at the forefront, it's really good to see this.

Nick: It's nothing, it's no different than what we've done at Worldpay and all the rest of it and that is to get the best out of a business. You need to empower your team, to be able to think that they can effect change as well. If they don't think they can do that, they're probably in the wrong job, because everybody can effect change. If you have an environment where you are effecting change and improvements, be that automation of an internal process, or coming up with a new market idea, it creates an office environment which is very, very exciting.

Agustín: Certainly, sounds like it. You've been creating a platform that replaces the current status quo, in terms of replacing the clearing part of the value chain. But still you've got all of these different types of ways to settle: BACS, faster payment CHAPS, and so on. Is there innovation coming in this area, to replace all of these schemes and put something in that's more efficient?

Nick: I think that everybody can see where there are areas where we could improve efficiency. The problem is, we have a market of 82 trillion pounds a year, which our economy is based upon, using different types of payment platforms, and it's almost the same argument as saying, "Well let's get rid of cash and go digital." It takes an inordinate amount of time for the processes to go through, to change the way that consumers use payment systems and organizations use that. I think it's very easy for somebody to say, "Actually, it's completely stupid, we should just get rid of it all and have one." The practical aspects of doing that are incredibly complicated; but I think that certainly those changes have started. There's a competition initiative that the Bank of England is running, there's the new payment scheme operator in the UK. So change is happening, but that change has got to be proportionately applied and carefully applied, otherwise you completely screw the market up and all you achieve actually isn't an improvement in efficiency, but a massive cost in trying to have customer service for disgruntled customers who don't understand why you've made the change.

Agustín: Yes, sounds like having the idea of the right timing is important.

Nick: We've always had a concept since 1994. All the companies that I've been involved in, we've had one employee who's remained with me through the whole of that life. She's a lady called Mrs. Smith, she's a D type social, D type consumer. We've always viewed the fact that if she can understand the technology and the services and platforms that we're building, then there is a chance that they will be commercially successful. So we've always tried to bottom base down, anything that we're doing, even some of the really exciting, next generation stuff. That's all great, but at the end of the day, it's regular people who have to use this stuff. I see some fantastic technologies, but there's no way that most people would actually be able to use it. If you go around to some of these conferences and exhibitions, you'll see the same sort of stuff that I'm referring to.

Agustín: Yes, definitely. You've picked some good winners. I wonder how you pick your winning ideas, because there is a limit on the number of projects that you can be working on at a time.

Nick: I think it comes down to two. I'm fascinated by market change and perhaps my brain is wired a bit stupidly, but I see ways to make improvements in markets and then I've been fortunate enough to get the teams together to actually create and enable that change. While I might come up with a bright idea, honestly, it's the people who have to suffer working with me and put that idea into practice, those are the real heroes.

Agustín: What would you say is your added value? Is it like visionary? How would you describe yourself as a leader?

Nick: I could always see over the hedge. Yes, a phrase I've taught all my kids and I try to teach everybody in the firms we have. That is, the answer is always "no," unless you ask the question. What I mean by that is, if you don't know something and you're frightened to ask the question, the answer is "no," because you're never going to know and you're never going to have tested it. If you ask the question and the answer is "no," you're actually no worse off. You're better off, because you've cleared a hurdle for yourself. It's my strong advice to everybody, ask the question, it doesn't matter. If somebody thinks, when we're going through the regulatory process, I used to say to the regulator, "If I'm a pest, I apologize and if I ask stupid questions, I apologize, but it's important we do this to make sure that we get the best bank we can," and that's my firm belief.

Agustín: It seems it's been key in your career the way you have dealt with the regulators. What's been your approach?

Nick: Just by exactly the same as the conversation we've had on this call. Straightforward, open, honest. It's just easy, and regulators aren't there to beat you up, they're there to actually ensure an orderly market, ensure that customers are protected, and I share the same goals.

Because the word regulator strikes fear into some people, I find if that happens, they're in the wrong market and they're in the wrong job. Because they're only there to strike fear into you when you've done something completely stupid, or worse, dishonest. If the latter one happens, you deserve to be hammered.

Agustín: You mentioned you were writing a book. What's the book about?

Nick: It's about some of the details of the conversation we've had today that I haven't shared with you. I'd been threatening for a while to write the world's most boring technology book and that's what I will do, and complete, as I said, during the course of this year.

Agustín: Your story is amazing, so I'm sure that loads of people would want to hear it and learn from it. If I may just ask a final question: Who do you learn from, who do you rely on to learn things?

Nick: Everybody I meet. I think that every day we learn something new from everybody we interact with, and that's my philosophy. It's very easy if you become successful to become arrogant, assume you know it all. I absolutely know I don't know it all and I know compared to many people, I know quite little. I think it's important to talk and listen and learn, and if you do that every day then you potentially become a better person. It certainly hasn't done me any harm.

Chapter 17 Norris Koppel

Company name: Monese

Location: London, United Kingdom

Monese is a banking service that gives people the financial freedom to thrive anywhere. It has innovated by enabling multi-currency EUR (euro) and GBP (British pound) accounts available in 31 countries. It fully supports 12 languages and allows people and businesses to bank like a local across Europe and also the UK. With over one million sign-ups, 70% of incoming funds being from salary payments, Monese is one of the most popular and trusted banking services in Europe and the UK.

Roles: Norris Koppel, Cofounder and CEO

Traditional banking has failed people on the move.

Agustín: How did you get started in fintech?

Norris: For the past decade, I have co-founded and built several financial services and technology companies in the UK. I have always been passionate about financial well-being and education. I am the founder of the Artha Foundation, a charity that promotes financial literacy in schools in Estonia.

Agustín: What inspired you to start Monese?

Norris: Monese was born out of my first-hand experience with the hassle involved with opening a bank account in a new country. Traditional banking has failed people on the move—it was developed when people lived most of their lives in the same place. Opening an account can be time-consuming, expensive, and, at times, painful if you are new to a country, as you cannot bring your

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existing account with you. Local requirements can be rigid and bureaucratic. This frustration is compounded if your life and your business takes you to other parts of the world and your bank accounts are not seamlessly connected across countries. At Monese we're working to fix that.

Agustín: When did you feel you had a breakthrough that pushed the business forward?

Norris: When Monese became the trusted, primary salary account for most of our customers. Unlike many other digital challengers, we are a primary banking service for our customers. Over 70% of our incoming funds are salary payments. This tells us that we are trusted and our banking services are meeting a real need. We have seen fantastic support for our platform and we consistently rate highly across sites like Trustpilot, but we're never complacent and we're not stopping here.

Agustín: How did you manage to expand to 20 countries in so little time?

Norris: In June 2017 we followed up on our hugely popular UK current [checking] account and launched our European IBAN [International Bank Account Number] account. Across the platform we now have over one million signups. In October 2018 we launched Monese Business.

We were able to expand across Europe and to business banking for two reasons. First, we really spent time on understanding our customers and their needs. We know that life moves fast for individuals and businesses and they need fast, connected, and transparent banking. We also know that people want a banking service that speaks their language and uses their currency; that is transparent on pricing; one that makes it easier for them to live, study, work, travel, and retire anywhere in the world. Our personal and business accounts meet these needs and allow people to bank like a local wherever they may be. Second, we had confidence in our product. We knew we had a tried, tested, and trusted platform. Customers trust us with their salaries and that tells us that Monese is meeting a real need.

Agustín: Where do you see Monese going next?

Norris: For me, this is just the beginning. We are working toward bringing Monese to many other countries, enabling people to access and move their money securely through our rapidly growing international network with the high speed and low cost that you'd expect in this 21st century.

Agustín: How difficult was your process of finding investment for your business? What's the difference between the initial rounds and the whopping last round?

Norris: We don't look at the process in terms of difficulty, it's about choosing the right investors with the right expertise.

There is a big difference between early-stage and late-stage investments. In early stage, you do not necessarily have to have a working model or much traction, sometimes just a great story and good team is enough. At later stages, it becomes very much about demonstrating a real product market fit and great traction.

We have had a tremendously successful 2018, which is evidenced by the investors we secured in our latest Series B round. This funding round was led by Kinnevik, a [Sweden-based] global investor focused on digital businesses, with participation from PayPal, European investor Augmentum Fintech, and International Airlines Group for its loyalty, and travel business Avios Group Ltd. We chose these investors because they bring unmatched expertise which can help the company navigate through the next stage of growth.

Agustín: What is the key to keeping your customers so loyal?

Norris: It's very simple—building a service around the customer, something that makes their lives easier. What we offer is a smart and connected banking service for lives on the move. It is built around people's lives, not around jurisdictions. It is built to help our users manage their money in all the places they may be; all from a single app, in their languages and currencies. We move with our customers and keep them connected to people and businesses in all the places they call home.

Agustín: What advice do you have for setting up a software development center for a high-quality and cost-efficient fintech?

Norris: Think of your client's customer base. We work with partners that understand our customer needs and can help us respond quickly with a scalable and flexible resources.

Chapter 18 Ricky Knox

Company name: Tandem

Location: London, United Kingdom

A UK-based challenger bank that makes managing money simpler for retail customers. Tandem shapes its products with the help of its active community, which began with 11,000 founding members. It acquired Harrods Bank to become a fully-fledged bank.

Roles: Ricky Knox, CEO

> *I felt there was a place for a bank that genuinely wanted the best for their customers... It was about taking us back to the ethos of helping people on a personal basis.*

Agustín: How did you get started in fintech and how can others learn from that?

Ricky: My fintech journey begins before it was even commonly referred to as 'fintech.' I actually started off my entrepreneurial career by building a telecom business that would recycle equipment to bring telecoms to the developing world. That's where I found my place in tech and saw it as a way to overcome challenges and help people. My first financial services business was Clarity FX, a software business that saved money on foreign exchange fees. From there I set up Hexagon Partners, which invested in emerging technologies. We were looking at the next big trends to invest in and we settled on "technological disruption of retail financial services." Now known more succinctly as 'fintech.' I then set up Small World Financial Services to make it cheaper to drive remittance flows which go directly to some of the world's neediest as a pure play digital business.

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Agustín: That's sounds like a very early and promising start. Where did you go from there?

Ricky: I later cofounded Azimo to do this on a massive scale. We wanted to make the process of transferring money as frictionless as possible; this idea of simplifying finances has really been brought across at Tandem. After I stepped away from Azimo I wanted to make something that was large, impactful and transformed people's lives. Banking felt so broken, specifically the morals and ethics. For an industry that plays a central role in someone's daily life, this wasn't okay. The industry had moved a long way away from the bank manager being a trusted pillar in the community. I felt there was a place for a bank that genuinely wanted the best for their customers. I was able to apply what I'd learned along the way, and harness customer's financial data to offer them services that made managing their money easier. It was about taking us back to the ethos of helping people on a personal basis.

Agustín: What mistakes did you make that you have learned from? Was there ever a time when you thought Tandem will not work?

Ricky: There have been a lot of mistakes along the way, less so with Tandem, though. I think tech is about evolution and change, much more than other businesses. You have to keep trying new things and build up your vision and expertise over time. At Tandem, it's been a process of adapting to running a bank; building new kinds of relationships with regulators and making something that can stand the test of time. When House of Fraser pulled our investment back in 2017, that was a major blow. We needed a banking license to get our products in people's hands and it just felt like a massive setback. I knew it wasn't the end, mind you, but at the time it was tough.

Agustín: When did you feel you had a breakthrough that pushed the business forward?

Ricky: The breakthrough for Tandem was buying Harrods Bank in January 2018. Suddenly we could deliver on everything we'd been building over the last few years. We gained £80 million of capital, pretty sizeable savings and mortgage books, and an all-important banking license. From there, we've been able to scale quickly, growing our customer base and launching a suite of credit and savings products. We have even bigger plans for the future.

Agustín: How difficult was your process of finding investment for your business? Could you comment on your acquisition strategy?

Ricky: Finding investment for Tandem was incredibly hard. To get a banking license, you need tens of millions of pounds, and for a pre-revenue business that isn't easy to come by.

My acquisition strategy definitely varies on a case-by-case basis. Tandem's acquisition of Harrods Bank was focused on securing capital, but we've since acquired the money management app Pariti, which was more about gaining talent and their experience and expertise. Pariti's CEO and CTO have both joined our team and are now playing key roles in shaping our digital products moving forward. I think acquisitions are about identifying and understanding a need and finding an opportunity that really does satisfy that—if it doesn't, you're wasting your time.

Agustín: What specific pieces of advice would you give to somebody that wants to start a fintech?

Ricky: The biggest piece of advice I would give to someone wanting to start a fintech is don't ignore the regulators. They wield a lot of power and are there for a reason, they also offer a lot of expertise and advice. You need to play by the book if you want to offer any financial service—people are trusting you with their money after all. That being said, regulation and compliance is not always black-and-white. You need to understand the intent behind regulation and make sure you are faithful to that.

Agustín: What is it like to compete with so many new banks? What will retail banking look like in five years?

Ricky: I don't really compete with that many new banks! Every other industry has hundreds of competitors in a new exciting space—it's nearly impossible to get a banking license and I have just a handful of competitors, or around forty if you count established banks like Barclays. Even among the digital challengers, we're all coming at customer problems from different angles. We each offer people different products and solutions and we are all doing great things.

Agustín: How do you see the retail banking industry evolving?

Ricky: In five years, retail banking will look a lot different. There will be a lot less discussion of "digital disruption"—if you're not offering digital tools, you'll have been left for dust. Open banking will have seen widespread adoption and there will definitely be a lot more consumer awareness about the options available to them. At the moment, a lot of people bank with a single institution and don't shop around for better products or rates. It's rare that a big bank will offer market leading services across the board, so you're probably being underserviced somewhere. For example, a lot of people still have money sitting in an easy access savings account that earns them close to nothing. I'd like to think that in five years this will have changed.

Chapter 19 Mutaz Qubbaj

Company name: Squirrel

Location: London, United Kingdom

Squirrel is an award-winning smart banking app that empowers people to take control of their money. This startup is doing an amazing job at educating people in the UK on how to save, and fighting for financial inclusion. Their product has helped thousands of people save money for their objectives.

Roles: Mutaz Qubbaj, Cofounder and CEO

> *We wanted to provide people with certainty in terms of what's happening with their money.*

Agustín: How did you get involved in financial technology?

Mutaz: I was an engineer by education—an electrical engineer and computer science major in the US, at MIT. After working with an Internet startup in Boston, I went into investment banking at Morgan Stanley and then Credit Suisse, and on to sales and trading, as well as research and strategy. That was a career that spanned about eleven years in the US on Wall Street and close to three to four years over here in the UK. At some point I just wanted to take ownership of a business. I wanted to get involved in a different context where I would actually have full control of the business and where I could actually move the needle for people in a very tangible way.

Making the jump into entrepreneurship involved, you know, taking a number of classes, going to a number of accelerator events, Google campus events, and just throwing myself into the whole ecosystem. Just looking for the right way to leverage my financial background in a way that could help me move the needle for people when it comes to helping them change their lives. For the better, of course.

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Agustín: How did the idea of Squirrel come about?

Mutaz: I'd seen the issue with payday loans crop up in the UK, especially in the context of payday loans being offered as the quickest, easiest way to get credit but effectively turning into a tool that preyed on people when they were most vulnerable. They needed that credit, but they didn't know the consequences of taking out those types of loans because they were either lacking choice or that credit was too easy to access. It was the easiest route to take care of an immediate need, without realizing or having the time to take into account the consequences. That's when the first iteration of Squirrel came to be. It was originally an ethical, affordable alternative to payday loans. We initially approached employers and said, "What we can do is provide your employees advances against their wages, as long as they're repaid back through their salaries." What we found is that we were going to have significant difficulties with that model.

Agustín: That doesn't sound like what Squirrel is today.

Mutaz: Squirrel was more about the initial iteration of the solution that I'd come up with along with my cofounder, providing people with an alternative to payday loans. Then we realized that the main issue wasn't that people were looking for an alternative to payday loans, it was being able to take control of your financial life. We realized the truth of the situation was that people are bad with money, and that there are so many forces out there that push people toward spending easier, spending faster, spending with more pleasure.

There are forces that capitalize on that spending, coming from the retail side where every retailer is trying to make sure that they are in front of you—day in, day out—to make sure that you can spend money on stuff that you don't really need, at any time of the day. It was a realization that there are forces out there that make spending much easier, that take away the pain of spending; like the transition from cash, to credit, to contactless. Forces that make spending more pleasurable like, "Oh my God, you just spent an extra two to five pounds on your latte and, just, we've given you a great way to track it, but keep on going." Then on the retail side, you've got every offer under the sun thrown out at you. Right now, we're going through Christmas and Boxing Day and every retailer is thinking about ways to make sure that they push that need for instant gratification, and they push that need for you to feel like you're missing out by not spending on something.

A lot of people will spend their way into their overdraft, a lot of people will overspend, and it's because there are no real tools out there to really control it, to give people control over their spending. Squirrel evolved from trying to give people an alternative to payday loans, to giving people a means by which to take control of their money—at a fundamental level. Now what that means is making sure that people can set a plan for their money and then for us to give them the tools to make sure that they stick to their plan, as easily as possible. We want people to get comfortable setting their story, and then using Squirrel to stick to it. This involves giving them a smart bank account that helps them manage their money, even before they get access to it, that they only get access to the money that they need for their commitments, their savings, as well as their spending right before it's due. The idea there is, they are effectively using Squirrel to lock away their money so they don't have to deal with the temptation of misspending it, before it's due. Their rent money is there when they need it, their holiday money is there when they need it, and their spending money is there on a weekly basis, so they don't have to worry about it. There's certainty in terms of what's happening with their money. And our proprietary algorithm makes sure that people keep on track when it comes to their budgeting plan.

Agustín: How did you get involved in the fintech scene?

Mutaz: In terms of getting into the fintech scene, the first push was applying to the Barclays Techstars accelerator in 2014 and then being a part of their first fintech cohort and going through an amazing mentorship program, which put us in front of a hundred plus mentors who dealt with everything from investment, insights into our business-to-be as well as marketing and design through to building out our team from scratch. Then, post the accelerator, it was making sure that people knew what Squirrel was all about. It was getting involved in ways to gain recognition from the right community, so everything from winning the WIRED startup competition, to winning the Pitch@Palace competition that was hosted by the Royal family, to then getting into the Wayra accelerator run by O2.

Wayra helped us get a better feel for putting Squirrel in front of business clients, as a B2B proposition. At that point, we were testing Squirrel as something that could be put in front of employees as an employee benefit and could be covered by employers. Then we moved on to developing the product, evolving it into a pure business-to-consumer product. It's still used by a number of employers, but in terms of the channels that we use to get to market, the focus is on the retail channel. It's about people who want to take control of their money. It's about people who want to feel empowered with their money. It's about people who want to make sure that they have a simple way to set and stick to a plan when it comes to their money. So that's a bit of the flavor.

Agustín: Thanks! I was wondering, when did you decide to change the business model? Did you first try to do the payday loan alternative and, at some point, did you say, "This is not working?" How did you decide to change that?

Mutaz: Okay, so on the payday loan alternative front, we were looking at promoting Squirrel as a direct-to-business product and there were quite a few issues that lead us to shift away from the direct-to-business product and a few things that made us move away from it being a payday loan alternative altogether. On the payday loan alternative side, it was effectively delaying the problem, as opposed to solving it. That's the way we saw it, and we saw people that were not necessarily looking for a solution, in terms of, "I'd like an alternative to a product that's already out there." It was more of a, "I don't want to get into this product to begin with." The problem was more about running out of money as opposed to, having a solution once they've run out of money, because the problem has already manifested. The idea was simply postponing the problem, and it was not really an effective solution.

In terms of going to businesses, employers don't necessarily want to get involved with their employees' finances. I'm actually going to take the word necessarily out; they don't want to get involved in their employees' finances when it comes to distress. When it comes down to providing the alternative to a payday loan through an employer, the first thing through an employer's mind is, "Well, what happens when things go wrong? What happens if the employee needs to leave the firm? What happens if the employee comes back and says there's not enough money in payroll to cover the payment for the loan that's been taken out through me as an employer providing a benefit to my employee?" There was a lot of uncertainty around that model, and it's still one of those models that you could see is still finding difficulty catching on. There are a few players in the market who are still trying to make a go of it, but providing credit to your employees during a bad time, as opposed to helping them take control of their money ... Well, you're just delaying the problem. And it's likely that the same employees that have issues with payday loans are also going to have those issues come their next payday with an alternative that just kicks the can down the road. It just amounts to providing them another way to get into that type of debt.

Agustín: Thanks! Did you do any market research on your new approach?

Mutaz: We did sit down with hundreds of people and were asking them: "What keeps you up at night about your finances?" The main things were, "I'm bad with money. I run out of money before my next paycheck. I can't save for the life of me because I just start my savings goals and I can't keep myself from dipping into them, they're just always free and easy to access." Customers also just don't know where their money going. So the combination of those elements is, "I tend to run out before my next paycheck," "I can't save, I don't know where my money is going," and just, "I can't make it to the end of the month."

The idea became to build a product that addresses that fundamental need to not run out of money, which ties into taking control of the money, and that's where Squirrel evolved to where it is today. You set a plan for your money; you set your budget for the month; you deposit your money into an account that's separate from your current [checking] account—so you're effectively setting some separation—locking away your money to an extent, by your own control, into an account that will drip-feed money into your current account, or give you access to your money right before it's due. Now you have a budget that you're accountable to, that you set within the Squirrel app. You've got an account where your money is being held safe and sound, it's being held in your name, until your money comes due; and it's also going to be releasing money to you based on your goals. As a result, it's that separation that is a pause button on spending. There's nothing out there that actually allows people to pause their spending, and we've made that possible. People are effectively locking their money away from themselves because they don't want to deal with the temptation of misspending their money before it's due, in order that they can hit their financial goals. That's where the value proposition is, because once you are in control of your money, you never miss a bill. Once you are in control of your money, your savings are set aside even before you get access to them, in a savings portfolio, that shows you how far you are toward reaching your savings goals, as well as telling you when you are off track. And any excess money that comes into your account is used to top up your savings goals, with behavioral finance factored in to make sure that we can help you accelerate hitting your goals, over your life, during your experience with Squirrel. That's what we'd focused on. For these people, lending or the credit alternative just didn't work. There's a pure financial education side, which we're looking at as well. Teaching somebody who has run out of money is a very myopic solution and only hits the tip of the iceberg in terms of solving the problem.

We have tens of thousands of people using Squirrel right now and we were ranked the UK's number-one savings product. This is on the back of a product that is purely meant to help people not run out, improving their ability to actually take control and save. We've helped people consistently save ten times the national savings rate, because Squirrel is that effective. For us, it's always been about engaging with the users on a consistent basis to make sure that every piece of the interaction that comes through Squirrel is geared toward improving people's control over their finances.

Agustín: I'm wondering what your view is on "open banking."

Mutaz: That's something that we're working on now. For us, open banking actually eases part of the onboarding process, eases part of the monitoring process as well. The idea is that somebody signs up through Squirrel, and we get access to their transactions, help them set up their budget for them, automatically, and the next stage would be to monitor how their payments are matching up to their plan. It basically covers everything from, your income being deposited, to your spending matching the plan, and then highlighting any discrepancies and also using that information to make sure that getting up and running with Squirrel is as easy as possible. That for us is an exciting push in the evolution and the future of banking. People are going to have an amazing opportunity to choose specific banking value propositions from different providers out there that are specializing in everything from payments, to international transfers, to spending, and, in our case, personal financial control. And that's personal financial control as opposed to easier, more pleasurable spending, or traditional ineffective personal financial management. That's where we carved out our value proposition. And open banking is providing a catalyst to empower us to build user profiles on the fly, as well as to make sure that people stay on track when it comes to their goals for using Squirrel—taking control of their finances. That's making sure their bills are never short or are paid on time; making sure their savings are set aside, as and when they need to; making sure they get the right amount of spending based on an allowance they've set themselves. It's control that they've never had before because what a current account does, even with neobanks is, you have immediate access to your money and the fact that you have immediate access to your money means that temptation is always going to be there, and it's just a matter of working with the two forces I mentioned earlier. Whether it's the force that says "we're going to make it as easy as possible to spend and make you enjoy it," and that second force which says, "we've got something to sell you and we're going to make it easier for you to buy. We're going to make it more attractive for you to get immediate gratification and we're also going to make sure that you feel that FOMO (fear of missing out) if you don't get it now."

Agustín: I was going to ask you about the cost of acquisition of customers. You've had a lot of press, which I'm sure has helped with gaining customers, but how do you plan to expand your services from tens of thousands to hundreds of thousands?

Mutaz: For us, what we've found is that we've been able to change peoples' lives, so they're happy to tell their story, because it's a very human story about putting out there what Squirrel's done for them. People constantly say, Squirrel changed their lives, and they're vocal about it.

Agustín: I have seen, on your website, hundreds of reviews and they're all positive. You have an amazing product.

Mutaz: And for us, that's the tell-tale sign that we have the product/market fit in place. For us it's priority number one. Our community has been one of the most important promoters of Squirrel and they tell other people, and a lot of it comes through referrals. But on the other side, we've also realized that once we closed in on the value proposition, it's been all about getting in front of people at the right time in their lives. It's at times that we call life events. Whether it's people entering the workforce for the first time, people starting out, buying a house, buying a car, having a baby, getting married, getting engaged, saving up for a big holiday—these are points in time where people are looking to recalibrate their finances and, from that standpoint, it's finding the best tools to get in front of those individuals, whether it's through paid search, or just social media, as well as pitches on the PR side, just to make sure that the Squirrel story is known and that the "Squirrel effect" is known, in terms of how it's changing people's lives. For us it's been more about the combination of pushing the social media side to acquisition of new users, and also pushing that organic community feel, that drives more interest in a product, through changing peoples' lives. For us, in terms of getting people to deposit into a Squirrel account, we've actually brought our cost of acquisition down to a fraction of what banks are paying right now to bring on a depositing customer. I won't go into details there, but it's a small fraction of what the banks are paying to get depositing customers. We've been able to do that by setting up the right engagement, the right targeting, as well as the right value proposition, to bring people on board with the right benefit in place.

Agustín: Do you pay interest on your savings?

Mutaz: No, we do not pay interest on the savings. For us the main focus is, the savings are held—this is not a savings account per se, it's a place where money is set aside. So if they don't make any interest, we don't make any interest. The idea is that our main focus is simply that your money is there when you need it.

Agustín: Do you plan to apply for a banking license?

Mutaz: We may do that down the line, but for now, we don't need to have the banking license. The money is currently being held in an individual's account in their name and that's as much as we need by way of banking structure in place given our value proposition—making sure that your money is there, as and when you need it for your savings goals. What we've seen is —and this is a constant complaint we get from other platforms—"I've tried to save, by the time I get to the date of my savings goal, that money's not there." With Squirrel, that money is there for you; and in the current low-interest-rate environment, you might be making up to twenty basis points. Unless it's on a teaser rate for a very small amount of money, that opportunity cost is not that great. When you consider it, that opportunity cost is tiny, if anything at all, when you consider that Squirrel ensures that your money is there when you need it. So if you're saving up five hundred pounds for the end of the year, with other platforms you may end up with nothing, with Squirrel you end up with five hundred pounds, if not more, in your account by the end of the year. That's because we've made it work. We've been able to get people to save ten times the national average, through our technology. We've validated our ability to do that for people.

Agustín: Sounds like a great story. I would like to learn more about your fundraising. You did crowdfunding with SyndicateRoom, right?

Mutaz: We did raise an investment round on SyndicateRoom, yes. For us in terms of funding we came out of Techstars and had an angel round, with a few seed stage institutions. Then we went through funding with SyndicateRoom and we also went through crowdfunding with Crowdcube as well, at some point. So, on the SyndicateRoom side, what really stood out was you've got a large embracing community; and it's a community of angel investors that have just been able to provide mentorship or advice or insight along the Squirrel path, which has been great. The platform's extremely well run. I don't want this to be a bit of a puff piece on them, but it's a good place to get a lead investor, and it proved to be a good place to get people that are excited about what we were doing on board, as well as people who were in the know when it came to providing insight on our business model, and the type of goals we should have for ourselves as a business.

Then we also went through the Crowdcube route, which was more focused on the consumer side, a way to bring more capital in but also to give ourselves a feel for the type of validation we're getting from a more consumer-based audience. So, Squirrel today has been founded by angels, a few seed level institutions, and the two crowdfunding rounds that I mentioned. If people are looking to get involved with changing peoples' lives in a very tangible way, we've made Squirrel a sustainable way to do that and we want every stakeholder to be excited about what we're doing for people across the UK. People whose lives are being changed by our technology, for the better.

Agustín: You have inspired me to go and try out one of your accounts. To finish off the interview, have you thought about international expansion?

Mutaz: There is a very strong will to make Squirrel a global story, between talking to people in the US, Australia, South Africa, Asia, and the Middle East, there's a need for this solution on a global basis and there's an excitement about the solution on a global basis. But the idea is UK for now.

Agustín: One significant fintech from the US is Acorns, with Acorns licensing their software to loads of different companies; you could actually do something similar to their business model.

Mutaz: Most definitely. That's where open banking can take us as well, at least across Europe, where technically Squirrel can become a SaaS, banking software as a service product, where it effectively could be a plug and play option on top of banks. As part of the growth strategy I talked about earlier on, it was a direct-to-consumer push with referrals, paid search, and paid performance all playing their part in our scaling process.

The other one is, Squirrel could became a white label platform at some point; where banks are looking to ensure that their product is attracting more deposits, or that people who are using their accounts are less likely to default, or are more likely to become potential customers of products when their credit scores improve with Squirrel, if we're keeping them to their bills or keeping them to their goals. This is what we've done with a number of people in the Squirrel community already. A good and growing number of people have used Squirrel to improve their credit scores and saved up enough for their first mortgage down payment. The idea there is, Squirrel's not just for a certain period of your life, it's a force that's going to empower you across anything that you want to achieve with your finances. It's not just a stepping stone, it's something that you can bring in to improve every part of your financial life. In terms of Squirrel evolving into a banking SaaS product, where it seamlessly plugs on top of any bank service provider out there, is something that we're looking into. We're currently talking to three engaged partners about setting up the first iteration of this type of product over the next six to twelve months. At the end of the day, that's another way to get in front of a mass community and it's exciting.

Agustín: Yes, and my two cents is, I think young people that are getting started on managing their money would really benefit from this product.

Mutaz: Most definitely! If you think about anyone on the spectrum from young people going into that first job through to people that are well into their professional careers, everybody's looking for a way to take more control of their money. They're looking for a way to feel empowered with their money. We address that need on a fundamental level. And we do it effectively.

Agustín: Thanks for your time and thanks for helping all these people with Squirrel.

Chapter 20 Matthias Kröner

Company Name: Professional Development GmbH,
incubator for Fidor Group
Location: Munich, Germany

Munich-based Fidor is the first digital-only bank in Germany and now commercializes its technology tools and products to banks and startups around the world. Fidor Bank was one of the co-creators and enablers of fintech and used as a role model for many initiatives. It turned out to be a progenitor of open banking, offering the right technologies and API structures to create digital banks.

Roles: Matthias Kröner, Founder

> *People immediately trust non-traditional organizations because they lack any association with disappointment or greed.*

Agustín: Before Fidor, you founded DAB Bank. Where does the entrepreneurial spirit come from?

Matthias: I began my career in the hotel industry, where I gained a deep knowledge and passion for customer care and experience. That's my core-DNA.

The decision to move from hotels and hospitality into banking seems to be huge—not only a big change but also a big risk. However, the "risk" was being double-qualified at the end of the management trainee program, which was specially designed for me, being the first if its kind at BNP, the 160-year-old banking giant. There was no second.

During that program, my boss and mentor came up to me, suggesting that we should start "something like Charles Schwab" for the German market. To me, that sounded definitely more exciting than facing a "normal day to day routine" in a

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bank. That project kicked off in 1993. I personally realized that having the freedom to create a new, value-adding financial services concept is something I appreciated strongly. For the first time I had the opportunity to combine my service-attitude with the most modern technology of those days and financial services. And people loved it from Day One.

I consider myself both a "service addict" and a "paranoid innovator." Innovation itself is extremely relevant because I principally doubt that today's standards are "un-improvable." I am deeply convinced that even in our regulated environment, there always must be a better solution. Once you are a "service-addict," you behave customer-centric automatically. Your customers' problem is always the starting point for any kind of later customer satisfaction.

Integrating our customers into our processes, our service- and solution-creation, makes financial services a true service industry. Today, customers are used to be integrated in many ways on various digital platforms, day by day. My conclusion: Via digital platforms and services, for the first time we all have the opportunity to deliver 5-star service even in banking.

Agustín: It's been fascinating to see retail, transport, and telecom players becoming active in the banking market with their own brands. What do you think is the motivation behind this?

Matthias: Well, those non-bank players usually have a large number of customers they service on a frequent basis. Those services need to be charged. Monthly invoices and billing are a consequence. Account details are already with those players, who are normally commodity players.

Offering payment, card or banking services is then only one small additional step. On top of this, such integrated financial services help to differentiate from the commodity-competition and can help improve customer experience.

In addition to this, the image of banks has been tainted as they are not known to be extremely customer-centric. Not only Automotive-Banks demonstrate that brands have a strong bond with their customer base. The question then is whether those players are then supporting their core-business or whether they also want to compete with banks.

Anyhow, the deep knowledge of their customers and the product they are funding as well as the option to cross-subsidize is creating an "unfair advantage." By the way, that is a development we can also see within the corporate segment when it comes to the funding of production machines, robots, etc.

Agustín: What are some of the challenges non-banking entrants face while making a move toward the banking industry?

Matthias: Getting a banking license is the first barrier, while banking proficiency, adhering to financial regulation, and understanding risk and compliance requirements all require expertise that can't be attained within a couple of months. With the banking-license come equity requirements, which might be overwhelming for cash-poor businesses. Acquiring the right team that understands customer requirements, the world of the non-bank-player, and fulfilling regulatory requirements is another strong challenge. Moreover, building the banking platform is seriously complex and expensive work. Adapting cutting-edge technology and building a functional infrastructure requires a level of innovation, manpower, time, and finance that most companies don't have.

This list is certainly not complete but already demonstrates high complexity and will take a long time to reach the market.

Agustín: How do you see the competitive dynamics of the banking industry emerge between banks, non-banks, and fintechs?

Matthias: When banks, non-banks, and fintechs address the same customer, for sure there is strong competition. In particular in a European market, which can be regarded as highly saturated and very regional (small European countries), competition is stiff. There we will see a strong fight driven by brand recognition and trust; marketing spend fueling the branding and overall user/customer-experience, which means easiness.

Once a fintech takes a B2B approach, we will see cooperation, where the fintech could be a supplier or outsourcing-partner to a bank or non-bank. However, we should not underestimate risk and procurement management and the requirements of those incumbents. As a cashflow hungry young company, it is challenging to convince the procurement team of the company's sustainability. On top of that, incumbents know that they can squeeze prices in such a situation.

I once experienced a situation in which an incumbent bank wanted Fidor to swallow the full implementation project cost on its own, going only for revenue-share once the new solution was live. At the same time the same bank was concerned regarding the financial sustainability of Fidor. Before walking away from that project, my answer was easy: If you would pay us, our financial sustainability would automatically improve. Normally, a young company does not survive such a discussion which can easily take six–nine months, without any outcome.

Agustín: Are these newer organizations (as opposed to traditional banks) better positioned to deal with customer demand? Why?

Matthias: Well, to me that seems to be quite natural. It is easier for a younger company, team, and concept to adopt the most recent market trends. They are born that way, while incumbents must answer all changes with strong change management. For them, the willingness to change, the adaptability of their culture toward new developments is crucial. By the way, that same destiny will hit a one-time startup after becoming more mature and by that I mean a "normal" company.

Having said this, I describe the biggest leadership challenge. Traditional, older, and more mature organizations find it generally harder to maintain ongoing and constructive change. This is because they are very much focused on existing customers and their revenue-streams. Everything new would need to start at zero revenues but have cost and investment-requirements, combined with a decent degree of uncertainty about whether that investment would make sense. That's also why you find different personalities at the C-Level in each maturity phase: The "risk-taker" during the startup and first growth phase, the "preserver" during consolidation.

Translating that into banking, setting up a green-field neo-bank is a great way to circumvent that cultural dilemma. It brings a spirit of customer-centricity that more mature banks cannot cultivate anymore. Young, fresh, startup organizations tend to be opinion leaders and trendsetters, that keep customers both satisfied and intrigued.

Plus, people immediately trust non-traditional organizations because they lack any association with disappointment or greed. Studies have found out that traditional banks (e.g., savings banks) operate on average on a negative Net Promoter Score, while a new neo-bank kicks in with a positive NPS of about 15 to 20.

Agustín: What are some of the different market entry strategies you are noticing from non-banks entering banking?

Matthias: Let us be a bit scientific at this point. First of all, offering banking by non-banks is an unrelated diversification; offering a new service with the same brand. One would need to analyze whether that diversification targets the existing customers of the core-product of that non-bank, or new customers.

Once the strategy of new customer attraction outside the existing core market is identified, those non-banks would face and tackle the competition of the incumbent players of that market, in our case the banks.

Almost all examples we see in the market have the objective of attracting customers to their core-product or -service, using financial services as a tool for increasing customer retention. Winning new customers from the outside seems to me to be less the case. So, the main objective for non-banks entering the financial services market is "loyalty," followed by new customer acquisition, so they will first target their existing customer base with offers that add value.

Take O2, for example. Their banking customers are rewarded with O2-data-volume for their O2 telephone contract instead of "normal" interest rates. It creates direct and practical value.

Agustín: Why are these players choosing to launch their own banking businesses instead of trying to win customers by partnering with banks or by using open banking?

Matthias: I think it is a matter of two key factors. First, their brands are way stronger than a bank´s brand. Their customers are more loyal to their brand than to another brand, which might not fit the core-values and promises of the non-bank´s brand.

Second, having BaaS offers on the market now, those players have an option they did not have in the past. As simple as that. Fidor Bank and others offer them Bank-as-a-Service, so they have our bank, balance sheet, risk, and expertise—creating a most practical and lucrative banking ecosystem.

Third, there's the value of data. The more these players know about their customers, the better prepared they are for future developments. By owning their own banking businesses, they get the whole package: brand attribution, data, revenue, and customer insight.

Agustín: What is Fidor Banks's go-to-market strategy in this highly competitive digital banking space?

Matthias: Unlike traditional banks, Fidor Bank has customers who want independency, operate off the beaten track, want something new and fresh and want to learn and act with their money. That behavior is supported by the Fidor community. N26, another neo-bank, might act more on the "fresh"-only positioning, bashing traditional banks with a "No Bullshit" claim and strong marketing budgets.

Another essential part of Fidor´s value-proposition is openness, expressed via the marketplace on which one will find more than a 100 third-party offers. While traditional banks are "closed shops" and neo-banks more or less a one-trick-pony, Fidor tried to establish a true ecosystem, and through that create a very special growth dynamics.

Agustín: This idea of Banking-as-a-Service is very interesting. Do you think of what you are doing more as disrupting or incrementally changing the banking industry?

Matthias: Once you start something new you will find it hard to give your piece of work, your idea a clear definition and boxing it accordingly. Disruption, by definition, requires "mass acceptance." Just like "innovation." Without mass acceptance, an innovation is just an invention. Those terminologies are often mixed up and mostly used with the objective to attract VC money.

BaaS, first of all, allows totally new strategies, for example for non-banks, as I just mentioned. That for sure will change the incumbents' behavior. In the end I would predict that this is increasing value for the customers, enforced by "new competition" from those who are closer to the customers than any bank ever will be. Will that be true disruption then? We will see. But it will be a change. That's for sure.

Maybe we can compare that with the entry of TESLA into the car-market. Before TESLA came, the incumbent players found it extremely hard to deal with e-cars. Now, they are all talking about it, demonstrating how many billions they will spend into that segment, even forming unthinkable alliances. At the very least, the market-entry of TESLA was a catalytic event to the whole industry. Is there disruption today? No, I wouldn't say so. Ford´s T-model was a true disruption in the car-market, just to give an example.

Agustín: What kind of infrastructure does Fidor have in place to manage the open architecture required for Banking-as-a-Service?

Matthias: Fidor´s strategy is to build its own digital middleware platform from scratch. The reason for that is very easy: When Fidor started to code its Fidor Operating System, nothing like that existed.

Another very essential part of Fidor´s strategy is the integration of open APIs well before the mainstream spoke about that and the new regulations were in place. This now allows Fidor to easily expand and create an ecosystem of offers with, for example, fintech partners, without having to develop everything on their own.

Fidor Operating System is one part of the total stack, which then is accomplished by an "off-the-shelf" core banking system and other associated applications that are needed for a compliant banking operation.

That overall infrastructural blueprint is nothing new. We had the same philosophy already implemented at DAB bank, but with one major difference: The customer-facing middleware was not a proprietary solution but the product of a third-party supplier. And, of course, there were no APIs those days.

Agustín: In your view, what would the bank of the future look like?

Matthias: That's a tough question, simply because we speak about a super dynamic market. The technology and the customer behavior is changing. What was "customer relation management" in the old days will now be "customer managed relation." That has strong implications on the value proposition of a bank. Technology, just like all the developments around IoT and AI will increase the pressure on the technical capabilities of banks. Big data might lead to customers that have strong "data-allergies," forcing their banks to stay out of big-data-developments. All seems to be possible: The bank of the future might be an invisible IoT bank, only monitored and controlled via your mobile device, or it might be a "neo-analog" bank, using technology to stay out of digitalization. No matter what it will look like, decision makers of such banks need to have a strong technical understanding.

Agustín: You have left Fidor after BPCE acquired it. What is in for you next?

Matthias: I have the privilege not to be under pressure. That's a huge advantage as we are living in the most exciting era banking ever was in, making it hard to prioritize. Whatever the segment, product or region might be, one focus is crystal clear to me: entrepreneurial "value creation."

Chapter 21 Tamaz Georgadze

Company Name: Raisin

Location: Berlin, Germany

Raisin operates a pan-European online marketplace for savings and investments. It has been named one of the hottest 10 fintech startups in the world by Business Insider Intelligence, it has great partnerships with firms such as Commerzbank, Vanguard, and ClearScore, and is expanding regionally.

Roles: Tamaz Georgadze, Cofounder and CEO

> *Raisin is a practical case of open banking because customers can access a variety of offers and providers in a variety of countries through one single interface.*

Agustín: How did you got started in financial technology?

Tamaz: I have a professional background in consulting. I was at McKinsey & Company for ten years, mainly dealing with the financial sector, particularly banks. For the last four years as a partner, I was also leading McKinsey's deposit and investment products for EMEA countries [Europe, the Middle East, and Africa]. A second topic I was quite deeply involved in at McKinsey was advising banks on digital transformation, because that was something both on the brokerage side and the online banking side, where banks were actually launching separate brands and separate value propositions. So my previous work was heavy on finance and financial technology/digital banking.

Agustín: For people that work in McKinsey, it's a big education in itself, especially if you go all the way to partner. I wonder if you would hire them, now that you are on the other side?

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Tamaz: I wouldn't, because we're still small enough not to be complex. One big role McKinsey has is reducing the complexity, boiling down complex questions into simple choices. Raisin's business model is monoline, more or less, so that the questions I have don't need the complexity reduction that McKinsey would bring in as a value add, or the organizational transformation. That's not doable in the management team we have. We aren't big enough to need McKinsey—let's put it that way.

Agustín: Back to Raisin, how did the idea come about to leave a safe position that you had at McKinsey and say, "I'm going to be an entrepreneur"?

Tamaz: After ten years at McKinsey, I asked myself whether my learning curve was deep enough and whether I was continuing to develop myself professionally. Then I also asked myself what are the other options and which of them would I want to pursue now, rather than another ten years down the road? The answer to the first question was clear. I was one of the youngest partners at McKinsey back then, and quite okay in terms of success, but I couldn't see much further. The steepest learning curve I had at McKinsey occurred in the first three to five years. Then it flattened out since, as a partner, you're a standalone fighter—you have your own clients, you develop things, but you don't have such close coaching and mentoring as you had in the first years when you were constantly learning. The second answer was, out of all the options—corporate or mid-corporate, or going into other types of work, like a coaching/mentorship job, or actually founding and growing a new business myself—which one would I *not* pursue in another ten years? It felt like a good opportunity to do exactly the opposite of staying, to launch something exciting, involving a lot of risk, where the outcome was unclear. And I was so exhilarated by the idea, and was pretty sure that I wouldn't do it ten years later, with family and everything else in life associated with age and maturity. So that's how the decision came about.

Agustín: In terms of startup ideas, did you have a few?

Tamaz: We had several, yes. Process-wise, one of my cofounders, Michael Stephan, and I actually discussed three ideas. We then decided—because we had completely opposing preferences—to ask the opinion of one particular very cool client, who himself had been a founder. He started a large mortgage advisory business in Germany, sold it, and wrote a PhD thesis about founding, so he's quite a thoughtful guy. We asked his advice about which, if any, of our ideas we should move forward on. He liked this one the most, which also happened to be my personal preference. I talked to one other person whom I regard as very thoughtful, and he said, "Do this one, and I'll contribute funding at the beginning"—a commitment our first advisor had also made. With that, we had a reconfirmation of the shortlisted idea, plus two angel investors willing to contribute seed investment. That then sounded pretty clear and straightforward. The idea itself had come to me even before the financial crisis. As a Georgian, I'm originally from outside of the European Union. I had a lot of bank clients in Germany, for instance, who also had holdings in Eastern Europe, plus I worked with very large banks in Russia and in Vietnam. All of them had seen changes in local market conditions and observed that there was no mechanism to deal with the challenges involved in depositing savings in different countries. People had actually asked me, including McKinsey partners, to help them open cross-border accounts. I did it once, twice, a third time—and finally thought, "There must be a way to help these guys digitally so I could avoid all the data work, bringing documents back and forth as a courier between different countries." And that's more or less how the idea emerged.

Agustín: You mention that you got some funds from family and friends for some seed capital. In terms of calculating how much you needed and funding that, how did you go about that?

Tamaz: We miscalculated all the time, so several times we even thought we were funded forever. But of course once you grow, you see other opportunities to spend money. You can end up over budget but under your revenue projection pretty quickly. Our first set of calculations was right, since in the initial phase we wanted to have enough funds to launch, plus have six months of data that we could take into a Series A round. That was one of the projections that actually worked out, so we launched roughly one year after founding and hiring the first employee, and we had really good and reliable numbers two months later. That enabled us to go out pitching three months later and acquire a first Series A investor who confirmed immediately that he was interested. That was Index Ventures, so the initial plan worked out pretty well.

Agustín: That was with several employees?

Tamaz: Yes, by the launch we had around 15 employees, so that was in fact quite a big seed funding for a startup. But on the other hand, we had to build a lot, including an online banking interface and a banking system for the banks. There was some work to do. It wouldn't have been doable with only interns or a very small package. It was all-in or out, there was no halfway. And all-in meant a really functioning product.

Agustín: Looking back to those initial days, was there anything that made you think, "We did it wrong, we should have done it in a different way"?

Tamaz: That's a good question. I think where we could always improve is, coming from the fairly conservative German mindset, we were (and still tend to be) more pessimistic than outside people, including our own investors with a stake in the business. The result is that we've been very cautious about building up the next phase and hiring early on. For instance, we tend to hire for the next three months, not with a twelve-month horizon. When it comes to building up talent, bringing in much better people than ourselves and so on, we've always been quite conservative. We've always looked at the financials and asked ourselves, "Can we finance it now? Is the next wave of growth coming? Is it too much pre-investment?" Actually, the right approach is—once you see that the basic ideas and numbers are working fine—to go all out. I think we could have been faster and less conservative in this respect.

Agustín: In terms of the initial founders and working with them, how did you divide the roles with Michael and Frank [Freund]? You are friends, right?

Tamaz: Yes, we're friends. I thought it might be weird, because you'd expect our skills to overlap. But they don't, not at all. It was pretty clear from the beginning that Frank has an absolute passion for numbers. He's worked for startup companies before and always in the CFO role, because he's the numbers guy. He is a CFA [Chartered Financial Analyst] and a natural finance guy. He likes structured data and analytics. Michael, on the other hand, was a gamer on the German national team and was coding himself, so he had passion for IP [intellectual property] and ops. I was a generalist, so just a smart guy with ideas. But as a partner, of course, I had some experience in building relationships and B2B sales. I studied law as well, so those aspects ended up with me. In the end, our discussion dividing our roles just took half an hour.

Agustín: That's interesting. Now if we move on to the actual idea of Raisin and where the name came from. Could you describe that?

Tamaz: The idea is to empower customers through an integrated digital process to use savings, deposits, and simple investor products to manage their assets more profitably. Raisin is a barrier-breaking marketplace for savings and investment products, bringing consumers more options and more offers—deposit products currently from 25 European countries, though that is continually expanding—and all through one single interface. They do just one registration, one KYC [know your customer] process, and then they can open accounts and start earning interest with cross-border savings products: term deposits, instant access, or savings accounts from a large number of providers across Europe. We've also integrated a very simple capital market product—a type of robo-advisor, an in-house ETF [exchange traded fund] product. We now have

180,000 customers in 31 countries able to select deposit products from our more than 75 partner banks who are, in turn, located all over Europe, including the UK and Scandinavia. We have also just announced our entry into the U.S. market, so American savers can expect to be able to open Raisin accounts in 2020.

Agustín: It's a good point to understand the business model, so my question is, what is your business model and has this changed from Day One?

Tamaz: It has developed, but the basic business model hasn't changed. We offer customers this access functionality for free. While they can benefit from it, the banks, in effect, are bidding for their money, which is actually quite cool. Normally, if you think about the banking relationship in a one-on-one branch type of environment, with an incumbent bank, you have someone applying for a single product from a single provider. We turn the tables. It creates a big benefit for the customer, who now has a very wide choice of over 600 products live across our platforms, and it's free for them. We make it work by providing other benefits to the banks. For banks, we supply high-quality retail liquidity, serving as a very flexible tool from their perspective. Additionally, we relieve costs they would otherwise have, like a call center providing customer service in other languages, not to mention customer acquisition and KYC costs. It's all integrated with all-in pricing, yet since banks are paying a (reasonable) commission to be able to offer the best products to our customers, it's an absolute win-win. The customer doesn't pay but gets very wide choice, plus in most cases higher interest rates than are available offline, down the street. The bank gets the liquidity it needs without the effort, and has only a success-based fee, which is flat and low. We connect the two sides in a convenient, transparent way, making us a very efficient marketplace—and making the broader deposits market more efficient as well.

Agustín: How do your fees work?

Tamaz: Our fees are by multiples, so purely success-based. If we provide funding to the bank, they pay; if we don't, they don't. They only pay for the link we provide. That means there's no minimum amount. Instead, there's absolute flexibility around that—it's not by number of customers or clicks or anything else, it's just by the amount provided.

Agustín: That's interesting. That's a way in which you differentiate from money comparison engines.

Tamaz: Yes, that's one of the ways. Another way is that we removed all the possible incentives to skew on our side. There is currently an inquiry, in fact, from the competition agency in Germany as to how impartial these comparison and customer sites really are. They have two drivers not to be fully transparent and impartial. One is that their commissions vary drastically between providers; and the second is, as you said, that they're being paid at the moment they provide the customer. That means they have an incentive first to churn the customers a lot. So whenever a contract is expiring, they give the customer other options—with the result that the customers have to change all the time. They rank offers by commission, or by some site payment, and we don't do either of these.

We removed the incentive to churn customers, since banks are paying a continuous fee based on all assets under management. That way the customer chooses: if they want to stay with a great offer, they stay. For us, commercially, it doesn't make any difference. And secondly, we don't differentiate in any way by the type of commission paid to us. It's very comparable across providers and has strict criteria, to the effect that we don't have an incentive to rank offers by anything other than objective criteria like rate, country, provider. This way it's customer-driven, since we don't interfere in the decision and have no commercial incentives to do so.

Agustín: That's good. So you mean when customers renew, you won't charge anything extra?

Tamaz: No, we get an annual fee. In the end it doesn't matter to us at which bank the customer puts their money. If they renew an account, we still get the fee; if they have a five-year product, we earn a comparable fee over the five years. The fee is lower for the banks relative to a comparison site at the beginning, but it extends across the duration of the customer contract.

Agustín: So you own the relationship with the customer?

Tamaz: The customer experience happens with us. Customers only have to log in to our website and then manage their money on our website. That contrasts to a comparison site, where you have a lead out sending you to open an account with a particular bank with a different online banking interface. With us, it's all at a central hub. The customer only needs the one point of access to their savings and deposits, creating greater transparency and convenience.

Agustín: Right, and on the customer side, would you tell customers when there is a better offer available for them?

Tamaz: Of course, it's fully transparent. We have a weekly newsletter that customers can opt in to, and of course they can access the website anytime to see what the current offers are. We also inform them when their money is maturing soon, giving them a cockpit overview. We send several emails before the maturity date to inform them about their current deposit product, any rollover offer, as well as alternative offers. It's in customers' best interest, so we're fully transparent.

Agustín: You've had quite a lot of positive praise. I'm wondering about a part of the operation—how do you acquire customers?

Tamaz: Apart from the press, we use several bank channels. One is that we cooperate with affiliate and comparison sites, since that's where customers naturally go to look for offers. We also list our offers individually on those websites, and then inform customers about the benefits of becoming a marketplace client. We partner with the likes of Moneysupermarket in the UK, and other typical comparison sites. We do a lot of brand and non-brand item bidding on AdWords, on Google, so search engines as well. Both general search terms like "term deposits," as well as developing the brand, so that banks have an interest in brand-building with us. People look for general terms like "best rates," for particular offers, or for us. Ultimately, we have a very happy customer base. We have an incredible Net Promoter Score of 73 and 98% of all customers would recommend us to their friends and family. We use this success actively such that customers can easily refer us and, in doing so, get a very good deal for their friends as well as for themselves. We've run our customer referral program for three consecutive years with good results. We have large partnerships, so, for example, we're one of Lufthansa's first fintech partners—and their very first in the area of investment—with a strong integration. We have financial brokers as distribution partners, but also very techy providers. N26 Savings is a Raisin product, for example, available to customers in the N26 app with a fully online API integration. N26 customers thus don't have to leave the N26 environment; it's all they experience, with us as a white label provider in the background. It's yet another way that customers can access our product, and we did the same with BinckBank in the Netherlands, Fidor in Munich, and others. So we have financial institutions, brokers, and banks all offering our products to their customers, and those are some of our main channels.

Agustín: How do you see open banking and PSD2 [the EU's Revised Payment Service Directive] influencing the market and the job that you do at Raisin?

Tamaz: We see it very positively. I think we're one of the first real cases of open banking, with over 75 banks integrated into a single backend, all offering their products through one access point. I believe we're the first ones worldwide to have achieved that. We're a kind of practical case study on open banking, considering that customers can access a variety of offers and providers in a variety of countries, all through one single interface. The whole PSD2 discussion seems to have persuaded banks to open up their interfaces and even to see it as an opportunity, which helps in our discussions and nudges them to be more openminded. For example, on BBVA Connect [Spanish bank Banco Bilbao Vizcaya Argentaria], we were the first outside partner where our Spanish customers could just give us their account number at BBVA, and with Santander the same. With that account number they could do everything—register, transfer funds and so on—which made it very convenient for them. That was actually a PSD2 follow-on project. Although PSD2 doesn't cover savings accounts and term deposits, it still strongly influences a bank's mindset in terms of incorporating and partnering with us, since they also now see this as the future. Increasingly, they share our vision of a more open ecosystem—and that will be a huge development from the current very closed one.

Agustín: What is your biggest challenge right now and where do you see Raisin going in the future?

Tamaz: Going forward, I think our business will continue to be about giving customers the best options and the ability—and responsibility—to decide. It has been a challenge in the industry for many years that customers aren't emotional about banking. Customers become increasingly inactive, "lazy," so to speak, the lower the rates in their environment are. Our average payout to our customers last year, although it's higher than the market average by far, is still slightly below 1%. So the incentives toward switching and optimizing your finances aren't as strong. The biggest challenge for us is that many people think that a low interest rate environment is great for us; it's actually *not,* because the fastest-growing asset class across the greater part of the Eurozone is the current account, the checking account, with no interest. That's killing your savings. So we're fighting against the growing balances in consumers' checking accounts, where they don't earn any interest at all. It's perhaps more of a micro challenge, but we have to wrap our heads around it.

Agustín: When you say you are getting your head around it, how do you go against a problem like that?

Tamaz: There are several things. One is that we can incentivize customers from the start, with instant bonus payouts, for example. It's psychological, it's very hard for people to grasp (and then calculate) the interest accrual phenomenon over the course of years. And yet it's one of the most powerful things in the world. Your interest earns interest, and so on. So after ten years you've earned a very significant amount on top. But people tend to get the profitability idea much faster when you tell them they'll receive a 50 euro instant cash bonus, because it's immediate and it's an absolute number. We use it extensively to animate customers, and we need to use it more in a low than in a high interest rate environment. A second thing is that we work a lot on reducing barriers; that means reducing the minimum amounts people can open an account with, including on our investor products, it means getting deep into open banking and the integration of our open ID providers like VeriMe or YES, it means working toward a closer integration with checking account functionality to show customers, for instance, how much interest they're losing by not moving their money. This is a topic for us in the next year—getting closer and closer to customers' everyday profit and loss, spending habits, and account management functionality. Through those things we can make our product increasingly relevant and communicate its benefits more and more clearly to our customers.

Chapter 22 Dr. Yassin Hankir

Company name: savedroid

Location: Frankfurt am Main, Germany

Description: savedroid is an AI saving and spending algorithm in Europe conveniently optimizing users' lifestyles. Through a mobile app, users save up for their wishes without even thinking about saving—both in fiat currencies and now also in cryptocurrencies. Its AI analyzes a significant depth of financial and behavioral data which allows it to anticipate users' purchase decisions and proactively recommend situational relevant saving opportunities in fiat and in cryptocurrencies which help users to reach their wishes even faster.

Roles: Dr. Yassin Hankir, Founder and CEO

The question we started with was: Why are so many people out there so bad at saving?

Agustín: How did you get started in financial services, in fintech?

Yassin: Sure. I think the first point which is important to mention in this context is, that after I had completed my studies in economics and my PhD in finance, I started with McKinsey consulting banks. What we were trying to do at this time was convince banks that it would be a good idea to become more digital, applying new technologies to become more customer-centric, as well as to create new revenue streams; in short, it was all about digitalization. I worked there for four years, but in the end was quite frustrated that we produced a lot of fancy PowerPoints, but nothing much got implemented.

So I decided to quit this job and start off with my first fintech startup, a robo-advisor, also based in Frankfurt. I was there for two-and-a-half years and I was one of the three cofounders, then we split up as the company did a pivot. Since then, I started savedroid and by now savedroid is roughly three-and-a-half

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years old. My motivation is having a different perspective on how financial services work, taking the user perspective and ask the question: Which issues, which problems do we have out there? How is the user thinking about these challenges in everyday life? Then, based on that, trying to develop a product that really puts the user as the center of interest, the focal point, and build a solution that is quite different. You will see, as we talk about savedroid, that it is quite different from what you would actually expect from banking. That's how we try to build a new proposition—being very close to the user and understand what she or he needs. Then based on that, develop a very simplistic user interface, which enables everyone, without being a financial expert, to handle their everyday savings in a very convenient and simple way. That's basically the whole motivation behind breaking down this pain point and make it easily handleable for everyone.

Agustín: You said your first job was at McKinsey and I've interviewed a few people that started companies after McKinsey, so do you think working there helped you in any way?

Yassin: Yes, of course, if you're working at a strategy consulting company, I think you learn all the tools and frameworks that are helpful to develop an innovative service. Nevertheless, you learn things in theory, but in strategy consulting you are never really implementing anything. I was very lucky in the last project I did. I was working in Vietnam and there, for the first time, we didn't only build PowerPoint slides, but we also implemented the strategy later on, so this was extremely helpful for me. The project was running for quite a long time and I also had the opportunity to dive deep into this topic. For me this was very interesting, because you start learning that tools and frameworks are helpful, but at the end of the day the ideas you generate do not always work in real life. That's, if you ask me, where the fun part starts. That you need to —once you've built a small prototype, once you put it out to the market—iterate your product quickly, get user feedback, and again iterate your product. Everything done in a very fast and efficient manner to achieve a good product market fit and, once this is achieved, get actually ready for scaling up your service. When you become an entrepreneur, it's a different ballgame, however. You don't have the leverage; you don't have the money, at least not in the first place, which you would have at a strategy consulting company or a huge corporation. Therefore, for me, it was entering into a new field and learning a lot of new things from scratch and, of course, also by trial and error.

Agustín: You first started Vaamo Finanz and that company's still running, correct?

Yassin: Yes, it got acquired by Moneyfarm.

Agustín: Moneyfarm, the UK robo-advisor . . . Did you exit before the company was acquired or was it the reason why you left?

Yassin: I left two and half years after we started because, in the founder team, we had divergent opinions on how to develop the company further. Then the company did a pivot from B2C [business-to-consumer] to B2B [business-to-business], which I was not the biggest fan of. I always wanted to stay in B2C, which I then also did with savedroid.

Agustín: What would you say you learned from creating Vaamo Finanz that helped you in creating savedroid? What did you use from one company to the other?

Yassin: I believe if you become a founder and you start the process, it's actually pretty much worthwhile to repeat it and not just do it once, because, as I said earlier, you are in a fast-paced environment. You need a lot of creativity since you are short of money in most cases, at least at the beginning, so therefore you get smarter and smarter with each experience as you will have a quite steep learning curve. So, if you ask me today, reflecting back, I would clearly say that if you found a second company, then you are probably far smarter and will avoid some of the mistakes that you made in the first one. This, of course, does not mean that you will avoid all mistakes, but you obviously will make different ones. Therefore, I say if you are an entrepreneur, it definitely makes sense to do it in a repeated manner because I think you get smarter each time and therefore your chances are better that subsequent ventures may go much smoother.

Agustín: If we now focus on savedroid, can we start by explaining what savedroid does, or maybe start with Day One and how the business model has evolved?

Yassin: At savedroid we actually started off at the very beginning, if you're really asking about Day One, with a question rather than with a solution. We developed the product very closely together with the users; we conducted focus groups, did one-on-one interviews, ran surveys, gave pitches at different startup events to test hypotheses and to get our questions answered. Our starting point was saying, look, as long as you are not a multi-millionaire, saving is essential, not so much in the sense of long-term pension planning, but rather in everyday life for bigger-ticket consumption. If I am in a segment with average income or even below average income and I want to afford my next summer vacation, I want to afford my new laptop, I want to afford a new piece of furniture for my flat—this will already be a challenge because I cannot afford it right out of my pocket, so somehow I need to save for it.

Agustín: What problem were you trying to solve?

Yassin: The question we started off with was, "Why are so many people out there so bad at saving?" People know they need to save money in order to be able to afford the things they actually want to acquire. After many discussions around this topic, we really got an understanding of the pain point. People are just spending their money easily on the go because consumption today seems to be the better choice than saving for consumption a bit later. This is a typical tradeoff, which many people are pretty much used to. What we in the end developed—and this was really an iterative process during these conversations—was a mobile application that will do three things for you: It will automatically save for you, so that you actually don't need to think about your savings, it's just happening on the side and as you go; secondly it makes saving more fun; and, finally, it brings saving to a micro level, so that even if you have a very low income, you can still do it without hurting your financial balance.

What that meant in practice was, that we developed an app that you download and connect to your checking account and then you set up your savings goal and automatically start saving. You say, "I want to save for my next summer vacation," this personalization of your goal is very important, to have a motivational aspect in there, and after that you define your savings rules based on the if-this-then-that logic, which we call "smooves" and they are the gamification, the fun element. A smoove works like this: If I reach my daily step goal as measured by the step counter on my smartphone, then I want savedroid to save three euros toward my summer vacation; or if my favorite soccer team wins, let savedroid save five euros; or if I use my debit card to make a purchase, let savedroid save the change; or if Donald Trump tweets, let savedroid save twenty euro cents. The idea behind the smooves was that you define these rules around your individual lifestyle and then as you go through your daily life, the events that concern you will automatically trigger a microsaving transaction. The money will then be debited from your checking account, which is connected to the application, and will be securely stored in a savings account, which is managed by our partner bank—Wirecard Bank.

That was the application we built in the first place, and with that one we gained traction. We have now achieved far more than two-hundred-and-fifty thousand downloads of our saving app and, of course, the business model evolved over time. In a second step, we were asking ourselves, "How can we help our users to save even more money?" We realized that our users would have to cut their fixed costs to be able to save even more money and reach their goals faster. Most of our users are overly ambitious; they want to reach their goals in a very short time frame which, based on their available income, was not viable. So what we did as a next step was to apply algorithms based on a logic, which scans through the connected checking accounts and identifies the users' term contracts. For example, a utility bill; mobile phone bill; the checking account itself, which bears costs; then insurance contracts, et cetera. We signed up B2B partners, which were offering these products at very low rates, typically much cheaper than the average market prices for these kinds of services. Here is one example: Our algorithm identifies your utility bill plus uses other parameters to estimate your electricity consumption. Through our collaboration with CHECK24, that's the biggest comparison portal in Germany, we then automatically check, that is without requiring you to trigger anything, and if there is a cheaper utility provider for you, we automatically recommend this new service provider to you.

Agustín: Can you change your providers straight from the savedroid app?

Yassin: Yes. The interesting fact about this is that you can switch your electricity contract directly in the savedroid app with just two clicks. This is possible because all the information we need for the contract switch, the user has already provided during onboarding, so it's very smooth and very convenient for the user. Also, the reason why a user is switching service providers with savedroid is very different. If you are using a comparison portal in the first place, you are typically driven by self-optimization, so you are proactively taking care of your personal finances, which our users are typically not at all, because we are serving convenience users with a very low interest in personal finances. With savedroid, the reason why you should switch your electricity bill is not to save the one-hundred-and-fifty euro per year only, but to actually be able to afford your next year's summer vacation as planned. On this saving goal you are currently one-hundred-and-fifty euro short and if you switch your electricity bill, you are able to close this gap and afford your summer vacation next year. This is a very different motivation here, it's much more emotional and that's how we developed the initial concept way further.

That was the second step, and now comes the third step, which we started toward the end of 2017, expanding our business model to the world of cryptocurrencies. In the first quarter of 2018 we ran a successful ICO [initial coin offering], to refinance this new business model, a new savedroid application which enables users to use cryptocurrencies in an easy and convenient way without any technological adoption barriers. So, same story here, maximum simplification plus gamification. The idea is that you can save micro amounts, fully automated, based on saving rules, in cryptocurrencies we securely store for you.

The saved amount is deducted from the credit card you have connected to the savedroid app and is auto-converted into a smart portfolio of cryptocurrencies, which is built by our AI to minimize the volatility. At the end, you can payout the money in euros, so you have the full experience of using crypto, without the need of signing up to a crypto exchange, without the need of setting up a wallet, and without the need of handling a private key. Again, this new product is pretty much focused on simplification, gamification, and again we are using algorithms, this time not for optimizing the savings but to optimize the cryptocurrency portfolios to reduce the volatility of your funds.

Agustín: Do you see this crypto as a second company that you have, or a second product?

Yassin: At this point in time, it's a separate product. This predominantly is a consequence of divergent regulations that we are currently facing in the fields of fiat and cryptocurrencies. The traditional savedroid application is a product that is available in Germany and in German language only, which is of course also 100% compliant with the BaFin regulations—the German financial regulator. Nevertheless, the BaFin has taken a much more conservative regulatory approach to cryptocurrencies, classifying them as financial instruments. Therefore, we have separated the savedroid crypto application as an international product available in English language.

Agustín: Many times when I speak with founders they say that they had a need and so they created a product because they couldn't satisfy their need. It doesn't seem like you've had this need of micro savings, so I'm wondering how did you come up with the idea of doing micro saving? How do you know there is a market for this?

Yassin: Exactly, that was why we conducted extensive market research plus an intense user dialog thorough focus groups, one-on-one interviews, surveys, pitches at different events, and so on. This process took us roughly three to four months, to really dig deep into this topic; to understand if there is a market and do all the relevant testing to validate our hypothesis; and we followed the lean startup approach here. We started off with some different product ideas for a test to get early feedback, and based on the feedback killed some of our initial ideas and iterated the better ideas to optimize them. Then we built a very simplistic website to test these remaining ideas. We used an email signup as conversation goal on these websites, therefore we invested in a marketing budget on Facebook and Google to see how conversations were working for these different product ideas. Finally, we identified the best-performing idea and developed this one further, again by doing focus groups and one-on-one interviews and surveys, again by pitching at events, we continued market testing via a website, where users could sign up for preregistration. We then launched a very simplistic prototype on the market, so overall it really was an iterative process where we conducted very intense market testing with quite a number of people, to understand what our product should look like and if there was a market and how big this market was.

Agustín: Obviously doing all of this work takes time and money; I'm just wondering how you funded the company, savedroid, in the first place?

Yassin: At the beginning we started savedroid with our own funds. We as the founders invested the basic capital we needed to build the product idea, develop the first prototype, and have it validated by user feedback. Then we leveraged all that as the base to close our first seed financing round. On the one side, we received equity investment from the state-owned technology development bank Investitions- und Strukturbank Rheinland-Pfalz (ISB), and on the other side, from business angel investors. Through that we were able to raise one million euro in seed funding which helped us to push the product into the market and to deliver traction in terms of user growth.

Agustín: The other thing I was trying to understand was the business model. You mentioned that the accounts are free for users, so where does savedroid make its money?

Yassin: At our fiat saving app, it's an affiliate-based revenue model. Every time we successfully recommend a new utility provider, a new mobile phone provider, a new bank account, a new insurance carrier, we earn affiliate commissions. If we look at the new savedroid crypto app, we operate on a transaction-based service fee revenue model.

Agustín: Going back to your crypto product, you've done quite a big ICO, I'm wondering how you organized it, how did you make it successful?

Yassin: The ICO happened from January to March 2018. We identified the opportunity of cryptocurrencies around mid 2017. Actually this was a much more need-driven business model development, as described before, based on our individual needs. At that time, we saw that the topic of cryptocurrencies was catching up quite a bit and created very strong momentum in terms of media attention across the world and also in Germany. Based on that, I got motivated to read more articles about cryptocurrencies to better understand the technology and its potential. After I had read quite some stuff, I thought, "Okay, let me try myself and buy some crypto," and honestly, I miserably failed in the first go. First, selecting one out of the many crypto exchanges, doing the lengthy, complex, and slow sign-up process—it took me ages—then deciding which wallet to use as there are so many, I didn't even understand what all the technical differences were in the first place. I'm not a tech guy, I must admit, so for me it was very complicated and, hence, I failed. My cofounders also tried to get into crypto and then we sat together one night and were discussing it. We said, "Look, this crypto topic is really interesting, I found it so amazing and also the technology seems to be really great. This seems to be the next big thing, however, the user experience is so bad that if it stays like this, it will remain a niche market product forever. It's basically something which has been built by techies for techies and the average mass market user out there on the street will never be able to use it as long as the user interface remains like it currently is: highly complex with significant technological adoption barriers." This was our starting point, we continued this discussion and we said, "Okay, why don't we simplify crypto?" so we agreed, "Okay, that's a good idea, let's do it." But then, of course, we needed additional funding to get the job done.

Agustín: Seems like you were having these discussions at the time when ICOs became really popular.

Yassin: That was actually the point when the idea of our ICO was born. We were not crypto experts, nevertheless we knew that we are experts in simplifying things to the max, so that should do the job. We discussed with the whole team how to make the ICO happen and for us it became very clear that if we want to be credible, we cannot position ourselves as the crypto and blockchain experts, because we are simply not. Our story line was very different and important if you want to understand the success factors. I think our story was very clear, "Look, guys, we really believe that crypto will be the next big thing. We have talked to many experts in the field to better understand the opportunities going forward.

Nevertheless, at this moment we, firstly, lack use cases for everyday financial transactions and, secondly, even if there were such use cases, then still the user interfaces are so complicated that literally nobody could use them." That is where savedroid comes in. Our contribution to the crypto community will be that we make the user interface so easy that really everyone can use cryptocurrencies without being a techy; thereby, we will add many new members to the global crypto community, which will help the community overall, because the more users, the higher the technology adoption, and, thus, the higher the price cryptocurrencies will grow as the market gets broadened and more stable. So we were going away from only addressing the traders, who want to make a fortune from day trading, and which causes all the high volatility of the markets, and bring the crypto space to a more professionalized level with real life use cases for solid users with genuine interest in the cryptocurrencies as such, because they can leverage them for their everyday financial transactions and not only for exchange trading.

That is the story we built and we committed ourselves to drive crypto inclusion by delivering this very simplistic application which will allow users the full crypto experience without the technological adoption barriers currently there. I believe that was the key for us in differentiation ourselves from the rest of the market, because most of the other ICOs which happened at that time were pretty nerdy. The other guys were always saying, “We are the best crypto experts, we are now bringing the technology to the next level,” that is, we are building some kind of very complicated ecosystem where at the end, nobody could really understand what’s actually going on, because it was highly, highly complex. For us, it was very important to differentiate ourselves by clearly saying, “We want to bring crypto to the masses,” thereby being a very different type of project. I think this motivated a lot of people to join our ICO.

I think you know that if you’re dealing with startups, market timing is always highly relevant to be successful and I think for us the market timing was quite good. We conducted our ICO from January to March 2018—probably we were already a few weeks too late. If the ICO would have happened say from December 2017 to January 2018, we most likely would have been even more successful, but nevertheless for us it was still very good market timing. Currently the ICO market is completely dead. The ICOs that are happening now do have real issues in raising, say, a million euro, so times have changed tremendously and, therefore, market timing was also very important for us. Last, but not least, was a strong point to create reputation and trust on our side, so we conducted the ICO in accordance with German legislation. If you look at many other ICOs, you will find out that many of them had been conducted by limited companies incorporated on the British Virgin Islands, Belize et cetera. We conducted our ICO in the name of savedroid, which is a German stock corporation located in Frankfurt am Main. Therefore, we could use the label “Made in Germany” for our ICO. I believe that this created a good reputation and strong trust on a global level, which consistently resulted in more than 35,000 international participants in our ICO.

Agustín: How much did you raise at the time?

Yassin: Cryptocurrencies are highly volatile, and the volatility also depends on which cryptocurrencies you raise during your ICO. Hence, the actual numbers may go up or down from day to day and it’s always very difficult to put one exact number on it, but what you would read in the media was that we raised roughly forty million euro.

Agustín: When you received such a big influx of funds and you know that you are on a volatile currency, what do you do with it, do you convert it into cash, do you keep it in crypto?

Yassin: Yeah, that's indeed a very good and highly relevant question. Unfortunately, there is no easy answer to it because there exists a very clear tradeoff here. Let me talk about the two extremes of the continuum. The first would be cryptocurrencies are very volatile, they are very risky, so to be on the safe side, we convert 100% to euro. Done deal. In this case we have the highest level of security that's actually in the best interest of the future of the company, so we minimize our currency risk to zero. Sounds reasonable at first glance if you just take into account this perspective, but then let's go to the other extreme. We have done this ICO because we believe in the technology and we believe that cryptocurrency will be the next big thing. We have built an application which helps everybody to easily use cryptocurrencies and if we really believe in our commitment shouldn't we then hold on to all cryptocurrencies we have raised in order to be credible? Of course, neither of the two extremes I've just mentioned is the absolute truth and hence a viable option for savedroid. I just wanted to make it very clear that there is a very strong tradeoff between selling and holding cryptos. At the end of the day, what you need to do is develop a sound risk management process, which allows you to find a viable solution where to position yourself on the before-mentioned continuum. On the one side, making sure that you can cover your operational cash flow needs and, on the other side, sending a strong and credible signal to the market that you are really committed to cryptocurrencies and holding a meaningful position.

Agustín: So you exchanged some of the crypto into euros?

Yassin: Yes.

Agustín: You said that your new crypto application would be an English app and available internationally?

Yassin: Yes, however we do need to exclude a few countries which are either on a sanction or blacklist, and a few countries where crypto regulation is currently still very challenging. So, from a regulatory point of view, we need to exclude the US and China in the first place, and in terms of countries on the sanction lists, we need to exclude, Iran, North Korea et cetera.

Agustín: There are some companies that have launched a similar concept such as Revolut and Square. How do you see your app compared to this?

Yassin: Compared to the mentioned companies we firstly want our product to be even simpler, and secondly, we don't require the user to set up a bank account with us but instead use his existing one. This may sound a little bit strange, but let me describe it the other way around. Since we are focused on micro savings, we proactively address users who may need to save as little as a "round up," which will then be converted into a portfolio of cryptocurrencies. Hence, we are seeing ourselves as a simplification and aggregation platform, meaning that it should be extremely easy: you install the app, you have a very convenient and fast onboarding which runs very smooth, where you don't need to open a fully-fledged bank account in the first place. You can start with very low amounts, so there are no minimum thresholds and thereby we want to get users involved in the crypto topic. Also we use high frequency, micro transactions to show momentum to the user and drive the motivation to save even more money. So our solution is much simpler, it's way more gamified, and it's focused on micro savings. We believe that these three elements are extremely important to address the needs of international first-time users. So we are obviously not targeting crypto-insiders but rather users who say, "I am interested in crypto, I want to try it out, but the existing solutions are far too complicated for me." In this regard, savedroid also does not force the user to select the cryptocurrency from a lengthy list of options, but offers an AI-based volatility-optimized cryptocurrency portfolio, because we have also understood that volatility is another huge concern of average mass market user besides the technological complexity. Therefore, I believe that savedroid offers quite strong differentiation points as compared to competitors which will be consistently conveyed by the app's UX and UI design which is focused on the essentials while not burdening the user with any financial information overflow he is not even interested in.

Chapter 23 Brett King

Company name: Moven

Location: New York, United States

Moven is a disruptive AI-based and mobile-centric banking app that helps customers to make smarter decisions and save money every day—“Spend, save, and live smarter.” It has a retail day-to-day banking business and a separate technology business unit that licenses technology to banks around the world. Brett is one the greatest thought leaders in fintech, having written some of the most successful banking books of the last decade and having coined the terms Bank 2.0, Bank 3.0, and Bank 4.0. Moven exemplifies his vision, offering AI-driven, personalized smart banking solution

Roles: Brett King, Founder and Executive Chairman

Financial services in the future will be all about using data to predict customers’ needs.

Agustín: You’re one of the true founders of fintech, I would say. How did you get started in this field?

Brett: I was involved in fintech, well, even before it was called fintech properly. Really, it started when I was involved with HSBC’s digital strategy, during the dot-com boom, starting first in Hong Kong and then globally. I worked on a range of initiatives around the web and “e-channel”—as we used to call it back then. That progressed into mobile and the overall strategy for the bank. Near the end of 2005, I wrote a report for HSBC looking at the impact of mobile, social media, and all of these different technologies on their business in the future, looking some twenty years out. I ended up extending that report into my first book, *Bank 2.0*, which became sort of a staple for the fintech movement in respect to digital banking—it was published in 2010. Then, from there, I used the

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notoriety of being a bestselling author in the space to start my own challenger bank in New York called Moven. I have been working on that since 2011. Now *Bank 4.0* is my sixth book, and probably the last I'll do in the so-called "Bank" series.

Agustín: Tell me a bit more about Moven. So it's one of the first neo or challenger banks . . . is it technically a bank?

Brett: For customers yes, from a regulatory standpoint no. We run on top of a bank platform partner who takes deposits for us, but we are technically a "program manager" based in New York, not a chartered bank. We have looked at a charter multiple times in the US. The problem in the US is, today if you start a bank, you must still legally operate physical bank branches. There is a law called the Community Reinvestment Act from 1977, which still today requires every bank in the US to have a bank branch. We are philosophically opposed to that; it's why we haven't gone down the bank charter route in the United States as yet. There is the proposed OCC [Office of the Comptroller of the Currency] fintech charter, but it's currently being challenged in the courts. If that eventuates, then we could very well go down that path.

We started as a challenger bank issuing our own debit card in 2012—we actually wanted to be completely cardless, but Mastercard wouldn't allow us to launch on that basis. We were the first challenger bank in the world to offer mobile account opening, through an app. We were the first challenger bank globally to offer contactless payment technology; this was prior to Apple Pay, so we were issuing a magnetic NFC [near-field communication] sticker back in those days. We did a bunch of firsts. We had the first real-time receipting capability with instant categorization, and spending comparisons. Today, there is a lot of talk about China's social scoring system, but of course we launched with our own "CRED score," which was our own social and financial behavior scoring matrix back in 2011, even before we launched our bank account. We were the first mobile banking app in the world to abandon the typical account list for the app homepage, and replaced it with our spending meter, giving customers insight first and foremost into their financial health. Since then, Finn, Monzo, Starling, and others have copied our lead on that. We've done a lot of interesting firsts.

Agustín: Yes, you have certainly. By your accent you sound Australian?

Brett: Yes, I'm originally from Australia. I left Australia in 1999 to head up e-business for Deloitte in Hong Kong. I spent about six-and-a-half years in Hong Kong, I then went to Dubai for five years and I've been in New York for almost nine years now.

Agustín: I was wondering if Moven was your first startup?

Brett: I've been an entrepreneur for many years, but I started as a programmer. In fact, my first business I started was a small software company. I built that up in Australia, starting in the late eighties. In 1993, I launched a job costing /payroll software product called "Realtime" and linked that into magnetic card readers and barcode readers, so we could eliminate physical time cards from factories and offices; things like that. In the mid-nineties, I owned my own Internet ISP, and then after that I went into mainstream consulting for a while with Deloitte, then I lead a digital advertising agency called Modem Media out in Asia, and then finally went private again. I've alternated between big organizations as well as working as an entrepreneur throughout my career.

Agustín: In terms of funding, how easy did you find it to fund Moven?

Brett: Moven has obviously done pretty well with funding. We've got two businesses today, we've got a direct-to-consumer banking business and we license our technology to banks around the world, so we have an enterprise software solutions business also. In total we've brought in a little over forty-five million dollars of funding over the last seven years or so. But, raising cash is the toughest job a founder has to do. As an entrepreneur, I'd owned my own businesses in the past, but I'd never required funding and this was a steep learning curve for me personally as a founder. I'd say we've done pretty well in the past, we're cashed up today, but there are times when it was really tough and down to the wire, where we literally were waiting for funding to come in just to continue to pay salaries. I don't think any founder in a startup will find this news groundbreaking. It's a tough job and had a steep learning curve.

Agustín: If you had to give advice to people starting up a fintech in regard to funding, what would you say? Anything that you've learned that you should have done differently?

Brett: I think the market has changed. Certainly now, you can no longer just fund an idea or concept—you have to fund an *operating* business. So if you're a founder and you've got this idea for a fintech, don't waste your time shopping around for financing, instead focus on using that time to build out a prototype. Get a prototype in the market, and in any way you can get a bit of traction. That's how you can build a product that is investable today. In the early stages, I think, don't bother with the VCs until you're at least ready for a Series A round. Look for funding from angel investors and work through groups that support angels to get access to them initially. For the early stage, that seems to be a pretty standard route.

Agustín: Quite recently, you've been linked to Xinja, which is a neobank from Australia. Is that right?

Brett: Correct, yes. I'm on their advisory board. I work with a bunch of fintechs around the world in an advisory capacity. Obviously Xinja could be seen as a competitor by some, but we are collaborating with Xinja on a bunch of things, including KYC [Know Your Customer] passporting, so a customer could move from Australia to the US, or vice versa, and immediately quality for a Moven bank account or a Xinja bank account. I think there are other opportunities for challenger banks around the world to collaborate in this respect. I see Xinja as a potential partner, sort of part of a global challenger bank network that could emerge, to really compete with the incumbent banks. I think that's one way the fintechs can get ahead—by better collaboration.

Agustín: How do you see the banking space evolving in the US? You mentioned the OCC charter, but where do you see the industry going in the next years?

Brett: The problem with the US currently is the administration. The current Trump administration are very strong supporters of the incumbent banks and has moved fairly purposefully to reduce attractiveness and effectiveness of fintechs. For example, restricting access to outside talent like H1-B visas or non-US founders. If you look at the US today compared to more progressive markets, like China and London, the US is probably now five to seven years behind on things like mobile payments or challenger bank licensing. That's going to be a serious problem for the US, in the next ten to twenty years. There's a great engine for innovation in the US, mainly out of Silicon Valley, but as you know, banking is one of those areas where unless there's regulatory reform that enables fintechs and banks to work side-by-side, then you effectively starve the market. This is resulting in lower rates of innovation and the US just being less competitive on a global basis in terms of the banking system overall.

If you take payments as one example, you still have a system in the US called ACH (Automated Clearing House), where it's going to take you three to five days to do a person-to-person money transfer, or a bank-to-bank payment. That's appalling; Kenya has a more advanced person-to-person payments capability! When you look at adoption of mobile payments or chip and pin, the US lags leading players. In China, they did approximately twenty-two trillion dollars in mobile payments last year [2018] and the US is talking about a couple of hundred billion in response. It's not even close in terms of that. When you look at AI and other key technology investments, the US is just slipping further behind. I don't think the US is in a position of leadership, beyond the startup engine where there's Silicon Valley, I don't think the US has any advantages any more.

Agustín: That's a good point. You mentioned China, which has very, very big fintech unicorns and a lot of investment. Is it a place that you've been doing any work in? I'd like to get your view on China and where they are right now.

Brett: I've been doing work in China since 1999. Most recently I have been down there with WeBank, and Ping An Bank. I've worked with Ant Financial and Tencent—specific mobile payment platforms—and also working with technology companies like Huawei, where I advise their financial services team. The misconception that the West has is that China sort of copies the West. That might have been the case ten years ago, but the last five or six years, China has leapfrogged much of the West in terms of competitive forces and incubation of new ideas. We have a debate on mobile payments for example, that underlies this shift.

Here you hear a lot of US commentators talking about Alipay or Tencent WeChat pay and saying that it's "QR codes," versus chip-and-pin or tokenization, for example. But the reality is, if you look at November 11, "Singles Day," the big equivalent of Cyber Monday or Black Friday in the US, we saw thirty-one billion dollars in one day of shopping—60% of those Singles Day transactions were mobile-based, using facial recognition technology to authenticate. There's no card number, there's no QR code, it's just facial recognition-based merchant payments. Here in the US and the West, we're still using pins, passwords, and plastic cards with sixteen-digit numbers. China is so far ahead on payments it's ridiculous.

Then you look at the biggest challenger bank in the world, WeBank out of China: more than *one hundred million* retail customers right now. Which if you want to compare it to a Western bank, it's bigger than J.P. Morgan Chase's retail customer base. Phenomenal. The largest deposit product in the world is out of China, Yu'e Bao, Alipay's savings experience—lose to three hundred billion dollars of assets under management at its peak, and one-third of the Chinese population invested in it. Everything in China is just huge and they are just so far ahead of the West in terms of design thinking around mobile banking experiences—it's crazy how far ahead.

Agustín: I was going to ask you about your new book, *Bank 4.0*, I'm curious what it's about.

Brett: When I was looking at the future of banking and looking at the influence of artificial intelligence and emerging technologies, I looked for patterns of disruption historically as a reference point. I started with considering voice-based

AI assistants such as Alexa, Siri, Bixby, Cortana, and then in the future thinking around mixed-reality, smart glasses, or spatial computing devices. What I found is that, if you look at the most disruptive technology innovations we've seen throughout history, they almost all share something in common. Which is: they use a design philosophy called *first principles thinking*. That is where you strip things back to their constitute physics. You look at the core problem that you're trying to solve, and you apply available technologies in a new way. You don't iterate on the existing model, just making small improvements each time, you start from scratch, applying new thinking and technology to come up with leap-frog thinking. Something that redefines the industry around you from that point forward.

The design of the automobile is a good example, as are SpaceX rockets or the Apple iPhone—they are all examples of the first principles design approach that rewrote the rules, forcing the industry to adapt to their new thinking and design.

When you look at financial services, I found clear evidence of first principles design thinking emerging dominantly in developing countries like China and Kenya, where it wasn't just taking the "branch-based" model of banking and trying to retrofit it onto digital channels. It was really taking the core utility of banking and surfacing it through these new technologies in very different ways.

It turns out these first principles innovations make up, without exception, the collection of the fastest growing financial services organizations in the world today, all technology-based businesses that rapidly scale. This design paradigm is fundamentally changing the way we think about banking and the industry as a whole. That was essentially the thesis behind the new book, *Bank 4.0*, and the subtitle which is: *Banking everywhere, never at a bank*.

Agustín: What do you think will be critical in the future in financial services?

Brett: If you think about financial services in the future, what's going to be critical is data. It won't be about a bank waiting for a customer to come to it and ask for a loan. You'll be out of business if you wait for your customers to apply; you're going to have to be reactive and pro-active. It's about a lot of data around predicting a customer's needs, the need for access to credit for example, and being able to fulfill that in real time when the need presents itself. If you're a bank and you think of that process today it's like . . . "Ah, you're looking for a loan or a credit source. Well come to the bank! Come to the bank website," or "Come to the bank branch," or "Come to the bank app, and if you're lucky, and if you're not too risky, we might give you access to credit." If that's your business model, you're dead in the future. Instead, you have to be able to say, "I understand your behavior, I understand your behavioral risk model, I understand your needs. I can see in terms of geo-context, or whatever other triggers there are, that there's an immediate need for credit and I can fulfill that in real time." That's based on behavior data, heuristics, all of these sorts of things. But if you're waiting for me to "apply" to your bank in this world, you'll never get the business. Competitiveness will be based on the ability to predict needs and deliver seamlessly, with minimal friction.

Now, it's the techs giants today, that just have a lot more data than banks on this behavioral element. So they're going to be super competitive, particularly when it comes to these new operating systems that will be platforms for experiences like voice-based smart assistants or voice AI in the future. This will be accentuated again in five to ten years' time with mixed reality smart glasses, which will use spatial computing technology. The next big personal computing paradigm.

Agustín: Sounds like fintech is the industry to be in for the next decade, an exciting vision. Thanks a lot for your time Brett.

Chapter 24 Pierpaolo Barbieri

Company name: Ualá

Location: Buenos Aires, Argentina

Description: Ualá is a personal financial management mobile app developed in Argentina that allows users to conduct financial transactions. It has grown exponentially in a region that was craving a simple and affordable financial product targeting the underbanked. It has attracted investments from top investors like Goldman Sachs, billionaire George Soros, and Tencent.

Roles: Pierpaolo Barbieri, Founder and CEO

> *We provided a card for free, a significant differentiator, and that attracted a lot of people, 50% of whom had never had an account before, but wanted a payment mechanism for the modern world.*

Agustín: To get started, could you please let me know how you got started with fintech?

Pierpaolo: I was running an investment fund focused on Argentina and we became large shareholders of the listed banks in Argentina. I saw how profitable they were, while banking less than 50% of the population. In Argentina, over 50% of people have never had a payment mechanism that is not cash; they've never transacted that way. I was coming from a background in economic history, in financial history—which is what I did my economics work on. Then the idea dawned on me that we can provide financial services to all those people, with lower costs, provided we were doing it via mobile device.

Agustín: After you had the idea, how did you go about it in order to crystalize it into an initial product?

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Pierpaolo: I was part of an original team. I wasn't the only one thinking about it. I had a friend who became our head of product and who has been thinking about this with me for four years now. We brought together a team of people both on the financial side and on the product side that was able to start working on building what later became Ualá. We spent a year working on the architecture. On one hand, we wanted to do it cutting edge, so we wanted to create a product that was serverless, and that was at the forefront of how we could built an efficient, cost-effective product; while at the same time we had people like another early joiner who was our head of admin. He was in charge of looking into all the regulation, which was essential for operating in a country like Argentina. We started working on that in 2016 and then we only launched the product in October 2017.

Agustín: Did you have any role models like other companies around the world that inspired you?

Pierpaolo: Yes, I was one of the early adopters of Simple in the U.S. and I greatly admired how that product was created and how simple it was, no pun intended. I realized what they were doing there, because I thought that the key was to be able to develop an easy, 21st century checking account on which you could later add a marketplace of products and services.

Agustín: It seems Ualá was very popular initially with customers in Argentina, so how did you get to acquire so many customers so fast?

Pierpaolo: The other part that was essential was having the backing of people that helped me build a great product. I had never done this before in technology, so having investors like Kevin Ryan or David Fialkow from General Catalyst, and Soros, which led our investment in the beginning, was essential. But when we launched the product, what was really surprising was that we didn't really do any marketing. We just wanted to tell the story of what we were building, and people jumped on it, because as I said, in Argentina banks charge for everything and 50% of people have never had a banking service before. What we were giving them—at least initially—is a "payment mechanism for the modern world," because we were giving them a free Mastercard in a country where everybody charges opening fees, maintenance fees, renewal fees, closing fees, all sorts of fees to just have a card. We provide the card for free, which is a significant differentiator and that attracted a lot of people, 50% of whom had never had an account before, but needed a payment mechanism; but others were just people that did have banking services but didn't like them, so the ability to provide all that without having to rely on branches we think is quite unique.

Agustín: Really impressive. When I look at the situation in Argentina, often you are requested to have a bank account to do certain things. Does Ualá replace a bank or can you provide a standard banking number with Ualá?

Pierpaolo: Well not yet, but the central bank has created a new protocol called CVU [Clave Virtual Unica] that will force every bank to give us access to that. We will be able to transfer in the next couple of months from any existing bank accounts into Ualá and from Ualá to any existing bank accounts, without friction. While we are not technically a bank and we're not technically a checking account, that's being fixed by giving virtual accounts like Ualá's account access to the banking infrastructure, which is something that the central bank is doing to open up competition, because they realize better than anybody that most people in Argentina still transact only in cash. For now, what you can do with Ualá is that you can top it up with cash, with still the highest capability of any service of its kind, or with a debit card, or via a Western Union-owned network. What this new regulation will do is change that, so you will be able to top up Ualá from any bank account in the country.

Agustín: How do you find dealing with the government? Do you find them supportive in Argentina?

Pierpaolo: I think that the existing administration and also the authorities of the central banks are greatly supportive of financial innovation. I think that they realize that the Argentine system was characterized by a cartel of banks for a long, long time and that didn't help the consumer because of the fees that they charged. So you had a small cadre of people that could very easily all decide to raise fees. The ROE [return on equity] of Argentine banks is three to four times the ROE of an American bank, which tells you that they are making money on areas that others don't; a lot of that comes from fees. Opening it up to competition has been an answer for the government.

Agustín: It sounds good to hear that the Argentinian government is actually helping.

Pierpaolo: It's not perfect, but they try. There are a lot of people that don't do that.

Agustín: Yes, completely. You were mentioning about your funding; how did you go about getting funding? It's not easy and especially in a country like Argentina to get funding, but you got very good results.

Pierpaolo: I had a relationship with many of the people before from our consulting company that I also worked on called Greenmantle. I had relationships with people at Soros and they were there from Day One. Also, Kevin Ryan, who's the founder of GILT, and MongoDB, and Zola, these are people that helped me from the beginning to start the product. When it came time to raise funds, obviously they were our first calls and they trusted the project from the beginning even if it was just in PowerPoint and nothing else. It's true that was quite unique for a country like Argentina; but I think one of the pending things that we need to do is to be able to recreate the ecosystem that exists in other countries, not just in the United States, but also in western Europe; it needs to happen in Latin America, because there are some great ideas in Latin America. We are part of that trend and we are very proud of it.

Agustín: In terms of the amount of funding, how much have you raised?

Pierpaolo: We just finished our $34 million round, but that's a Series B. It's not a lot if you consider challenger banks such as N26, that has just announced a $300 million round on a valuation of $2.3 billion, right?

Agustín: Yes, so maybe you can explain the ambition. Where do you see the company growing? Is it regional? Is it different products?

Pierpaolo: What I said when we announced the round is that we want, in the first year, to provide a checking account. What we want is to be able to provide all those services that somebody would be able to get in a bank. You can have investment services, as well as lending services, all directly from Ualá within a year. So I want that launched by next October. We are adding other services to Ualá. Since launch, we have added the top up of phones, the top up of TV. We have added spending analysis, which is unique in the market. We have already added transfers by QR code. So the Ualá of today is your checking account. What we can do is expand that, so that you can have the other services that you rely on a bank for. My idea is, a year from today, or a year from October, you will not need a bank for anything else. If you like to have banking relationships that's great, but from our perspective you will be able to do everything that you would be doing at a bank, at Ualá. And yes, the project is regional.

Agustín: So you are looking at expanding into other markets in Latin America?

Pierpaolo: Yes.

Agustín: When I look at the business models of companies such as Monzo or, you mentioned, N26, it's difficult to see where you're getting your profit from, at least initially. How does it work with Ualá?

Pierpaolo: I agree. The radically different thing between Ualá and the companies you just mentioned is that the interchange in Argentina is very close to the interchange in the United States. It is around 2% per transaction on a growth level. The one in Europe is capped at 0.2%. We're talking about an interchange that is around 8 to 10 times the one in Europe. That means that from a transaction percentage, Ualá monetizes in a way that the others don't. The others have to rely immediately on other services. Be that overdraft or lending or investments—whatever it might be. But that goes back the ROE of a bank in Argentina because what they've charged and what they make per card is extremely high. That's why I think that fintech is more of a revolution in emerging markets than it is in developed markets, because the difference between Deutsche Bank and N26 is much smaller than the difference between Banco Nación and Ualá.

Agustín: So you are able to profit right now? I mean, if you weren't doing all of your investments?

Pierpaolo: Well, yes, we have a lot of profitable users, what I'm saying is we're spending a lot of money because we're growing extremely fast. We grew by 18 or 20 times in a year, so we're spending a lot of money, but the point is that we're monetizing in a way that is a lot higher per card than the ones in Europe at least on a per-transaction basis, because of the interchange difference.

Agustín: What is your opinion of a company such as Nubank, which has become the biggest challenger bank outside of China?

Pierpaolo: Nubank is not a bank; Nubank is a credit card. I have great admiration for the product and for its CEO David Velez, he's become a friend and I have great respect for what they're doing. I think they've really upended the Brazilian system, but as I said, what we want to create is a more holistic banking experience, so that Ualá is your one stop shop for financial services and we don't want to stop at a card.

Agustín: Who do you consider to be your main competitors?

Pierpaolo: Well it's MercadoPago from Mercado Libre, it's the banks, and maybe the prepaid card players, although prepaid card is incidental to Ualá. The experience of Ualá is in the app. The card is what you use to interact with the existing payment infrastructure, but 90% of what happens at Ualá happens in the app, and that's the home banking, so the banks and Mercado are our biggest competitors.

Agustín: In terms of cryptocurrency, is that something that you guys are looking at, being able to transact with crypto?

Pierpaolo: We're looking at it, the problem is that the regulation in Argentina makes it extremely difficult, because right now every crypto transaction is a suspicious transaction for the anti-money laundering agency, so it's not practical for us to integrate anything before that regulation has changed.

Agustín: I'm interested in your role in the company, as well as growth. How many employees have you got now?

Pierpaolo: Eighty.

Agustín: That's quite a lot and I suppose that with the new funding, you will even have more?

Pierpaolo: Yes, we're growing very fast; we were at twenty a year ago.

Agustín: So four times the initial staff. How did your role change from day one until today?

Pierpaolo: Not a lot, I'm just there to hire the best people and inspire them. That's not a lot. We are hiring people; one of the things that's unique about Ualá is that we have been able to attract amazing talent. We have people that have left Google to come to Ualá, Santander, Citi, Goldman Sachs, McKinsey. We attract talent from Mercado Libre; the difference is that at Ualá we want to make as many people as possible part of the business and so we've—I'm not going to provide details on this—but we have over 20% of the company that is owned by staff, and so that makes it quite unique and it makes it much more like a startup in the U.S., than a startup in Latin America, where the founders tend to hoard all the equity with the investors.

Agustín: Sounds like a really good approach. What is the secret to creating such as great culture?

Pierpaolo: Being willing to give up equity, and being able to consider people, not as your employees, but as your partners.

Agustín: Sounds like a really good way to lead people. What do you see as the future of fintech in Latin America? You're an expert, so I'd like to know your view on how things will develop over the next five years.

Pierpaolo: I think in the next in the next five, or in the next ten, for sure, there will not be anybody who's unbanked. I think that being able to provide financial services, with products like Ualá, cuts the cost of providing for them by around 80 to 90%. I think that government opening up, plus new startups and not just Ualá, but more competition in this space will mean that there will be no unbanked people. Today there's so much green space here, because, as I said, N26 has had to convince Germans to give up a pretty good banking product that is already free and jump on N26—they have an amazing product, beautiful design, I greatly admire what they do, but the difference from the existing infrastructure is not that large. In Latin America, 50% of people have never had a bank account, so you are fighting not against just the banks, but against cash, and beating cash is a lot easier.

Agustín: How does it feel when a person who has never had a bank account starts using your product and actually benefits? Are you getting feedback from these from people?

Pierpaolo: Yes, it was a challenge to build a product that somebody who has never used a bank service could use, but again I think that the key there is to provide people with a payment mechanism for the modern world. People may like cash because that's what they always knew, but as more and more things move online, people want to have Netflix, the poor also want to have Spotify, and those services are priced to appeal to everybody, but people cannot use them, cannot take advantage of that if they've never had access to the system and they don't have a way to pay, and so that's what we provide.

Part 3: **Payments Fintechs**

Companies in this section
Flywire
RentMoola
Book Sections XXI
JumiaPay
BitPesa
CurrencyFair
Mypos
iZettle
UnDosTres
Spark Systems
Nium (formerly InstaReM)

The globalization of the world has gone faster than payments technology, and many times paying for products and services, either for B2B or B2C [business-to-business or business-to-consumer] transactions, and also for remittances, has been slowed down by technology. People still have to search thoroughly for options to send funds in efficient ways. With PayPal as the flag carrier for a set of companies that aim to bring simplicity and costsavings to customers, change in paytech is in overdrive and getting faster. Traditional players' margins are getting squeezed, and customers are seeing the benefits as commerce is boosted and more people are being included in the financial services world.

Payments can take you anywhere in the world. Starting in Africa, I had a chance to catch up with Elizabeth Rossiello from Kenyan BitPesa, a foreign exchange [FX] platform that leverages blockchain technology for efficient payments through Africa. Following the African trail to Nigeria, I was introduced to Sami Louali from JumiaPay, from the top e-commerce site in Africa. They are growing a digital wallet for payments across northern Africa.

Moving on to Europe, I caught up with Brett Meyers from Ireland's CurrencyFair, who created a marketplace to buy and sell currency at a rate that was a lot more competitive than what banks offer. I also spoke with Jacob de Geer from iZettle, a renowned payments processor that was acquired by PayPal. On the same line of business, I learned very interesting insights from Christo Georgiev of myPOS of the United Kingdom.

In North America, I had the chance to visit the headquarters of Flywire and interview Mike Massaro. They have created a global payments solution for the education and healthcare industries. I was also impressed by the story of Arpit Gupta and UnDosTres, which is building an interesting product that allows customers to pay for anything, including utilities and phone recharges, from their mobile devices.

Finally, I was keen to get some insights from Asia, and I interviewed two companies there. I discussed remittances with Prajit Nanu from Nium, which offers cross-border payments in Asia for businesses and individuals. Also in Singapore, a country that has embraced fintech deeply, I spoke with Wong Joo Seng from Spark Systems, who built a world class FX trading platform.

No matter whether it is cross-border payments or e-commerce payments, what is evident is that technology is quickly making payments more efficient and convenient. We are still far from done in terms of innovation, and I'm happy to see how much enthusiasm and drive the newstartups are bringing into the scene.

Chapter 25 Mike Massaro

Company name: Flywire

Location: Boston, Massachusetts, United States

Description: Flywire solves complex payment problems for businesses and institutions to empower new opportunities globally and locally. It allows its clients in education, healthcare, and business to focus on their products and services rather than on the complex payment processes that are performed as a part of daily operations. They offer convenience, transparency, and faster cash flows for all parties involved.

Roles: Mike Massaro, CEO

> *I think it's crucial to refine your product market before you scale. That's one of the core reasons we've grown as rapidly as we have.*

Agustín: How did Flywire get started?

Mike: Flywire used to be called peerTransfer eight years ago, when we started the business. Our main founder was Iker Marcaide. He was a Spanish student attending MIT Sloan [MIT Sloan School of Management], and had trouble paying MIT with a bank wire. He got paired up with a number of folks that had billing and payments background here in the United States in the Boston area, where we're headquartered. Our head of product Jason Moens; Sharon Butler, who heads up our sales team; and I all became part of that founding team. But ultimately it was started to really solve the pain point that he experienced: making a very large financial transaction to MIT to pay for tuition.

Agustín: Sounds like a good start. Where were you before this startup?

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Mike: This is the third startup for me. But the first one that I've run. I came out of university and actually was going to use my management consulting background—until I went to visit a buddy in a startup called edocs. It was an e-billing and payment company. I joined in the late nineties and it ran through about '04 and '05, when it was ultimately acquired by Siebel Systems and Oracle. As the Internet continued to grow and people started to use it for bill payments, edocs really was one of the pioneers in that space, putting these invoices online and driving e-billing and online self-service. That's where I started my career—five/six years there in various technical and sales product related roles. Then I ended up following one of the executives of edocs who became the CEO of a big data analytics company on the west coast, and we did that for about six or seven years. That company was sold to AT&T here in the United States—one of the big wireless carriers, wireless phone operators. Then, I always wanted to get back into payments, so that's when I ended up meeting Iker Marcaide. They were building Flywire (peerTransfer) here in Boston and some of the folks from my first startup, edocs, were already at the company. So we got a bunch of us back together again and joined Iker in building up peerTransfer (now Flywire).

Agustín: Iker was, at that time, a student. You were a person that has plenty of experience, selling companies already. I'm wondering, did you see that the market opportunity was a big one?

Mike: Yes, what drew me to the company was the fact that you were dealing with very large transaction sizes and there were really no good alternatives to make those large payments. We were focusing on a tuition payment initially, but I always saw a vision bigger than that. I effectively saw what we were building at Flywire as a way to move money around the world in large-sum payments, which were all very much invoice-based. Flywire doesn't focus on small-dollar e-commerce. We focus on very large transactions—on average over ten thousand dollars; sometimes even thirty, forty, fifty, even a hundred thousand dollars. Education was a great use case. There were definitely problems, and it was a growing area in a large market, but I always felt there were additional vertical opportunities to take our product, if we built the right payment product and platform. That's really what's happened over the last four or five years. We now have a hundred-plus hospitals using our product for very large payments. We work with a number of businesses now that have invoices going around the world. So we've really been able to expand outside of education into multiple vertical markets—but all markets that have these very large transaction amounts.

Agustín: I'm wondering how you got to take the helm of the company? What happened with Iker?

Mike: When I joined, I was the first vice president; effectively Iker's number two in the company. I had sales, marketing, business-development experience. Iker was a first-time founder and he had asked me to join the board of directors. I brought valuable experience from having been part of two successful startups. I joined the board of directors maybe a year into joining the company. I served on the board for a while and then Iker, he was kind of torn between Valencia, Spain, where his family was from and Boston, where the company was based. He came to me in 2013, quite early, and said his wife was pregnant, he wanted to go back and be with his wife and raise his family in Spain. He knew the company needed to be based in the United States. That's where most of our education clients were; it was where our venture capital firms were. So he asked me if I would become the CEO, that's how it happened. He stayed on for a while, helping transition the business to me and he is still a big shareholder in the company, and the company has continued to do really well. He started a venture fund in Spain, and he makes various types of investments throughout Europe and the Middle East and Africa, through his venture fund. He's still an active shareholder but hasn't been involved in the day-to-day operations of the company for the last five or six years.

Agustín: And since you took the helm of the company, your company has grown very fast. I'm curious, how did you make that happen?

Mike: We were about probably forty Flymates—as we call them—or employees at the time and now we're over four hundred this year. We've scaled not only in people, but also into different vertical markets. The company has raised an additional hundred and twenty million dollars since then as well. We've grown in a number of ways. I'd say the first part was that we started to focus the business a bit more. As an early-stage startup, one of the hardest things to do is take your initial amount of capital and prove that you can solve a pain point. We did that early on, in that first year-and-a-half or two years, and then it became a question of—can we scale it? I think one of the hard parts of scaling is maintaining the right level of focus. In the startup world, the mentality is that you can pivot the business, or you can look at doing different things. You raise the venture capital and you realize you may not have the problem perfectly solved initially, but are you shooting in the right direction? When you go into scale mode, if you're not really sure what you're trying to scale and what the solution is and what the solution isn't—you can get very distracted. I think one thing that we did really well as a company is that we did not try to scale until we had refined the value proposition and use case. Then it became a question of, "Okay, now we just need hundreds and hundreds more of these clients that look like this and that have this problem." That became, I think, the key to the success. A lot of companies either don't refine their product market fit that clearly, or they try and do too many different things and they have too many products or too many capabilities, because they're not sure which one's going to work. I think it's really important to figure that out before you try and scale. That's one of the core reasons we've had the success growing as rapidly as we have.

Agustín: That's a really good point. The question is how do you get that done? You said that you had worked as a management consultant. Is it a management consultant that will tell you what the sweet spot is, or how else do you get there?

Mike: For us, it was really engaging closely with our clients. We picked the education sector first, and that's where we focused for the first four or five years of the business. I think the relationships we had with our clients were really important. We also hired a client services and sales team that were from the industry, so they had worked in the higher education industry for 10-15 years. That was really important, because we didn't quite know what the solution was at the beginning. We needed those client relationships to help us understand and refine the product. Having experts who knew that industry, and knew many people in that industry, helped us grow very quickly. I think a lot of competing solutions kept trying to solve the industry's problems without any real expertise in it. It sounds really silly right? Why would you ever try and solve a problem as an outsider? But for us, it was a combination of having the technology team and a very rapid, agile, product team, building technology, but also people who really understood the education industry and the systems of record and the people in it, so that we could refine the product and get the input. That to me was really the key. It's that combination of understanding the industry and focusing, so that you're not getting distracted.

Agustín: What about funding? You mentioned you had a very big round of funding. I'm wondering why so much capital was required? I know you're not in your first rounds of funding, but you're growing quite big right now. I'm wondering what is the use of that capital?

Mike: First, I think we've been very efficient. We've raised a lot of capital, but at the same time, we have a very large amount of that capital on the balance sheet. We announced publicly three or four years ago that we hit operational profitability. We invest aggressively in the business, but we're not one of those startups that is losing ten, twenty, thirty, forty million dollars a year. That's not how we operate our business. We continue to invest in the business and run it right around breakeven, or plus or minus one or two million dollars. We're very financially conservative with how we grow and scale the business, which is very different from a lot of other companies.

The second point is, we're a payments company and so, for us, what is really important is that we're investing properly in scaling that, and it's oftentimes very difficult. We'll move over seven billion dollars of payments this year and I think it's really important if you're going to have that level of financial responsibility, that you have a company that has a certain amount of financial capital. For example, it's hard to walk into New York University or the University of Liverpool or Yale or Harvard and tell them that you're going to help process tens of millions of dollars of tuition payments for them and have just two or three million dollars of money in your bank account. I think it's very important that we were investing and that we also had financial stability, because we are a regulated financial institution, so you oftentimes need a certain amount of capital in certain parts of the world. The regulators like to see that you are properly financed. Those are critical reasons for it.

Another reason we've raised this latest round of capital, in particular, is that we're really expanding in a number of areas. One is geographic. We're a global payments company and, therefore, we process payments from two hundred and twenty different countries and territories. As we have built out our network, there are additional areas, such as Latin America or the Middle East or South East Asia, where we're expanding. That means more Flywire offices; that means more Flymates (employees) helping forge banking relationships and partnerships in those markets, acquiring clients. So that's one of two areas of investment. The second is really in the product. We're adding additional product capabilities so that we don't just offer the ability to process international payments. We also help our clients now process domestic payments. There are a number of things that we are doing to launch more products to existing clients and then, in addition to that, growing our client base and our footprint around the world. Those are really the two big investment areas and the reason we raised the capital.

Agustín: Got it. I've asked you a lot of questions, but I haven't asked you what the core proposition or the initial proposition is for education. What problem are you solving?

Mike: When you're dealing with these really large financial transactions, ultimately the consumer or the payer doesn't have great options today. Traditionally, these big payments have gone over the international bank wire system—a lot of banks leverage SWIFT (Society for Worldwide Interbank Financial Telecommunication) for the exchange of information and then they move the money kind of separately from the information. The problem for the payer is oftentimes that process is a delayed process. Depending on your bank and your relationship with your bank, it could also be a very costly transaction. A lot of banks still charge very large foreign exchange fees when you're making a payment. The value to the payer is that you have someone who is giving you local ways to pay, in your country. Whether it's China, India, Korea, Spain, Italy, wherever. If you're making a payment, you want local ways that you can pay, even though you may be paying Harvard or MIT, halfway around the world. The value for the payer is that Flywire helps make it easier to pay all those institutions in whatever the most modern and convenient ways are to pay within your country. Then on the billers' side, the challenge that Harvard or Mass General Hospital or UCLA, or any of our clients (the billers) have, is that they're not payment experts. They don't understand the best ways to pay in China and how they've changed over the last five or ten years. They don't understand that they would need to go and sign up with Alipay to now have a payment processing relationship to accept Alipay or WeChat. They don't understand the local regulations a payer has to follow in China to make a payment abroad, especially one that's maybe fifty or sixty thousand dollars. What Flywire does is we understand all of those regulations. We help facilitate those payments from the payers and we act almost like an extension of our client, so that they don't have to solve all of those issues themselves, because they're not experts in payments. They're experts in education; they're experts in healthcare; or they're experts in their business. To understand all the necessary payment and banking regulations around the world is just, really, impossible for them. The value is that the payer gets a better experience, lower-cost transaction, white-glove service—which they haven't been used to with these large sum payments. The biller gets one relationship with Flywire and the ability to act as a global institution, where they can accept payments from all over the world, in all different methods, and do so with just one relationship with Flywire.

Agustín: Thank you for that. So it's clear on the education front; on healthcare are you also helping people make cross-border payments?

Mike: Our clients deal with challenges getting paid from around the world, but they also deal with challenges of getting paid even locally in their country. We provide solutions for both. For somebody like UCLA or Mass General Hospital here in Boston—which is a very famous hospital in the United States—they have patients coming in from all over the world who are seeking medical treatments, cancer treatments, and they have these very large payments that are owed to the hospital for that service. We're involved with the facilitation of those payments as well as if a patient is in the United States and goes to those hospitals. If they owe the hospital for their medical procedures, Flywire provides them different solutions to pay.

Agustín: Yes, that's very clear. It sounds like it's working well for everyone. I'm wondering if you ever thought about expanding into another area interesting area, lending, which is quite connected with what you are doing.

Mike: To date, our clients haven't really needed that. They're typically very well-established institutions, hospitals, businesses. I wouldn't rule it out, but it's not something we have plans to do in the near term. Again, our goal is to help our clients get paid as rapidly as they can. If they have lending needs, those will likely end up at their bank or an alternative provider. But they don't compete with what we do at Flywire. We focus much more on the payment processing and receivable side of it as opposed to advancing or lending money.

Agustín: I was thinking the other way around, like student loans, like maybe what SoFi does. Is that very different?

Mike: Yes, they are, definitely. In the US I think there's been a lot of change in taking loans. There have been a number of third parties who have started to emerge to help students—especially international students—to get loans, which is often very difficult for them. A lot of the US education loans are obviously to US citizens, with social security numbers and such things. The international students often have a hard time accessing those types of lenders. There have been a number of startups that have begun trying to help facilitate those international student educational loans. We're not on the loan origination side. What's interesting is, as those students take those loans and go back home and graduate, they may be working in a different country, maybe they take a job after an MBA in London and their loan is in the United States and they have the same repayment problem that we solve for our schools and our hospitals. We do work with some of the loan providers and help provide them a way to get paid if the person that owes them for the loan is no longer in the country in which the loan originated. That sort of cross-border loan repayment is a use case that we help those companies solve, but we don't originate loans.

Agustín: Brilliant. The other question I have is about China. You have a lot of business in China. I wonder how you see that space and how easy or difficult it was to set yourself up over there.

Mike: I know a lot of fintech companies have a global problem to solve early in their evolution. Most of them want to go global over time, but for Flywire, being global IS our business; 52% of our payment volume comes from China, India, and Korea, with nearly 30% coming from China alone. For us, a critical part of how we had to build the company was to be able to operate in markets that are generally very challenging for foreign companies to operate in. For us, the key parts have been, at first, understanding the local regulations. They have very strict laws on the movement of money and in the forms that need to be filled out for different types of payments to be processed. The first critical part was to make sure we understood that; we had the right legal and regulatory teams in place to figure out how to operate in those markets. Then, I would say just ensure that you invest locally. A lot of startups in particular, even big companies, they think, "Oh, we're just going to go to China. We'll just go to Asia and operate." I often say a lot of it is about the team you put in place, and the empowerment that team has to truly act locally. It's critical that you as the CEO or you as an executive team are committed to building that local team, but also, you're committed to going there and actually spending time in the country, or region. That doesn't just mean one time a year. As we grew our Asia-specific business, each individual executive would probably make three or four trips to the region a year and it's a big commitment. You need it for relationships; you need it for partnerships. It's important to understand the local market. I think a lot of companies look at all types of global expansion and they want to go global for the benefits to their business and the growth; but at the same time they try and run the region of a new territory remotely from far away. I don't think that's a good equation for success. I think you have to hire great people locally; empower them to deliver; and make sure you're willing to commit to support that team—in person and not just financially support with capital—with your time and your effort in the region. And that, I think, is what we've done really well, build up that local team and power that local team. Find great banking relationships and partners in the region and really commit to those markets. I think that shows in the success that we've had in the last six/seven years in those three markets.

Agustín: How easy is it to have an alliance or partnership with one of the big Chinese companies?

Mike: I think all markets can have unique challenges. In China, in particular, the thing that is important for people to realize is that Chinese make up 30% of the international students studying abroad. But there could literally be millions of additional Chinese students studying around the world. With the sheer size of the population and a middle class that continues to grow, I think you're going to see huge supply issues trying to support the demand for additional education services and healthcare as well. Nobody has scaled a country to the level that China's having to scale its infrastructure. I think that provides companies like Flywire a great opportunity as more Chinese go abroad for medical care, for education, and I think that will continue for a long time. They have so much infrastructure to build out in the country and they are doing an amazing job of doing that, but at the same time, the scale of that infrastructure needs to be just unbelievable to support the demand in the country. I think that's probably the biggest challenge in that market.

They also move extremely rapidly. When they want to invest, they want to compete. They're really aggressive and I think that they need to be, if you look at things like Alipay and WeChat and how those platforms have emerged. I don't know that there's anything quite like WeChat in any of the rest of social media. It's kind of like all social media put together—like a whole Internet and all social media apps put into one. I think that's pretty amazing when you see that level of scale across some of these, whether it's financial institutions or social media companies.

They execute very well, and they go after a very broad use case or many use cases underneath one umbrella. That's been my experience, a very positive one working with banks and partners in China. At the same time, again, if you don't have that local team, that local presence and the commitment to the region, it's definitely not easy. Regulations change frequently depending on the city. Getting around cities can be challenging—they're just going through so much growth. So I think there's lots of challenges but there's so much opportunity in that market and I think that will continue for decades.

Agustín: That's a very good insight. I was wondering, have you ever considered your services in property?

Mike: We have. As we've expanded into the business sector and business payments, we've looked at a lot of different use cases. This is the vision we've always had for the company. If we build this global payment network, if we build this infrastructure, this technology platform to help people collect money from all over the world, we think there are all types of use cases. I do think that property as a use case is very interesting. The hard part right now is really about looking at things like the value and the risk factor of those transactions. Property and anything that holds value or can be transferred, has just a higher risk profile. If you think that the core markets we're already in—education, healthcare, even business payments—they're typically invoice-based payments. They're paying for goods and services; they're very finite transactions and the end source of funds is fixed. We know the money is going to Harvard, you know the money is going to UCLA. The hard part with apartments is often that the information that you know about the buyer can be limited and also the fact that once the cash is into the real estate purchase, you then have the ability for someone to sell the real estate and the money to go somewhere else. It's a little more of an open loop; it's a little higher risk than the markets we've focused on. I still agree it's a huge opportunity and I think someone has to solve it over time, but it's not something we're going to do in the immediate term. As you get more clarity around who is buying properties and you can think through some of these global flows, especially the inflow of Chinese capital into real estate around the world, I think the more systems that you put in place around that, to make it more transparent. That would be interesting to us, if those things occurred, to then maybe go into the market, but we have no short-term plans to do it.

Agustín: You mentioned you're traveling a lot and you also mention that you like the startup phase of a company. Do you miss that? Do you think you're going to do a startup next or are you enjoying being like an institutional CEO?

Mike: Yes, it's funny, it's happened very quickly. Like I said, you kind of blink and five years have gone by and this little startup you had is a multinational corporation. I often say it's somewhat like having children. I have four children and I think as I see them at different ages, I always long for the days when they were younger or that they were kids. They go through different stages and yet, as they've gotten older, I've realized that every stage has its own greatness. It has great things about it; it has things that are different, but it also has really great experiences. I look at the journey that we're on here at Flywire in a very similar way, where yes, we might be out of that startup phase of our journey, but it's still exciting every day. It's amazing to see a global team of this scale get built and to try and find ways to keep improving the business and also give opportunities to employees, or Flymates, many of which I had at some of the early startups I joined, to just do new things. I think the unique part about startups is that you often are given opportunities to do things that are way above what you've ever been able to accomplish in your career and I think that's exciting. I don't think that that happens as much in large corporations. What we're trying to do here is make sure we keep that going as long as possible and give people amazing opportunities because I think people learn and develop much faster in those environments. Yes, you know I really enjoy the journey. Do I ever think I'll be fully into the corporate world and always have corporate roles? No, I always think I'll be connected in some ways to startups, whether that's in the future, in board relationships or as an investor or whatnot. Maybe even starting something. It's very addicting, once you're into the startup world, it's kind of hard to see yourself leaving it behind completely.

Agustín: I also read that you are supporting a coaching event very soon.

Mike: Oh, yes. Flywire was one of the early MassChallenge companies—a Boston based incubator that helps startups get off the ground. We're fortunate to be one of their alumni that made it through, so yeah, I'm delivering a keynote at the kickoff for their fintech event.

Agustín: That's what I read. It's been a pleasure hearing the story Mike, thank you very much for being generous with your time.

Mike: Oh, my pleasure, I really, really enjoyed it.

Chapter 26 Patrick Postrehovsky

Company name: RentMoola

Location: Vancouver, Canada

RentMoola allows customers to pay rent with cards and other forms of payments. It improves the rent collection process. RentMoola has started small and grown into a big player in real estate. They provide an innovative solution that makes rent paperless, and easy to deal with.

Roles: Patrick Postrehovsky, Cofounder and CEO

> *Every aspect of real estate is being reshaped by technology.*

Agustín: How did you and your brothers come up with RentMoola?

Patrick: RentMoola was inspired the everyday experiences of my cofounders and me, when we found that paying our rent was a cumbersome experience. Landlords generally demand only checks or debit payments, with no credit card options. That's when RentMoola's core value was born—solving the age-old problem of paying and collecting rent for tenants and landlords. This simple idea grew the company into one of North America's leading fintech companies, and RentMoola is changing the landscape of paying rent all around the world.

Landlords view RentMoola's system as an excellent option because it allows them to obtain their money up front, with little risk of default and no fees to be concerned about. For the tenant, there is a flat fee of $1.99 with the use of a debit card and there is a 2.75% surcharge if the transaction is executed on a credit card. The benefit to the renter is the chance to collect points and loyalty rewards on the card, as well as perks added by RentMoola. It's a method that also provides flexibility and can serve as a form of bridge financing.

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Agustín: How did you fund the company?

Patrick: Our funding was done with a mix of high-net worth family offices funding and retail investors via various "offerings." In hindsight, while we did not take on any venture capital, we probably would have done so today as, in the early days, many venture investors did not fully understand the growth cycle of fintech and two-sided marketplaces.

Agustín: How have venture capitalists changed in your opinion?

Patrick: Today, venture capital understands that patience and growth will lead to scale and success. There is tremendous M&A and consolidation occurring within the real estate software and payment vertical. The goal for RentMoola is take advantage of this M&A cycle.

Agustín: How will technology shape real estate in the next decade?

Patrick: Every aspect of real estate is being reshaped by technology, from real estate payments, Big Data, customer engagements, sales, insurance, retail, office, and more, virtually every part of real estate is being transformed. Global leaders like WeWork, Opendoor, Compass, Redfin, Zillow, CoStar Group, and others are reshaping real estate services. They all have one key thing in common. They are disrupting old ways and methods of delivering services and experiences.

Agustín: What specific piece of advice would you give to Canadian entrepreneurs that want to start a fintech?

Patrick: The overwhelming advice would be to start in Canada, test your product for market fit, find investors that understand fintech and have the ability to see your long-term vision. Look to scale outside of Canada into the US, it's a massive market right next door with major opportunities and demand for fintech products and platforms.

Agustín: What mistakes did you make when you started?

Patrick: Reflecting back, I think we underestimated how key it was to focus on one market rather than trying to scale globally too quickly. We recognized that focusing on Canada and the US markets would allow us to achieve growth and scale needed to build out our property management merchant network and tenant user base.

Agustín: What advice do you have for other founders?

Patrick: My main recommendations are:
- Focus on the problem you are solving
- Ensure there is a real need
- Figure out how you can make money at scale
- Build a great team that believes in your vision
- Find investors that will support your long-term plan
- Execute, execute, execute (oh and it's okay to pivot, fail, and learn from mistakes along the way!)

Agustín: What is the Canadian fintech space like?

Patrick: Since founding RentMoola in 2012, there has been a massive shift in banking and financial services innovation in Canada. Payments Canada is leading the way by working with the government, NGOs, and the fintech startup ecosystems to support more open platforms and APIs, providing access funding to ensure fintechs succeed across the country.

Agustín: Sounds like a lot of change will be coming into financial services in North America soon. Thanks for your time and good luck with your expansion.

Chapter 27 Sami Louali

Company name: Jumia Group—JumiaPay

Location: Lagos, Nigeria

Jumia is connecting consumers and businesses across Africa and beyond. Through their online platforms, consumers can access a wide range of products and services, from basic consumer goods to online travel. It is the payment gateway and digital wallet of Jumia, the biggest and most successful e-commerce platform in Africa. It allows the African population to be more efficient when paying and storing their payment methods and funds.

Roles: Sami Louali, Cofounder and EVP Financial Services (JumiaPay)

> *I think the trust factor is critical, probably the most important; it's easier for us to launch a payment solution than other fintech companies because we already have a strong brand and an established relationship with our customers.*

Agustín: I am interested in how Jumia got started and how it has evolved.

Sami: Jumia was founded in 2012 in Nigeria, South Africa, Morocco, and Egypt. Beginning in 2016, we started to look at fintech, the payment space, and financial services overall. I can give you a quick overview of Jumia and what we built; and then I can tell you a bit more about what we do in financial services.

Agustín: That's great, I think it's a similar example to Mercado Libre, the Latin American auction website.

Sami: Yes. I'm looking at what Mercado Libre is doing with MercadoPago. They are building an amazing company and Jumia is, in many ways, similar to Mercado Libre. It's also to some extent comparable to Alibaba in China. We are much more early stage as both companies were founded close to 20 years ago.

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So we started in 2012 in four markets, originally, Morocco, Nigeria, Egypt, and South Africa. At that time, I was heading our platform in Morocco where I spent two years launching and building the business. We started as an online retailer. At that time, we were buying the products to resell them, really a pure online retailer. We started to shift from an online retail business model, to a marketplace business model in late 2013. Now over 90% of the products that are sold on our platforms are not sold by us, but by third-party sellers. It is now a true marketplace.

I think one of the specificities of Africa is that the retail market is very fragmented. You have many small shops, brick and mortar, but overall few large malls. The retail market is not very structured yet.

Agustín: What was the opportunity that you spotted then? What were the specificities and challenges?

Sami: We saw a big opportunity. We are leveraging technology to make the retail market more efficient. Our focus is to bring the best prices, as much choice as possible, and to basically deliver nationwide with great convenience. We can really make the retail market more efficient across the continent, and save people time and money.

Paying online is not very common in most of our markets. Very quickly we started to build our own cash-on-delivery service—meaning paying the delivery guy in cash at delivery—and over the years we made this service very reliable and scalable. Two or three years ago, more than 90% of the payment volumes were done in cash. I think it still exists in some countries, like Italy for some e-commerce platforms, but in the US or UK, no one does that, that's very specific to emerging markets such as India, Africa, and some Latin American countries.

The other specificity is that the logistics industry was not ready to operate e-commerce volumes. So we decided to build our own logistics capabilities. Now we also have our own delivery fleet in most of the countries we operate in. We had to build these cash-on-delivery and logistics services, because the market was not ready yet. Now when you look at the market seven years later, you have plenty of successful small to medium logistics providers, and large logistics providers have accelerated their digital transformation. The more we grew, the less volume we deliver ourselves. We had to do it seven years ago, but we now do it less and less, and the logistics services are also operated on a marketplace model—the deliveries are operated by third parties.

Agustín: Some companies like Amazon choose to do the delivery themselves. So, in your case, you prefer not to do the delivery?

Sami: We basically had to do it, because few players could properly operate e-commerce deliveries seven years ago. But if we find providers who can provide a great service, we prefer working with these companies. As much as we can we try to run an asset-light company, we don't want to end up owning or even renting thousands of cars and trucks. So whenever we can find a reliable partner who can scale with us, we grow with them. When we can't, then we need to fill the gap, and we do it ourselves. We have a very pragmatic approach.

Agustín: And it depends on the country, in Africa.

Sami: Exactly, yes. North Africa and South Africa are probably slightly more advanced. In Nigeria, for instance, our own share of delivery is probably larger than in Morocco, where we can find more logistics partners with e-commerce capabilities. The situation is very different from one country to another and in each country we adapt to the local context.

Agustín: What are your main markets now?

Sami: All markets are very important to us, but the top two markets are Nigeria and Egypt. Nigeria is a very large market with more than two hundred million people and Egypt with 90 million. All our markets are growing very fast, and we have a leading position in all of them. We are operating in Morocco, Ivory Coast, Kenya, South Africa, Ghana, Cameroon, Senegal, Tanzania, Uganda, Rwanda, Tunisia, and Algeria.

Agustín: I'm a bit curious about the cash on delivery. What are the challenges of doing that? Is it secure to do cash on delivery for merchants?

Sami: Cash on delivery is convenient for new consumers, because for them it's a way of testing the service without paying online, without entering their payment details online. Testing and taking no risk.

Now there are multiple challenges; for instance, some of the logistics providers do not provide a cash-on-delivery service, as they don't want to take the risk of handling cash. It means we cannot send these packages to these logistics partners. That's one constraint that we have and that's also one of the reasons why we built our own logistics capabilities, to basically be able to process cash on delivery.

Then, of course, there is a risk component, because drivers are bringing cash after their delivery runs. They either come back to the warehouse where we have a team of cashiers seated in a secure area and counting the bills using machines, just making sure that the driver collected the right amount of money. Or they deposit the cash to some of our bank's branches.

And you have a loss in efficiency in the reconciliation process. It's not as scalable as online payments. So you have a few challenges and constraints along the value chain which makes it not as smooth as online payments.

Agustín: Did cash on delivery motivate you to build JumiaPay?

Sami: It's one of the reasons why we started JumiaPay two years ago. We launched in late 2016 in Nigeria and then in Egypt, Morocco, Ivory Coast; and Ghana more recently.

JumiaPay enables us to offer a better customer experience from A to Z by controlling the very last step of the purchase, the payment. Because we own the solution, we can tailor everything from the front end to the back end and it makes the overall user experience much nicer. There is no redirection to a third-party payment gateway, you stay within the Jumia environment. The payment experience is very smooth, you just need to link one of the payment methods available on JumiaPay to your account. After that, you can pay in one click.

You could compare JumiaPay with PayPal. Just like PayPal was created out of eBay or MercadoPago out of Mercado Libre, JumiaPay was created out of Jumia. Successful digital payment solutions often emerged from large marketplaces.

We integrate the most relevant local payment method to offer greater convenience, for example, bank transfer, debit and credit cards, mobile money, or cash transfers.

We also have a consumer facing app, Jumia One. It's an app that is completely powered by JumiaPay where you can pay your bills, buy phone airtime, and access all the Jumia services. We will keep on adding new services, such as ticketing with movies, events, train, bus, or financial services. We now have a much larger opportunity.

Agustín: What traction has JumiaPay gotten so far?

Sami: We really scaled the solution one year ago and the adoption is actually much better than expected. JumiaPay is now processing more than 50% of the transactions in Nigeria and Egypt when it was less than 10% one or two years ago.

It's mainly because we are significantly improving the user experience and offering new services, such as airtime recharges. Also because our customers start to realize that paying online is just more convenient, because you don't have to go to a bank, withdraw the cash, make sure you have enough, and so on. I mean, let's say you buy a TV or you buy a fridge, you need to go to the bank, you need to withdraw three hundred euros and bring it back home; it's not safe. When customers start using JumiaPay once, they realize that it's easy to use, secure, and more convenient.

I think the third reason explaining this fast adoption is our customers trust the Jumia brand. We have been operating in Nigeria for more than seven years now, the brand awareness is high. I think the trust factor is critical, probably the most important; it's easier for us to launch a payment solution than other fintech companies because we already have a strong brand and established relationship with our customers.

Agustín: You mentioned that people can use JumiaPay as a wallet as well.

Sami: Exactly, we also built a wallet infrastructure. For now, we operate as a closed loop, it means you cannot top up the wallet with an external source of funds. We mainly use the wallet to grant cash back and refund our customers in case of cancellations or returns. If you go on Jumia One you will see that if you recharge your phone credit, you get some cash back credited to your wallet after a purchase.

The wallet is also very convenient to refund our customers. In the past, we used to refund the customers via bank transfers which is more manual and takes longer. We are now working at completely automating the refund process. In Nigeria, if you pay with JumiaPay and decide to return your product because you don't want it any more or because it doesn't fit, as soon as the product is received in the warehouse we automatically trigger a refund on your JumiaPay wallet and then you can decide either to transfer this money to your bank account or you can keep it on your wallet and use it on Jumia.

We will pay some of our sellers via JumiaPay too. As we operate as a marketplace, we pay thousands of sellers every day. Doing it via JumiaPay will enable us to offer a faster and more convenient settlement, with no human intervention.

Agustín: So you are looking at automating the payment settlement.

Sami: Yes, we will automate the process as much as possible. Our sellers will get their money faster on JumiaPay and then can either decide to keep it on their wallet and use it or they can transfer this money straight to their bank accounts.

Agustín: Got it and if I ask you, M-Pesa is famous in Africa for allowing customers to not have a bank account. I'm asking about your 14 countries, how good is smartphone penetration and what do you think about M-Pesa? Would you develop something similar?

Sami: M-Pesa is a mobile money service, you can store and transfer money with your phone number. M-Pesa is indeed very developed in Kenya, and mobile money overall is quickly growing in East and West Africa. It's a very good service driving financial inclusion. What we are building is slightly different in the sense that you can associate JumiaPay to any source of funds. You can link your bank account, card, or M-Pesa account to JumiaPay. We are agnostic of the payment method used as a source of funds. We are really an aggregator more than a payment method itself. We are not issuing money.

Then we also have a different value proposition as mobile money services are leveraging the USSD [Unstructured Supplementary Service Data] technology which is adapted to featured phones (non-smartphones); while we are very much focusing on smartphones. We are really building a digital experience. The market is probably smaller today, but the smartphone penetration is growing very fast in all countries, as price points decrease. There are plenty of smartphones for less than $100 USD.

Agustín: Have you thought of integrations to fintech companies?

Sami: Yes, we are integrating with many fintech companies in all our markets. From payment and digital services, to financial services such as microloans, savings products. Markets like Nigeria and Kenya have witnessed a rapid development of fintech companies.

Agustín: I can see how that makes sense. How do you see the business model of JumiaPay developing? Do you see JumiaPay as spinning off from the Jumia Group?

Sami: JumiaPay is set to become a leading digital payment solution tailored to Africa as well as a marketplace for financial services. We will focus relentlessly on building the safest and simplest digital payment solutions. As we develop our payment capabilities, we will offer the most affordable and convenient financial services to our customers and sellers; connecting them to the best financial institutions. As an illustration, we launched a lending platform connecting our sellers with financial institutions servicing short term loans—3 to 12 months working capital loans.

We are developing our own credit scoring to help these financial institutions in their credit decisions.

All these fintech solutions are creating new opportunities for the ecosystem. It's creating value for both the sellers and the consumers.

And yes, it is not impossible to see JumiaPay becoming a standalone entity at some point, even if it is not part of our plans today.

Agustín: So the future is very bright for JumiaPay.

Sami: There are tons of great services to be developed, indeed!

Agustín: How many people have you got working on JumiaPay?

Sami: It's a small team today, compared to the other services at Jumia. We are slightly more than fifty people today.

Agustín: Very, very startup.

Sami: Very startup indeed; lean, most of our team members are developers, product managers, et cetera; we have a limited number of operational people for now.

Chapter 28 Elizabeth Rossiello

Company Name: BitPesa

Location: Nairobi, London, Lagos and Madrid

BitPesa is a digital FX (foreign exchange) platform that offers businesses a fast, easy and low-cost way to make payments to, from, and within frontier markets. BitPesa is all about making cross-border transactions cheaper in Africa, and championing B2B financial inclusion. It has won several awards, and has also been mentioned as one of the most promising technology pioneers by the World Economic Forum.

Roles: Elizabeth Rossiello, CEO

> *Women only receive 2% of venture funding in the US, the problem is only amplified by the fact we are a frontier markets company*

Agustín: How did you get started in blockchain technologies?

Elizabeth: After working as a ratings analyst with some of the biggest microfinance institutions across sub-Saharan Africa, as well as with investors in the space such as Grameen Foundation, Gates Foundation, and the Acumen fund, I saw the difficulties these financial institutions faced finding liquidity in local African currencies. I repeatedly saw funds and institutions have to exit the market because of FX loss or lack of local currency infrastructure. It seemed like such an obvious problem that someone had to solve it. I was also working with regulators and policymakers on legislation for financial innovations. I started BitPesa as a way to provide liquidity in African currencies to make it easier for businesses in the region to grow. In 2013, cryptocurrency had just started taking off and it seemed the perfect way to become a market maker without having to pay the costs or suffer the delays of using other intermediaries.

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Agustín: That sounds like great timing! Many investors are worried about regulation when it comes to investing in crypto-related firms. How do you go about it?

Elizabeth: BitPesa is the first company of our kind to receive full licensing by the FCA [Financial Conduct Authority] in the UK as an authorized payment institution. Therefore, we follow very stringent KYC [Know Your Customer] policies. Through the expansive network that BitPesa has established with licensed and compliant brokers across the world, clients can make million-dollar transactions in the same day with minimal currency risk directly into an African bank and into mobile accounts across the continent. Pressure for USD supply is reduced and the delays involved in the USD purchase are eliminated, introducing transparency in full compliance with international law.

We are very confident that our users are not engaging in money laundering or tax and capital control evasion, due to our compliance checks and transparent reporting. As a company policy, we set a high standard for consumer protection and work mainly with businesses and professional traders.

Agustín: It seems like you are setting a standard for others to follow. How difficult was the process of finding investment for you personally and for the business in general?

Elizabeth: Raising money is never easy but we all have to do it at some point. We are lucky that we are in a hot area—blockchain—and we're presenting a scalable and true use case for cryptocurrency. To this end, there were a number of top investors in the space interested in us, such as Panthera, Bitfury, and Digital Blockchain Group. Having these strategic investors proved invaluable later, and they are still great allies for us. For example, Sompo, a very large Japanese insurance company, recently just came in for a corporate round. They've been instrumental in helping us think about how to execute in new, high-potential markets.

However, the fact that I was a female founder based in Africa made the fundraising process that much harder. Considering that women only receive 2% of venture funding in the US, the problem is only amplified by the fact we are a frontier markets company. We pushed through and to date have raised more than 15 million USD in funding.

Agustín: What specific piece(s) of advice would you give to somebody who wants to create a blockchain company or an ICO?

Elizabeth: We don't do ICOs, but we're really big proponents of diversity in the industry. The blockchain industry is a combination of two very traditionally male industries—finance and tech. But this is an entirely new industry, and this is an opportunity for women to break ground (and they already are). The decentralized communities that exist across the space make it easy to reach out and connect with women outside of your hometown or your own office. This decentralized support has been pivotal to pooling resources, sharing knowledge and helping women climb up faster to a more equal place. Many men in the industry still think that speaking about gender is unnecessary and that if a woman is qualified, she will simply rise to the top as a man would without the need for any additional support. These men do not understand the implication of systemic privilege and bias that hold even the most qualified women back—so we still need to speak out and proactively pull women up to the top.

Agustín: How would you describe the fintech scene in Africa? How can fintech help develop the country?

Elizabeth: Since BitPesa established itself as the pioneer in blockchain in East Africa in early 2013, the Pan-African blockchain community has grown rapidly. We have made great strides in educating the general interested public, to the point today where bitcoin and blockchain are known on the street for their adaptability and their ability to power cross-border payments. Some innovative techies are already creating businesses around blockchain, while others have built very vocal online communities that spill over to offline events aimed at educating the general public. This small community attracts a lot of press, which invites attention and education about the topic, but it is not representative of large portions of the population.

We're seeing higher adoption of cryptocurrencies, as well as integration of blockchain into apps and other functionalities. Blockchain is still most associated as new and exciting financial innovation, but it is slowly starting to gain awareness in its application to land deeds, identity, education, and healthcare.

As the regulatory environment gives more clear cues, and technical education for blockchain developers, more innovators will start to create products that leverage blockchain. As Joe Mucheru, the Kenyan ICT [Information and Communications Technology] Cabinet Secretary commented, "Blockchain creates trust in a trustless society," so the applications of building transparency and accountability are endless. We are slowly coming to the point where many governments are giving clearer feedback on their stance on cryptocurrency and blockchain, in the form of committees, task forces, and official memos. There are few regionally harmonized regulatory frameworks in any sector on the continent. There is still no harmonized regulatory framework for mobile money across the continent, or even real-time gross settlement. As one of the newest technologies, we are still far from regionally harmonized regulatory framework anywhere, let alone Africa.

Recently, there have been quite a few discussions around what blockchain expertise and education can do for youth employment. As there is a great need for developers in this space, young people across Africa can develop these talents.

We are actively working with banking partners and corporations that want to offer better services to their clients, and reach more customers in new segments. We are planning to build even more innovative financial products that have been created intentionally for frontier markets.

Chapter 29 Brett Meyers

Company name: CurrencyFair

Location: Dublin, Ireland

CurrencyFair is a P2P (peer-to-peer) online marketplace enabling individuals and businesses to exchange currencies and send funds to bank accounts. Each currency exchange marketplace (for example GBP to EUR) gives the customer a choice: exchange immediately at the best rate available, or place an order at a better exchange rate and wait to be matched by another customer exchanging on the opposite market.

Roles: Brett Meyers, Cofounder and former CEO

> *The most important thing is spending that limited time resource you have on exactly the right things. I think to do that you need to be very explicit about what you work on and be conscious of keeping on track.*

Agustín: How did you get started with financial services and how did the idea of CurrencyFair come to life?

Brett: At college I actually trained as an electrical engineer and a physicist, believe it or not, but I started on the fintech path when I left Australia in my mid-20s and got a job as a programmer. It was the late nineties. It was really easy to get a job as a programmer because everyone was worried about Y2K. I don't know if you remember those days yourself?

Agustín: Yes, of course.

Brett: So I picked up programming skills, largely self-taught, and then I ended up doing contract programming at a job in a bank. I was at J.P. Morgan here in

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Dublin. In that role, I was employed in modeling fairly complex deals that were, basically, all the types of structured finance deals that went bad in the crisis; all the packaged mortgages and packaged loan products, CDOs [collateralized debt obligations], that kind of thing. The role actually was very good for me, because even though I was a programmer initially, we had to become experts on the deal, because we were analyzing the deal and building models to track how it was performing against its covenants. Then we had to understand the finance behind it, so that led me from programming more into finance, so my background basically ended up being programming skills with a knowledge of finance which was kind of perfect to start a fintech. I guess the idea for CurrencyFair really came about, more or less addressing my own problem. As an ex-pat worker in Ireland, I had been stung a number of times when sending money. I couldn't believe that it was so expensive. Now, there are a few alternatives for that problem, obviously, but we're talking over 15 years ago when I had the idea. Literally, there was no way to send money internationally that didn't cost you at least 3% of what you were sending. It seemed crazy to me, technology was moving on. I'd seen, in the gambling industry, what Betfair had done to let people bet against each other on a marketplace and it occurred to me that that sort of model would work well for currency too; certainly in the types of flows that I was dealing with and that CurrencyFair ended up dealing with as well.

In major currencies, by and large, ex-pat type currencies, you're going to have flows in both directions. You've got people like me that might be sending money home to Australia, but on the other hand you've got people out in Australia that are sending money back home to Ireland, that kind of thing. It made sense in my mind to put a marketplace solution in place. I sat on the idea for a few years really, I was watching to see if anyone was doing it and I was surprised to see that it wasn't happening. In the end, I think it was partly because of the 2008 financial crisis that we got started. I was working in the banking industry when the crisis happened—we still had our jobs, but it became less appealing to be in banking for a number of reasons, which is probably why that period sparked a lot of new fintechs; people coming out of banking and trying to fix things or do things a bit differently. When that happened around 2008, I got serious about my idea, thinking, well, if no one else is going to do this, maybe we should do it ourselves. I pulled a team together of guys that I knew from previous roles that I'd been in and even the one I was in at the time, and we decided to set up a company and see if we could make it work.

Agustín: There are a few founders of CurrencyFair. How do you pick the key roles that will set up a successful fintech company?

Brett: We didn't really get that right at the start. This is something I see a lot as I do quite a bit of mentoring for early stage tech startups now, largely to try and make sure that they don't make similar mistakes to what we made in the early days. We were relatively informal. There were some obvious things we needed for the team. I brought in three other cofounders. One was specifically around the technology side. While I was a programmer—I understood data and data flows and how to write algorithms—I wasn't a web programmer and I wasn't a large-scale database-type programmer. I brought in a guy who I'd worked with previously. He was a database guy, who also had front-end web experience. We brought him in as CTO and I brought in another guy who was an actual FX [foreign exchange] treasury desk trader, for his knowledge of the industry and the banking relationships, which was hugely important to us. Then I added another colleague, at my current job, who was a generalist early on and someone who was entrepreneurial. I think you need that at an early stage, you need someone else to pick things up when someone is down, pick up the mood and keep things going. So there's an element of generalism in the early stages, with obviously a few key boxes that you need to tick. But then that transitions from that early stage into something that functions and can scale. I think it's one of the toughest challenges. It is often where companies fall down and don't perform as well as they could.

Agustín: How did you get that experience and how did you manage to scale up into a serious disciplined business?

Brett: It was tough, really, and in looking back, we weren't perfect in any way at this. We could have gone a lot faster and probably got to where we got to a lot quicker than we did. I think we spent a lot of time in the early stages without a lot of discipline around how we allocated our work and what we were going to work on. The biggest constraint on a startup is time. People say capital, but normally you want capital in order to hire more people, so that you can get more time to work on stuff. The most important thing is spending that limited time resource you have on exactly the right things. I think to do that you need to be very explicit about what you work on and be conscious of keeping on track. We didn't really have that and, likewise, a lot of the startups that I talk to still don't, particularly with first time founding teams. There's a lot of energy and there's a lot of enthusiasm and everyone has their ideas, but there's also a lot of work that goes on that maybe changes from week to week. Someone has an idea and resources get put on it and there's no discipline around it. Whereas I try and encourage companies to work toward having a very firm grip on the strategy and on the steps that you are going to take to attack the problem and put some discipline around what that means in terms of activities—or we used to call them imperatives—that we are going to work on over, say, the next quarter or whatever cycle you're using. Then make sure that all activities line up against those key imperatives and that if you're working on something else that is not one of those imperatives, then you shouldn't be and you stop. That sort of discipline takes a while, it can seem like overhead at the start, but in actual fact it absolutely pays for itself many times over, because it keeps the focus. It doesn't mean you can't change course; but it means that when you do change course, you change course consciously and deliberately and that people are all in alignment. You have to have clear ways that you make decisions, clear roles for everybody, clear accountability. That's, I think, one of the most important things to understand and the earlier you get that, the more it becomes a habit and just the way you operate, and the faster you can go.

Agustín: Did you change your business model as you grew?

Brett: No, and for us we were kind of lucky in some ways in that, we were one of the earliest companies tackling that particular problem. We did focus fairly specifically on larger transfers. I don't mean super large, but I mean more than a couple thousand. Not to say people don't use CurrencyFair for smaller amounts, they do, but we wanted to make sure we were the most cost-effective once you got to the two thousand, five thousand, ten thousand, fifty thousand, a hundred thousand size. It was ex-pats sending reasonable amounts of money, small businesses, that kind of thing, but in that market, we were ten times cheaper than a bank for the same thing, literally. It was quite a compelling product and we've stayed very true to that. Obviously, the way we did it was to have this marketplace where people could choose to be a buyer or a seller, or I think of it as a price taker or a price maker. So you can either just transfer at the best rate that's available on the marketplace at the time, and that was always less than 0.5% away from mid-rate and we made sure of that, because we acted as a broker and provided a rate, in the event that there were no other good customer rates. You always could have an instant rate, instant transaction. We thought that was important and we still do think it's important; we still have that, but we also gave the option for people to wait for a better rate or to choose their own rate. That was relevant to some people and actually it's quite common. When you are sending money, you don't actually often need it right away. If I was sending money home for Christmas, say, to Australia, I'd probably have a two-to-three month window in which I can do it, which means if I have a view on where the rates are going to go and I just want to maximize my return, I could actually just leave an order up that's better than the current rate and see if it gets matched. That was how we started and that is how we are today, and it kind of just worked from the beginning. It satisfied those two needs, the ones who instantly transacted and the ones who wanted to wait; and by doing so it created what I believe is the cheapest way to actually deliver this product. We're kind of lucky in that we were compelling right from the start. We didn't have to iterate too much on the product early on, it really became more about a single issue, it was just marketing. It was just getting the word out there. We got good word of mouth referrals because it was a useful product and that helped a lot.

Agustín: You actually started before TransferWise. Would you have seen TransferWise as one of your biggest competitors?

Brett: Yes and no. They were focused on much smaller transactions than we were. Their average transaction was probably, I think, less than a quarter of what ours was in terms of transaction size. We were more on the higher end. They claimed to be peer-to-peer, but they aren't really a peer-to-peer model in that you don't actually choose your own rate. They were about facilitating a lot of smaller payments. Their model was very different and their pricing was different. They were cheaper than we were for low transactions, below around a thousand, because they just had a low, flat fee for those kinds of transactions, but we were much more cost effective in the larger transaction market. We used to win the more serious transfers, but obviously because they were dealing with a lower value market, they were able to scale in terms of customer numbers very quickly. Similarly, I'd say, I'd put them more as a competitor for Revolut. It's an interesting commentary on the market, something that I think is worth talking about. If we look back ten years ago when we all started: us, TransferWise, and the rest, everyone was talking about how these new players were going to take on banks in a single product line. The word back then was that you'd have companies that would come along and pick one thing like, say, foreign currency exchange, and figure out a cheaper way to actually deliver that service and nail that particular service, and so banks would be carved up into their components by all these new players.

Agustín: So what happened in your opinion?

Brett: What I think happened was that winning customers from the banks, even when trust was at an all-time low in banks, was still not easy and it was still expensive to get customers through digital marketing. It's obviously also expensive to go about brand building on a large scale and so what ended up happening was that customer acquisition became the most important thing for a lot of companies; more than actually the product itself. In a lot of cases, companies came out and deliberately underpriced. I felt that at CurrencyFair we had actually found a cheaper way to deliver foreign exchange. Our costs are lower than any other provider in the market, because we don't need to go to the wholesale market to do all our transfers; our customers transfer literally between themselves, at pretty much zero cost to us, apart from on-boarding and ongoing compliance and that kind of thing. So it was a minimum cost model that allowed us to be cheaper. Some other companies went out with a pure customer acquisition focus rather than a business model focus. Under the hood there wasn't a huge amount of real innovation in terms of the products themselves. It was more innovation on offering a good user experience or a newer data platform but no innovation in the actual underlying delivery of the financial product. The strategy was "we'll give you something for free to get you to sign up," and that was very successful from a customer acquisition standpoint, obviously, because you can get a lot of referrals and everyone thinks it's a great product, but it doesn't have a business model behind it.

Agustín: Sounds like a problem that happens in many areas of business, companies that have grown their valuation without having a lot of revenue on their books.

Brett: You see it in other industries as well. Sometimes if you get that right you can get customers so fast and you can get investors so excited that they keep feeding the losses until you figure out a business model. I think it's interesting that in contrast to what we all thought years ago about fintechs doing one thing really well, the business model instead has often been to give something away for free or nearly free, get a ton of people to shift across from the banks—which is otherwise hard to do—and then start offering them other products like insurance or various other things that you then charge for. So rather than someone doing something really well, nailing it, and therefore being able to do it for cheaper, they actually offered it for free, built up a user base, and then started adding other products; almost like just recreating the old banking model of cross-subsidization. I think of it as almost customer acquisition innovation. It's great for customers, certainly in the short term, because VCs are kind of paying for you to have free services, as long as you're willing to look around and shift to the next free service, but I wonder how sustainable it is for the long term. What happens if, say, you build up a big customer base by offering free FX, and then you start making money on insurance and someone else goes, "Well let's start offering free insurance, to get the customers away from these guys and then we'll make it back on the FX." It's obviously not as black and white as this and there has been some real innovation that's gone on in different areas of finance. Great user experiences are obviously good and they're worthwhile having and they do make people's lives better, but if there's nothing really under the hood that's changed, it doesn't really excite me. It's been an interesting time and it continues to be. There are some big valuations out there which seem to be based primarily on user numbers and I wonder how that is going to play out in the end. I feel like this has kind of crowded out a bit of true innovation as well, and maybe that's not necessarily a good thing for the longer term.

Agustín: Where do you see the international payments industry going in the long term?

Brett: Because of the mechanism I talked about, I'm not sure. Prices are going to go down and down, but whether they're sustainable is a real question. Let's forget about cross-subsidization and the value of gaining a user so that you can sell them something else. If you look at it purely based on the international transfers, I think the best way to do it is some sort of marketplace, where effectively the only costs are around the market, the costs of keeping the marketplace running and trusted and secure, and all the rest, with all transfers done through its own ecosystem. It could be CurrencyFair's model, which I think works. I believe we have the lowest cost structure out there. Or maybe it's done in some more decentralized way where there isn't an actual company that's providing the platform and that is something like a blockchain. But one of the problems with a blockchain international transfer system is you've still got the costs. You've always got the costs of going in and out of fiat at each end and they tend to be even more expensive than the direct international transfers. The costs of going in and out of Bitcoin, for example, are still expensive. We are currently not really in a framework where the best and most efficient model necessarily wins, because you can always offer something for free and at the moment there seems to be a lot of investor money available supporting that kind of strategy. Until we break out of that cycle, it is hard to predict where it will go, but it's obviously going to be to the low end on the cost side. Already today you don't pay anywhere near what you used to. Surprisingly though, still way more than half of the market uses a bank and still pays 3% to send money internationally, so you can see that despite all the innovation, it's still very hard to actually get people to change behavior on the banking side. I do think banks are starting to catch up on their user experiences, so it will be interesting to see how it develops, but CurrencyFair's got a strong business and a loyal customer base and we offer a good product. I'm happy with the way that's gone.

Agustín: In terms of funding of CurrencyFair, how difficult was it to go through the funding rounds?

Brett: It's always difficult. The worse thing about funding is that it takes the attention of the senior team for so long. When I look back over eight years, I would estimate, and maybe it's not quite as bad as this, but something like half of my time over the eight years of running CurrencyFair was in fundraising or in fundraising-related activities. When you think of the value of that time, working on, say, product or anything else you could be working on, it's just huge. It's a big drain and I think finding ways to minimize that is important. It's another thing I try and advise companies to do, is to be very deliberate about their fundraising strategy. It can suck months and before you know it you've neglected the company because you've been so busy fundraising. That's the main thing—the time-consuming nature of it. The other thing you find, or I found anyway, was that all investors are different. I think I probably would have ten years ago thought, well, investors are very rational and if I talk to a hundred investors they're either all going to like it or they're all going to not like it and they are going to have the same reason for doing so, but I found the complete opposite.

Agustín: So what did you learn about investors?

Brett: Some investors might love Factor A, but are really worried about Factor B; the next investor could have no problems with Factor B, but they're worried about Factor A. So it seemed a lot more subjective on the fundraising side than I had expected, which surprised me. We found many investors extremely concerned about business models and unit costs and making sure that each transaction was profitable and could scale profitably, and we had good numbers on that side and really compelling ratios of lifetime value-to-acquisition cost and onboarding cost and all the rest. Then we saw companies that were charging nothing, and clearly were losing money on each transaction, but were raising bigger sums than we raised. So clearly there are different mindsets among investors and different strategies on the fundraising side.

Agustín: How did you decide to exit?

Brett: I'm still on the board now of CurrencyFair, but I stepped away from the day to day, over two years ago. We've a great team in there now that are executing on the next phase of the plan, but I was ready for something else. Now I'm doing some consulting and working on a couple of business ideas and mentoring, advising another fintech company and various other things.

Agustín: Sounds like a change for good.

Brett: I think it was the result of a combination of things. One of the things I realized is that I'm really a product type person and I like to think about the market and how to fit a product into a market. But the company's reached a point where it becomes more about execution and scaling and geographic expansion, all those kinds of things. That interests me less and I think I'm less good at that than I am on the product side. So it made sense, there are people you can find that are really good and love that kind of challenge, when you get larger staff numbers. For me, I was feeling like I was ready for a change when my week became full of team meetings and all that kind of execution-related stuff with less time for strategy and product planning. I guess in some ways I'm more an early stage guy and that's what I enjoy doing. So it made sense to step back and start doing what I'm doing now which is more advising early stage guys again.

Agustín: Excellent! Thanks for your time and all the best in this new stage.

Chapter 30 Christo Georgiev

Company name: myPOS

Location: London, United Kingdom

myPOS is a next-generation payment platform helping those in the gig economy or running seasonal businesses to succeed, while avoiding monthly fees, bank charges, or cash flow concerns when accepting card payments. It delivers innovative payment solutions for SMEs (small and medium-sized enterprises). It identified a gap in the market for affordable payment services and setup a business-in-a-box type of platform to accept cards and online payments.

Roles: Christo Georgiev, Cofounder and CEO

We target a different client niche, which traditionally has been neglected by the banks.

Agustín: How did you get started in entrepreneurship?

Christo: I started my first company SiS Technology AD at the age of 19, while I was studying to become a software and hardware engineer. At that time the market in Bulgaria and Eastern Europe for retail and banking software was highly underdeveloped. Our small team succeeded in providing innovative and scalable retail software solutions, as well as core banking and card processing software solutions, and we became one of the leaders in innovative retail, accounting, and card processing software services.

Agustín: How did you move into fintech?

Christo: From the year 2000 on, Eastern Europe saw major development in payment software solutions along with regulatory developments, such as the Payments Services Directive and the possibilities of non-bank financial

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institutions to start competing with the traditional banks. We successfully deployed a platform for credit card issuing and processing, operated by a non-bank financial institution, and cutting-edge platforms for issuing electronic money, debit cards, and gift cards with the logo of the merchant. We were the first to offer customers the opportunity to manage their cards by blocking and unblocking them from their mobile phones.

Agustín: How did your electronic money institution come about?

Christo: My passion for new technologies in card processing and payments made me go beyond the idea of just providing more intelligent cards and efficient payments; and add new features, like the possibility of allowing our credit card customers to pay off a purchase in different installments via a simple SMS, or to earn cash back based on the spending made with each participating merchant. This model was well accepted by both buyers and merchants and in a couple of years we managed to subscribe more than 5,000 merchants and 300,000 customers. Beside me were my long-term partners, Svilen Savchev, specializing in retail systems, and Yavor Petrov, developing the card processing and authorization platforms. These technologies and our know-how of combining retail and card software were the foundations of our first electronic money institution—iCard AD, launched in 2008 and providing cutting edge e-money, card processing, and payment services in all of Europe today.

Agustín: How would you describe what myPOS does?

Christo: myPOS replaces cash payments in the most seamless and enjoyable way to the merchant. Before myPOS, solutions like Square in the US, or European iZettle addressed the SME market by offering low-cost technology for accepting card payments via mobile phone and a dongle. But they were not solving the cash problems of the merchant. The merchant would still need to have a bank account and wait for the cash in this bank account and pay monthly fees for this bank account.

Agustín: How does myPOS deal with those issues?

Christo: myPOS offers an all-in-one solution in a box—the electronic money account (so that a merchant does not need to have a bank account to start accepting payments with cards), the instant settlement of funds to this electronic money account, literally in seconds, and the merchant can use its myPOS Business Card (which included in the box), to have immediate access to its funds in the account. myPOS offers this at a one-time fair price, a small merchant fee from each transaction on the POS terminal, and no monthly fees for the merchant. This simplicity and instant access to funds is so much more appealing to small merchants.

Of course, behind this simplicity in the user experience there are many years of technological development and integrations with the Card Schemes, which allow us to link the acceptance of payments with cards and with the instant access to cash in the account.

Because of the affordable nature of the product and its pay-as-you-use model, myPOS helps businesses of any size to afford card payments and contributes to moving faster toward a cashless society.

Agustín: How does myPOS improve POS services?

Christo: Deploying retail software to merchants, I noticed that the traditional POS services offered by the banks are actually not so appealing to small merchants, because they would delay the payment of funds from the purchase or impose monthly fees on the account for POS maintenance and would lock the merchant into a long-term contract. I was determined that we could make a much better and more fair offer to all small merchants in Europe, allowing them to choose a solution, which is non-cash based and therefore much more secure, yet provides instant access to their cash.

We developed a new instant payments platform oriented toward the smallest merchants and independent businesses in Europe. The solution was first offered to merchants in Italy, who grasped the idea and loved it. myPOS was officially launched in 2014 at the World Mobile Congress Barcelona and embraced by the leading Card Schemes as one of the best payment solutions for small merchants available on the market in Europe.

The development of the platform was funded by iCard which at that time already had the internal resources and capital needed to invest in such a platform.

Agustín: How did you setup the initial team and grow it to more than 200 people?

Christo: The initial team was formed within iCard, where the platform was developed. In 2017, the team dedicated to myPOS reached 100 people and the product was used by more than 30,000 merchants in almost all EU countries. We decided to spin it off to a separate structure, headquartered in London, where we obtained an Electronic Money Institution license to be used for the business of myPOS. In 2018, our myPOS group acquired the platform and the EU-based merchants, and grew its team to nearly 200 people.

Agustín: When was the first time you said to yourself "my idea is actually working well"?

Christo: When I saw the expansion and growth in our customer base across Europe and that merchants actually started buying the product, using it, and loving it, I knew that we were on the right path. Most of our users are coming back to us happy and referring other people to the service—and this is a great satisfaction. I will know that my idea is actually working well when we reach at least 100,000 merchants actively using the service.

Agustín: What does myPOS do better than its competitors? How do you compete with the big players?

Christo: Our major point of difference lies in the holistic nature of the product. We don't just sell credit card readers or checkout modules. We offer a business-in-a-box solution, which empowers business owners to offer the clients more payment channels, receive their money instantly (within seconds!) in the myPOS account and have immediate access to them via the myPOS debit card. This solves one of SME's major issues—cash liquidity.

Our business model is also quite unique. We don't charge any signup or service fees, there is a one-time purchase of a POS device after which the merchants are charged a small transaction fee only when accepting payments or using the online banking. This works very well for seasonal businesses, independent professionals, and those in the gig economy as they only pay when they use myPOS.

We are also the only European payments provider to open physical locations in order to create a face-to-face experience with our services. In 2018 alone we opened five retail stores in the largest European cities and we expect more to come in 2019.

Agustín: What is your primary target customer?

Christo: We target a different client niche, which traditionally has been neglected by the banks as those small businesses do not have the resources to meet banks expectations (e.g., minimal transaction volume, regular income, etc.). We are the payments provider of the coffee shop around the corner, the taxi driver, the solo entrepreneur selling hand-made products online, the small boutique hotel, and so on.

Agustín: How do you see the commerce industry evolving in the future with the use of technology? How will MyPOS evolve to adapt?

Christo: A revolution to smart technology, which utilizes more resources and software in one device. We already have a range of smart POS devices that look and work like smartphones and combine payment and tailor-made business apps in one.

Fiscalization is a hot topic in Europe right now and we are in the process of merging a fiscal device, cash register, and card reader in one Android-powered unit.

Product customization will continue to grow and we are expanding our partnerships with businesses from the taxi and retail industries, offering custom-made payment integration that best serve the needs of such customers.

We also welcome more third-party software developers to expand our AppMarket portfolio.

Agustín: Exciting dates coming! Thanks for your time and all the best.

Chapter 31 Jacob de Geer

Company Name: iZettle

Location: Stockholm, Sweden

iZettle's commerce platform for small businesses in Europe and Latin America provides tools to get paid, sell smarter, and grow your business. iZettle revolutionized mobile payments by creating the first mini chip-card reader and software for mobile devices. In May 2018, PayPal made its biggest acquisition to date when it bought iZettle for $2.2 billion.

Roles: Jacob de Geer, Cofounder and CEO

> *To be a successful entrepreneur, you have to be slightly naive and obsessed about changing the world.*

Agustín: Hi Jacob, thanks for accepting this interview. How did you get started in entrepreneurship?

Jacob: Ever since childhood, I was drawn to the idea of building something from the ground up and taking charge of my own future. As a kid, I would work all kinds of small jobs—from selling Christmas magazines and cutting our neighbor's lawn to being a tennis coach after school. I was attracted to business from a young age.

When I started my studies at the Stockholm School of Economics, I was hoping to become a consultant or a banker—but soon I realized that path wasn't for me. Instead, the booming dot-com sector caught my eye. I saw that anyone could succeed if they worked hard. So I was determined to become part of that world.

After graduating, I became the first recruit at Tradedoubler, an ad tech startup set up by Spotify's future cofounder Martin Lorentzon. We launched the

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service in the summer of 1999. In early 2000, George Soros, one of the world's best-known financiers, invested 10 million dollars in Tradedoubler, which was a unique accomplishment for a Swedish tech company. But the joy was short lived. Just a couple months later, the dot-com crash happened and Tradedoubler's revenue evaporated overnight.

Agustín: That sounds like really bad timing! How did you go about it?

Jacob: So, if you face such huge obstacles and persist, which Tradedoubler ultimately did with a major IPO, you will pick up a few things along the way. To be a successful entrepreneur, you have to be slightly naive and obsessed about changing the world. Once you see your dream turning into reality, even the tough and chaotic moments will have been worth it. Most importantly, being an entrepreneur is never a one-man show—you need to surround yourself with plenty of talented and driven people.

Agustín: How did the idea of iZettle come about?

Jacob: I got the idea as I was trying to help my then wife, who was importing sunglasses and reading glasses and then selling them at fairs and markets. She started noticing that many buyers didn't carry cash, and she kept missing out on sales as a result of that, since she wasn't able to take card payments. I thought that there must be a simple solution to this, and as it turns out, there wasn't.

So I thought there must be a way to get rid of the hassle of getting expensive and clunky card readers, maybe you could even turn your smartphone into a card reader. And that's when the idea of iZettle was born.

Agustín: That's a great place to find an idea. How did you setup the initial team?

Jacob: My mother actually introduced me to Magnus Nilsson, a successful entrepreneur who was looking for his next challenge. So I pitched my idea to him, even though we'd both promised our wives not to start any new companies. But neither of us could let this idea go. We both saw there was a fantastic business opportunity here: transforming a smartphone into a card reader and scaling it to a huge underserved market.

Our vision was to make life easier for millions of small businesses. The massive market opportunity coupled with our vision and scalable solution was what helped us attract some of Europe's top investors. And we would have never have been able to power through this rollercoaster ride if we hadn't gotten along so well, we've never argued and we've done this together since day one.

Agustín: If you had to start iZettle again, what would you do differently?

Jacob: In hindsight, it's clear to me that the most difficult parts of building iZettle gave us the most important lessons, so I wouldn't really change anything. I truly believe that the sum of the problems we solve equals the value of the company. The key is to see problems not as obstacles but as opportunities—to grab market share, to become stronger than the competition, and to build a successful company.

Agustín: When was the first time you said to yourself "this is actually working"?

Jacob: I remember sitting in a restaurant in Stockholm in 2011, shortly after we launched, when I heard two friends chatting about this cool new solution one of them had used when paying with a card. At that moment I realized that iZettle created a lot of buzz even among end consumers, and this viral effect could help us grow really fast.

Agustín: Did you say to yourself at any point "this may not work"?

Jacob: There were plenty of moments when the world was telling us the opposite. It's extremely difficult to challenge a very conservative industry like finance. New innovations are met with extreme skepticism and resistance. When we presented iZettle to the banks, almost everyone told us that consumers would never trust the product; after all, "who would want to pay with a card through some random stranger's mobile phone?" Today the tables are turned, and the banks are finally starting to understand the value that iZettle and other fintech companies are adding to customers.

Agustín: What does iZettle do better than its competitors?

Jacob: I'm not in the business of talking about our competitors, there are plenty of great players out there. What I can say is that I am very proud of the products we have launched and how they empower small businesses to compete against the giants. As a company, our greatest asset is no doubt the amazing team of people working at iZettle, from São Paulo to London. None of this would have been possible without their drive and commitment.

Agustín: How has your role changed from day one to today?

Jacob: Things have obviously changed quite a lot since iZettle was founded in 2010. Early on, we had to validate the idea among small merchants and introduce them to an entirely new way of getting paid. We were also laser-focused on securing funding to expand globally, and to build a really strong team and culture that would enable us to define our market.

Today anyone can set up their own business and start selling with iZettle. We can have you up and running in a couple of minutes. Some people may still think that we're only a payments provider, which is far from the truth these days. We now offer a full commerce platform to provide small businesses with the tools they need to get paid, sell smarter, and grow. So, whether you're selling online or in-store, run your business at a market stall or if you run a restaurant, we've got you covered.

More than half a million businesses use iZettle today, and we continue to evolve with their needs by launching services ranging from cash advances to invoicing to our e-commerce platform. Our headcount has grown to almost 650 and in 2018, we were acquired by PayPal, meaning that iZettle will have great expansion opportunities.

Agustín: Those are amazing credentials, well done! What would you consider to be your greatest challenges right now?

Jacob: For me personally, iZettle's fast growth has meant less hands-on management and more time spent on strategy, and figuring out where the fintech industry is headed. It's a very fast-moving space, so the challenge for me is to keep adapting to ensure we meet the evolving needs of small businesses. As part of PayPal, we will have fantastic opportunities to do that even faster and better than before.

Chapter 32 Arpit Gupta

Company name: UnDosTres

Location: Mexico City, Mexico

UnDosTres is revolutionizing the consumer payments landscape in Mexico, building a platform for payments, financial services, and lifestyle products that allows Mexicans to pay for anything or access great products and services at the tap of a button. It has brought digitization to Mexican payments, and has created an anti-fraud technology that tackles security in one of the countries with highest debit and credit card fraud. UnDosTres is building an ecosystem of financial and lifestyle products by leveraging consumer payments.

Roles: Arpit Gupta, Cofounder and CEO

> *Our biggest challenge has been to convince the average Mexican customer, to use their card online.*

Agustín: How did you get into financial technology and how did the idea of UnDosTres come about?

Arpit: My foray into financial technology was actually with Paytm. I think you might have heard of them. They are one of the world's largest payment companies and a financial technology powerhouse based out of India. That's how I got into the world of financial technology. I was leading certain marketing activities for Paytm when it was a relatively small, new company and as it grew in scale massively. That's where I also saw the impact companies like Paytm can have, improving the lives of hundreds of millions of people who do not have the best access to the financial world, especially in emerging markets. That's the kind of thing that then inspired me to start UnDosTres in Mexico to improve the lives of every single Mexican, by first helping them make all kinds of necessary payments at an instant, without having to worry about cash, or going to a

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store, or going to a bank, or anything like that. And secondly, by providing them access to a tremendous amount of products and services in the financial world, things that they have never had access to before, like much of the rest of the world that enjoys access to those kinds of products and services.

Agustín: You were working in Paytm in India?

Arpit: Yes.

Agustín: Then how did you land in Mexico?

Arpit: The long story short, my cofounders and I met at IESE Business School [University of Navarra, Pamplona, Spain] and they went to Mexico; they were recruited by Rocket Internet to come and start an e-commerce company in Mexico. They came to Mexico, they were here for a few years, while I was working at Paytm. They saw first-hand the payment issues and problems in Mexico, especially the kind of challenges the end consumer faces in paying for normal, necessary payments that they have to make every day. I was still at Paytm, and we started talking and saw that there was and is a massive opportunity in Mexico to roll out something similar to Paytm or Alipay, et cetera, to improve the lives of hundreds of millions of people in this part of the world. We ended up creating an MVP [minimum viable product] together; and that by itself gained traction, without us doing anything. That made us take the plunge and I moved to Mexico, and along with my partners started UnDosTres, four years ago.

Agustín: In summary, you had never been to Mexico, but this opportunity came about, and you said, “I am going for it.”

Arpit: Yes, kind of. Yes, I’d never been to Mexico but my cofounders were friends from business school, I had heard a lot about Mexico from them. I had sort of virtually visited Mexico through them. We have a lot of business school classmates in Mexico, one of whom is one of my closest friends. There was a lot of information and knowledge already captured about Mexico before I decided to take the plunge.

Agustín: Would you mind describing the actual product that UnDosTres offers?

Arpit: Right, so UnDosTres is a digital payment ecosystem/platform. We allow people in Mexico to pay for digital products and services—mostly need-based products and services, regular payments—at the tap of a button. The products that we currently offer are mobile recharges, movie tickets, utility bill payments, toll payments, entertainment (gaming, on-demand movies), and local bus transportation. We service toll and tax payments, and payments of all kinds of utility services—water, electricity, gas, et cetera. That's what UnDosTres currently offers. Obviously, we're building a platform, an entire ecosystem, with a major focus on digital products and services, and we are increasing the number of options available at UnDosTres. Very soon we are launching a peer-to-peer payment network, loans, a credit card, and launching a lot of other products and services on the platform.

Agustín: So this is done through an app?

Arpit: It is through an app, as well as a desktop and mobile browser-friendly website.

Agustín: And when you say through the tap of a button, how is your money exchanged? Where is the money? Is it in a bank account?

Arpit: People pay right now on UnDosTres for any and all of these products and services through either their debit cards or credit cards. They use a payment instrument to pay for these production services. We are rolling out options for bank transfers and cash payments, too.

Agustín: Have you had good acceptance from the Mexican public?

Arpit: Yes. Well, so far, we have had very, very good acceptance and we have grown rapidly to over two million registered users and all of them are heavily transacting on UnDosTres.

Agustín: What challenges did you find in growing rapidly?

Arpit: Mexico is a tough market in which to grow. One of the reasons is, there is this inherent lack of trust in established institutions, in transacting online, in using a debit or credit card online. We're helping overcome that barrier with an exceptional product and great customer service supporting the product. Our biggest challenge has been to convince the average Mexican customer to use their card online. To come and transact online for charging money on your prepaid phone, for bill payments, which, over the last ten, fifteen, twenty years have been a challenge. They are so used to going off-line and paying for these things in cash, that they are not firmly accustomed to paying by any other method. All this is a new challenge for them going online and putting a product on their card and then actually buying a top-up or paying their bills through that.

Agustín: All of the founders are foreign to Mexico, I'm wondering if that was a barrier at all to getting started.

Arpit: Actually, that's been an advantage for us, because we think differently than other Mexican companies. We do business differently, our working style is slightly different, and given that we come from India and are extremely technologically focused and savvy, it has helped us form a good competitive advantage. For instance, one of the other challenges in Mexico of growing and scaling an online business is managing to control fraud. Fraudulent transactions on credit and debit cards. Mexico is the world's number one country in credit and debit card fraud, and especially when you are dealing with a digital product like a recharge of the money on your phone, or bill payment, which is basically the same as cash—fraud goes through the roof, it sky-rockets. This for us has formed a massive competitive advantage. We built our own fraud prevention technology, which has helped us scale most rapidly and it keeps fraud at extremely low levels, actually probably the best in this industry that you could find anywhere. And again, all of that also comes from the fact that we think differently; we think about problems differently and our approach to resolving those problems is very different. We invest heavily in technology; we would rather invest in technology than just throw a hundred people at a problem because then it doesn't become a scalable solution.

Agustín: You mentioned that you grew very fast into over a million customers. How do you acquire customers?

Arpit: For us, customer acquisition is a multi-pronged, multi-challenge strategy. We obviously invest a lot in online marketing. We invest a lot in making sure that we provide an exceptional customer experience. It shouldn't take you more than thirty seconds to do any of these transactions the first time you come online with us, and after that it just takes you three seconds to five seconds. One tap and it gets done. We invest a lot in making sure that the product is amazing and provides a great customer experience. Other than that, our partnering strategy also is aggressive. We partner a lot with banks, helping them activate cards, drive card usage and retention, which is a major challenge for banks in Mexico. We partner a lot with them, and we try to encourage customer usage, driving card transactions, especially for these need-based digital products and services. We also partner with a lot of FMCG [fast moving consumer goods] brands, and help them drive promotions and activations and things like that. We work across the spectrum and invest a little bit in off-line media as well, to drive and create brand recognition. It is a multi-pronged approach and strategy.

Agustín: It looks like these partnerships are win-win.

Arpit: Yes, absolutely, it's actually a win-win, for everybody. From a bank's perspective, one of their biggest pain points in Mexico is that people don't keep cash in their accounts. The moment you get a paycheck you go to an ATM, take it all out, and all transactions happen in cash, so the bank loses everywhere. People like us are helping banks drive card activations and telling people that, "You can use your debit card in a safe, secure, nice manner for all of these things that you are going out and paying in cash, and keep some cash in your bank account to be able to do so." So the bank wins, the customer wins—because they are able to do all of these things without having to go out and about to multiple locations, to multiple stores. They just do one click, save time, spending more time with family and friends, rather than worrying about a pending bill; and on top of that, they have savings. We run offers, promotions, discounts, et cetera. The customer wins and obviously UnDosTres wins.

Agustín: Yes, of course. One of the fintech organizations that has been really discussed in Mexico is Saldazo. Do you see Saldazo as competition for you?

Arpit: No, not at all. In fact, Saldazo is doing an amazing job of giving people a debit card in their hands for the first time. It's a prepaid debit instrument, that's what Saldazo is. That works amazingly for us. The higher the penetration of payment instruments, the better for companies like us who are totally online players and who help process, who accept credit/debit cards, et cetera, for doing what we do. Saldazo has done an exceptional job of handing out debit cards to people and as they do more and more of this, it makes the entire fintech ecosystem even better.

Saldazo is not really a fintech company. They are not a technology-based company, they are leveraging the massive off-line footprint of OXXO [Mexican chain of convenience stores], alongside the banking power of Banamex and Telcel to roll out and hand over millions and millions of debit cards to people.

Agustín: Do you get many of your customers who actually are transacting with their cards from Saldazo?

Arpit: Yes.

Agustín: That's really interesting. You commented on this a little bit already, but I'm wondering what is next for you. Are you looking at new product? Geographic expansion? What will be next for you?

Arpit: We are looking at expanding across multiple other product lines. Particularly focused on digital products and services, but we are looking at expanding our offerings to customers, making UnDosTres more relevant, at multiple times of the day, at multiple moments, across any Mexican's needs. In the long run, we view ourselves as a company that will be enabling financial inclusion through the data that we have. What we know of our customers nondiscretionary spending habits is extremely powerful right now and as we get into other categories, we will also learn a lot and gather more information about customers' discretionary spending habits. All of that combined can help us help Mexicans, to get the right kind of financial product and service offered to so many people in Mexico. We hope to be able to open doors to more and more financial products and services for everybody in Mexico.

Agustín: Sounds like you are going to be there for a long time.

Arpit: Well, let's hope so.

Chapter 33 Wong Joo Seng

Company name: M-DAQ Private Ltd. and Spark Systems Private Ltd.

Location: Singapore, Singapore

M-DAQ provides an ecosystem for cross border securities trading and for stock exchanges to enable multicurrency trading. Spark Systems builds next generation high-speed institutional FX (foreign exchange) trading platforms. Joo Seng is an entrepreneur specializing in the FX and fintech space. He has been able to see great opportunities and quickly act on them. Spark Systems' FX trading platform serves a growing Asia and global financial hub and is competing with the largest FX organizations around the world.

Roles: Wong Joo Seng, Founder and CEO

> *To have a major hedge fund that trades 3 trillion a year, at that point in time say, 'I will fund you, and then I will use you,' basically has them take almost all the risk off the table for a founder of a fintech.*

Agustín: Could you tell me how you got into financial services?

Joo Seng: Yes, sure. I started out in finance, so I see myself as "old school." The first part of my career was largely focused on derivatives trading for banks, both Singaporean banks as well as American banks. I was a currency and precious metal options trader for the Singapore office, of a bank called The Republic National Bank of New York, now part of HSBC. Starting my first company was an opportunity that came up, back in 1998, so this is 20 years ago now. One of the largest Singapore-based stockbrokers was realizing then, that they couldn't be a single product provider any longer. At that time, most

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stockbrokers in Singapore only sold stock. If you wanted to buy index futures, such as the Nikkei or the S&P or the Dow, most couldn't do it for you. If you want to buy gold and silver or base metals like aluminum, copper, they couldn't do it for you either. If you wanted to trade energy contracts or agricultural commodities like wheat and corn, they couldn't do it for you. I was asked to start up the derivative trading arm of G.K. Goh Holdings; this was one of the largest stockbrokers in Singapore at that time and the new company was called G.K. Goh Financial Services. I became the founding CEO, and in 1998 I started up the business. I spent a total of 15 years there and grew it into the largest foreign exchange trading company in Asia, outside of Japan.

Agustín: How did this role shape you toward becoming an entrepreneur?

Joo Seng: It was in this role that I saw two issues arise, issues that my next two companies were set up to address. The first was that there was a growing interest in investing in foreign stock, so Singaporeans and Asian investors began to invest in Microsoft, Apple, and so on. The process of buying and selling was a very cumbersome one. A client would have to tell his stockbroker or online, "Buy Apple stock," and the next day they would get a US dollar bill. Then they would have to convert to local currency—yen for Japanese, or Korean Won for Koreans, or Singapore dollars for Singaporeans, and so on, to pay that US dollar bill. Also, the spreads were very expensive. The average consumer in Asia was paying about 250 pips [percentage in point (1/100 of 1%)]. So they were paying enormous spreads, to get their money converted. Because I had already built one of Asia's largest FX businesses, I thought, if I brought the spread down to 20 pips from 250 pips, it would be a price compression of 90% and, at the same time, a twenty pips spread was still a very healthy profit margin. I realized that I could disrupt the entire market. I could price Apple stock in Singapore dollars to Singaporean investors; Apple stock in yen to Japanese investors; Apple stock in euros to European investors, all on a twenty-pip spread. So this was what I set up to do. M-DAQ was very warmly received. I received some initial funding from the Economic Development Board in Singapore to the tune of $1.5 million. I also had to make disclosure, in my current day job then, as CEO of G.K. Goh Financial Services, because there were issues that brought concerns over a potential conflict of interest on my part, reputational risk, et cetera. So I made all the necessary disclosures. What was initially some apprehension from management, actually turned to enthusiasm when they understood what I wanted to do. In the end, I received the largest funding (from a single source) from my then employer; once they understood the product and the concept, they said, "This is a good idea."

Agustín: Looks like you had amazing luck when it came to fundraising.

Joo Seng: M-DAQ started from an initial investment in Series A of $8 million, that was enough to last us almost three years and with it we hired the team, the team then built a product, and the product was put through a proof-of-concept with the Australian stock exchange. When we passed that, I went out to the venture capital community to raise the next round of funding. The company was now ready for globalization and international expansion was planned. In a Series B round I raised a total of $22 million dollars from a local Singapore venture capital called Vickers Venture, they are the number one performing venture capital in the world, and have been since 2012. I was also backed by Citi Ventures and GSR Ventures, a Palo Alto based VC. So the three of them backed M-DAQ. We raised $22 million, on $100 million post money valuation. Basically 22% of the company was sold in the round. With that funding, I went to set up an office in Sydney, Australia, and thereafter an office in London.

I was introduced to a gentleman who was a very close friend of the founder of one of the largest Chinese e-commerce companies by one of my key shareholders. I explained to him what M-DAQ did, and he loved the idea from the outset as he could see the potential. He basically said he knew families of some large retailers, and he felt this would work very well for them. He was keen to buy a stake in M-DAQ. As mentioned, M-DAQ had just closed a $100 million dollar post valuation round, so I went back to my shareholders and asked if they would allow him in. I explained that he was strategic and well-connected, and that it would be good to have him on board as a shareholder. I suggested we do a secondary sale of stocks, so that we didn't have to further dilute. This individual bought about 3% of M-DAQ stock. As luck would have it, soon after he managed to speak to the founder of a major Chinese e-commerce organization. The idea was very well received.

Agustín: Looks like they were looking at diversifying their product offering.

Joo Seng: You can't grow much more when you have 380 million users in China. The most you can reasonably expect is maybe 1x right? When they had, say, 10 million users they could still say they could grow 100x in China . . . but what do you say when you already have 380 million users? So the narrative was changed to one where they had successfully 'conquered' China, and now their focus was on 'world domination.' It was clear they wanted markets in Brazil, Russia, the Middle East, Africa, India, and Asia. They wanted to be different from the other international competitors.

If you went on Amazon right now, and brought three things from their US website, it would all be in dollars and then, on the last line would be the total, you could say, “I want to pay in sterling or I want to pay in euros,” and it would convert for you. Now *they* wanted to do it differently, if a Japanese shopper logged on to the website, they wanted the whole universe of products to show prices in yen; if it was a European shopper logging onto the website, the whole website should be in euros, et cetera. The belief was that the buying decision is made in base currency. This was why they needed M-DAQ and, eventually, they gave me a $250 million dollar valuation for the company and bought 40% for $100 million dollars. Even though they were minority shareholders, strictly speaking, with 40%, they wanted control of the company because it was strategic to their e-commerce business.

Agustín: How did you feel about losing that stake in the company?

Joo Seng: I didn’t like that, of course—it would be a case of minority shareholders controlling the company. As a founder, wearing a shareholder’s hat, the $250 million valuation and their purchase of 40% of the company meant that every single investor I had brought in got their principal back; for some it had doubled, for some it tripled and more, on a real basis. We had only sold, technically speaking, 40% of our respective stakes, meaning we still had 60% and I saw during the due diligence the potential deal flow. When they turned on the tap, this surge in revenue could grow the company another 10 times; it could potentially grow from $250 million to $2 billion. So I went for the deal.

By then my online visibility was high. I had young company founders approach me who wanted me to take a look at their business plans, see their revenue models, offer suggestions and my network. I was offered a role by the Chairman of Vickers Venture Partners, Dr. Finian Tan, as a venture partner in his company. I happily accepted that. Thereafter I also got a call from one of the largest and most successful hedge funds in Singapore and Asia. They basically had an interest to build a new generation of high speed, low latency trading platforms, which at the moment incumbents were largely Reuters, Bloomberg, Deutsche Börse, et cetera. This is a very underserved space. It is a surprise to many people. I knew it because, when I was at G.K. Goh Financial Services, running the FX business there, it was already the largest FX operation in Asia at that time; we were trading about $8 billion a day, that’s approximately $2 trillion a year. I was making revenue of $25 million a year and of that amount of revenue, I was paying about $10 million in execution fees to all the different trading venues. I was paying all the transaction venues Reuters, Bloomberg, Currenex, Hotspot, et cetera, about 40 cents of every dollar of revenue I earned. Then the hedge fund asked if I would consider taking up the challenge to build a new trading platform. If so, they were willing to both fund it as well as be the first anchor client.

Agustín: Sounds like this opportunity was a perfect fit for you.

Joo Seng: I loved the idea, frankly. I mean this is my third go at building a company. The way I see it, whatever industry you want to disrupt and build a new business in, whatever vertical you are in, actually when you distill the risk, there are only two points of risk. The first is, can you get funding? You need capital. Once you have funding you can hire a team that can build the product. Then you get to the next point of risk, which is after the product is built, and that is where most companies fail, getting traction, whether you can get clients on board. So, to have a major hedge fund that trades $3 trillion a year (at that point in time), to say, "I will fund you, and then I will use you," basically has them take almost all the risk off the table for a company founder. So I agreed to do it.

In the end, I didn't take money from them, because if I did, they would own too large a proportion of the company. This could be counterproductive. They would have held about 67% of the company, they were prepared to give me about 33% of the company, for sweat equity. For them to hold 67% of the company would be too much. The hedge fund space is a very paranoid one, and no hedge fund wants the risk of another hedge fund seeing what they do or how their algorithms work. I suggested to them I would have to try to raise money separately, they could hold a third of the company for being the all-important anchor and first client. Myself, my cofounders, and team would own one-third of the company. And we will bring in venture capital and strategic investors to hold the remaining third of the company. This was how the current company that I run, Spark Systems, originated.

Agustín: You did not take any money from them in the end?

Joo Seng: I did take a bit of startup capital from them, but not much, less than $500,000.

Agustín: How did you end up funding Spark?

Joo Seng: So I raised funding largely from venture capital. I had just exited M-DAQ at a good valuation, I had shareholders who were pleased, and I felt they would support me in my next venture. I was looking to raise $5 million initially. I managed to raise $1.4 million from individual investors, and Vickers Ventures supported me with the remaining $3.6 million in capital. The funding round was really fast, maybe six weeks, and we raised the needed $5 million.

Agustín: In terms of creating a new team, did you bring in the people from M-DAQ or did you hire new a new team?

Joo Seng: No, I created a new team, because I did not want to handicap my previous company, M-DAQ, I'm still a shareholder and I don't want to cripple the company by pulling away all the talent. I started looking for a new team. I never, as a rule ethically, I never hurt a company that I used to be with by trying to lure all their best people; it's just not the way I operate.

Agustín: How much have you raised for Spark?

Joo Seng: Spark has raised about $15 million to date; we are also well-funded by a grant from the Monetary Authority of Singapore, MAS. Our job is to build an entirely new generation FX platform that will survive into the future. So, after only about five months from closing my Series A funding round, the principal strategic investment team from Goldman Sachs, whose focus is to view market infrastructure and find where the gaps are, came up with the same conclusion that I did when I started Spark Systems, which is, that there is a gap in FX trading platforms infrastructure. Current trading platforms are old, they are slow, and their core engines are roughly a dozen to fifteen years old. As a result, GS came on board as an investor.

Agustín: What advice do you have for people who are looking to start up a new team. What advice do you have for finding cofounders?

Joo Seng: I knew I needed a cofounder who was very strong in IT. The person needed to have experience on both the buy side and the sales side of the market, and join me as the CTO. I also needed a cofounder strong in sales and who had an extensive network of relationships in the industry.

Agustín: When you are looking for a cofounder, do you go more for equity or do you go for salaries?

Joo Seng: I believe the core team and cofounders should be incentivized by equity and less so by salaries. We have three cofounders, myself included, and we all work for a very subsidized salary, but we are all incentivized with equity.

Agustín: I am curious about your relationship with regulators. Singapore regulators around the world are known to help with the development of fintech. What do you think of the MAS?

Joo Seng: Brilliant, I think that MAS is a world-leading central bank. Their focus is on leading innovation, trying to groom young companies and giving them sandboxes, so they remain compliant while they grow and while they try to bring innovative solutions to the marketplace. Because the financial market here is obviously highly regulated. They've been very supportive, both in terms of being proactive with what they need, as well as financial support.

Agustín: Did MAS fund both Spark and M-DAQ?

Joo Seng: No, in M-DAQ the funding came from a different governmental department. It's called the Economic Development Board of Singapore.

Agustín: Who is Spark competing with?

Joo Seng: In the FX platform market, the incumbents are FXAll owned by Reuters, 360T owned by the German Exchange Deutsche Börse, Hotspot FX owned by BATS in the United Kingdom, which in turn is owned by CBOE, Fastmatch owned by Euronext, and EBS. Not many participants. In most of them, the core engine technology is old. Platforms generally run slow and can be unstable in fast markets.

Agustín: Sounds like you have found a competitive advantage, how much better is your system?

Joo Seng: In a very fast market, the incumbents can face rejection ratios of anything from 15% to 20% of their trades. Whereas for Spark's platform, we experience rejection ratio of about 3%. The incumbents also charge about anything from $4 to $8 per million traded. The Spark platform charges only $2 per million. That is one of the lowest charges in the market today. Spark is cheaper, faster, and more stable. This is what drove me to roll up my sleeves again and jump back into the trenches and build this company. I know the industry is behind the curve where ultra-fast trading platforms are concerned. This is clearly an industry in crisis or a product in crisis and this is why Spark was conceptualized and this is the problem that Spark is looking to address.

Agustín: How do you manage to do it better than these giants?

Joo Seng: Many of the incumbents use the same core engine and put a new skin on it every year. They can call this the 2018 version, the 2019 version, et cetera. The features and functionalities are new, but the engines are old and slow. At Spark everything has been redesigned, we largely know the features and functionalities that market participants want, and we ensure that it is built into the system. As a result, the system runs more optimally, faster, and with more stability. In addition, all the programming is done in house. Nothing is outsourced. This is costlier but the benefits are clear. So if we have any technical issues arising, it is much easier for our team of developers to understand the root cause of the problem and resolve it quickly.

Agustín: Where do you see FX going in the future?

Joo Seng: I think the market will continue to grow. The focus of Spark is to win market share from incumbents. It's a tall order but not impossible. Even if the pie remains the same, we are prepared for that; and if the pie continues to grow, even better. I am determined to grow Spark's share, even if that is at the expense of incumbents.

Agustín: What about disruption? Is a new technology like blockchain coming in going to take margin when you are doing currency exchanges?

Joo Seng: No. I think blockchain technology is way too slow for the FX market currently. Blockchain technology, like Bitcoin and Ethereum, are basically transacting at about 7 to 10 transactions per second. Not nearly fast enough to handle FX trades.

Also, right now, for high-speed low-latency FX trading, there is really no use case that makes blockchain technology interesting. So there's no particular reason why this business should migrate onto blockchain.

That being said, the platform that we build is instrument agnostic. The platform can trade securities, it can trade commodities, even crypto, off the blockchain. It can trade all these as easily as it is can trade FX.

Agustín: In terms of your expansion plans for Spark, how do you see the company growing?

Joo Seng: FX is a global product, so it's a global market for us. For now, of course, we are Asia based, with a Singapore headquarters, so low-hanging fruit first. This means that if there's a hedge fund down the street that we can sell to, I'd rather do that than fly over to London or New York to do it. But over time, the market is global for us. We have, as a matter of fact, had New York-based hedge funds reach out to us and say, "Hey, we heard you're building new generation trading platforms." They came and did a full due diligence and loved the product. They have engaged us to build their platform and we are installing it for them now. For a New York-based hedge fund to trade on a Spark Systems platform when the main pricing source is coming from New York, the data center we will use is in New York called NY4. In Japan, the closest data center is in Tokyo called TY3, so we are right in TY3 now. We have no hang-ups, we're Singapore based, and for our local and regional clients we will connect them to SG1, which is the Singapore data center. This will give parties in the Singapore region unparalleled high-speed access to markets. If there is a London-based hedge fund, London has a pricing data center called LD4, so Spark will link into LD4 for our European-based or London-based users. The key is for the name Spark Systems to be synonymous with high-speed, stable and inexpensive trading.

Agustín: What is your view on the Chinese market? How does it compare to the U.S. market or the European market?

Joo Seng: The Chinese market, at the moment, we're very sanguine about the market; we think it can only grow, but for now, it is not a big market. The RMB [renminbi] is a controlled currency, so there's not a lot of trading in foreign markets. The major trading is the CNH [renminbi] not the CNY [yuan], that is trading from out of Hong Kong and that is still a relatively small proportion of the overall market size. We are engaged there, we are talking to Chinese users, Chinese banks, but in real volume terms, it is not anything that will come even close to the G7's or the G10's type currencies. The dollar, the euro, the yen, the sterling, the Australian dollar, and so on. These are at a much higher level of trading at the moment.

Agustín: You seem to be in a very interesting market and you seem excited. What keeps you motivated?

Joo Seng: I think that for an entrepreneur, the main focus is to get the 'narrative' right. You must understand the problem clearly, and you must translate the solution to the problem correctly and clearly. A lot of times, companies don't even get the problem statement right. If you don't get the problem statement right, I think you have lost the battle from day one. If you get the problem statement right, it is still possible to get the solution wrong. Fundraising is simple, you talk to any number of investors, many will turn you down, and a few will agree with you on the problem. Eventually there is a high probability a determined entrepreneur will find investors for the initiative.

With that investment, one can hire a team, the team can build a product. That's when you find out that the proposed solution to the problem is wrong. This is the point where most startups fail, when there is no traction. For example, when you go to the market expecting widespread support for your solution, and suddenly realize there is no support. "Why is my expectation of a thousand deals a week so far off the mark? I'm only seeing five deals a week done and that's not nearly enough for the company to run." This is where a red flag comes up for me. In the case of Spark Systems, it's a real relief to know that we've got the problem specified right and the solution specified right. Most of the platforms in the market are old, slow, and expensive. I think what we've got here at Spark Systems is the exact solution the market needs. When we do a sales pitch to clients, we are winning our fair share of deals. Getting the problem right, and translating that to a solution the market wants, is key. As an entrepreneur, you run through the narrative continuously. You keep checking, am I right, am I right, am I right? And you could be right from the start, but things change and you have to get on with the changes and understand whether it impacts your business. This is what drives me, it's partly the challenge of getting it right and the other is a little more esoteric. It's about making a difference.

Agustín: Is it around supporting the economy?

Joo Seng: Correct, Singapore, as you know, is the third largest FX trading center in the world. One eighth of global FX originates from this tiny island; this is 12.5% of global FX. However, what is not often mentioned is that the matching of trades, buyers with sellers, actually does not, to date, happen in Singapore. It's only done in three major centers: London, New York, and Tokyo. So, what does that mean? It means that if Vodafone is traded on the London Stock Exchange, the matching happens at LSE and even if you are in Toronto, Canada and you want to do a trade, your orders need to be routed to the LSE engine in order to buy or sell and get the deal done. So a very important distinction needs to be made. If you have Royal Dutch Shell Petroleum Treasury based in Singapore, and they want to buy Japanese yen, and J.P. Morgan, also in Singapore, wants to sell Japanese yen to them, then these two parties are only three kilometers apart. The orders are still routed to London, New York, or Tokyo. To get an order to London or New York, on the fastest, low-latency fiber optics available today, it takes one hundred and eighty milliseconds. You need a similar one hundred and eighty milliseconds to get the order back, to know whether you've successfully traded or not. That's a three hundred sixty millisecond turnaround to know whether a deal got done, by two parties that are three kilometers apart. If we build matching engines in data centers in Singapore, which is what Spark Systems is advocating, and we have a strategy to catalyze this with the central bank, who also wants this to be done, we could probably match the trade in one millisecond. That is a magnitude improvement, from three hundred and sixty milliseconds today, down to one millisecond or under one millisecond.

You cannot get there by writing a better or more efficient program. This has to do with infrastructure design. You need to have infrastructure, in the right place, in order to get this kind of result. So Spark is part of the effort to do this. When Singapore becomes a matching center, then the IBMs of the world need to be here. The Toshibas and Hitachis of the world need to be here; all the banks' IT support teams need to be here. This is an opportunity to build a whole backbone of jobs that up to now doesn't exist in Singapore. We've given it away to London, New York, and Tokyo! Even Tokyo, which is the nearest center, requires a hundred and sixty milliseconds turnaround to execute an order.

We can do it one millisecond, so it's still a massive improvement. Instead of where tech and fintech have to date hollowed out industries, this is an opportunity to bring jobs into the industry and this is something that I see as a valuable opportunity. If I can help make that happen it will be a great privilege to do so. I'm not doing this out of entirely altruistic reasons, I'm doing that because I'm building a company, but if building a company and focusing on growing it leads to job creation in Singapore, then I'm all the happier to be able to do so.

Chapter 34 Prajit Nanu

Company name: InstaReM

Location: Singapore

InstaReM, now called Nium, is a fintech startup that provides digital international money transfer and payments services to individuals and businesses. Nium (InstaReM) has developed a unique remittances platform in Asia, that helps to reduce costs of cross-border money transfers massively. This interview was conducted before InstaReM rebranded as Nium.

Roles: Prajit Nanu, Cofounder and CEO

InstaReM's first technology solution and platform was crafted in a coffee shop!

Agustín: Let's start by looking into how you got started in entrepreneurship.

Prajit: My father was an entrepreneur, he built his business from scratch. Looking up to him, I grew up with the ambition to do something on my own. I started my career in 2002—straight out of college. I had a brief stint in consulting before spending over a decade in the IT industry, working in New York, London, and Mumbai with Capita and WNS. My last corporate role was with a Dutch professional services firm, TMF, as their global sales director.

I had nothing to do with international money transfers professionally for most of my 10-plus year career. Then a personal experience got me thinking about a problem that has been so huge and so universal. Here's what happened.

I was trying to organize a party at a resort in Phuket [Thailand]. With some online research, I picked a terrific spot, and needed to send an INR [Indian rupee] equivalent of US$650 to book the resort. The resort wanted me to send money to their account as a bank-to-bank transfer. I didn't think too much about it until my bank in India asked for extensive documentation to transfer a not-so-huge amount

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overseas. Arranging all the documents would have taken a lot of time and effort. So I found a friend based in Thailand, transferred money to his bank account in India, and he paid the resort in Thai baht. The friend revealed that every month he had been sending money to India and his bank was charging a small fortune for the service and was taking an FX [foreign exchange] spread—the difference between the interbank currency conversion rate and the rate quoted by the bank—as well.

Agustín: Interesting! So somebody was making a big margin for that transaction.

Prajit: Yes. Big indeed! That was 2013. Back then, it was not very easy to send money out of India. Money transfers were inconvenient, frustratingly lengthy, and unreasonably costly. My Thailand experience was my first glimpse into the problem. This incident got me thinking about how I could convert this problem to a successful business. After much fretting, came the inspiration. Michael Bermingham, the other cofounder of InstaReM, was the first person I called when I felt the need for a hassle-free, convenient, and affordable digital money transfer platform. After tons of in-depth research on identifying a better way to move money across borders, we got started on a technology-based solution. Our first technology solution and platform was crafted in a coffee shop! We incorporated InstaReM in August 2014 in Singapore. We started operations in the Australia-India corridor as soon as we had our money-transfer platform ready in August 2015.

Agustín: You are the largest cross-border payments company in Southeast Asia. How do you compete with the big names such as Western Union or Moneygram?

Prajit: I am cognizant of the fact that it is not going to be easy competing with the well-entrenched players with decades-long legacies. However, what we are offering is a solution to a problem that is an *outcome* of a traditional—and inefficient—way of transferring money across borders. We convert currencies at zero-margin FX rates. We offer mid-market rates sourced directly from Reuters and do not add any margins on FX at all, unlike most banks and these well-entrenched money transfer services. We just charge a nominal—typically less than 1%—fee to cover the costs of processing the transactions.

Our value proposition is simple: zero-margin FX rates, reasonable fees, and 100% transparency. Our zero-margin FX rates and low transfer fees enable us to offer the “Best Transfer Amount Guarantee” to our users. We are quite cost-effective compared to banks and even most traditional players. However, we do not want to compete just on lower costs—we want to offer a great user experience in cross-border money transfers and payments. We aim to become the largest and most admired cross-border payments service not only in Southeast Asia, but in all the places that we operate in. We are already powering cross-border payments for several large banks in Southeast Asia.

In the steady state, we aim to offer a bouquet of innovative solutions to send, spend, and collect money in fast, convenient, and cost-effective ways in multiple markets to customers who include expatriates having moved overseas to support families back in their home countries, and businesses that make regular payments to their overseas associates. We serve payments companies, marketplaces, the travel segment, and large corporations.

Agustín: That's amazing. How do you plan to achieve your goals?

Prajit: With solid backing from the marquee investors such as Rocket Internet, Vertex Ventures, Fullerton Financial Holdings, Global Founders Capital, SBI FMO Emerging Asia Fund, MDI Ventures, Beacon Venture Capital, Vertex Growth Fund, and Atinum Investment, we are building a global brand by focusing on a great, differentiated customer experience. In the short span of four years, we've managed to acquire regulatory licenses/approvals in 40-plus countries on the back of our strong credentials. We are investing in acquiring more licenses and enhancing our technical, customer service, and marketing capabilities. With the growing preference toward the digital way of transacting and our product offerings for the growing "digitally-native" population, we aim to capture a greater market share of the US$689 billion global remittances market. Most of our customers are ones who are not comfortable with the traditional money transfer service providers.

Agustín: Talking about investors, how difficult was it to get funding for your business?

Prajit: It's not easy to convince investors, especially when you are starting up—just with an idea and no real product. Investors, too, prefer investing in businesses that are in vogue at a given point in time. When we started, the majority of money in fintech was going into more "fashionable" consumer lending startups. But if you really look at it, it's easy to lend money, but it's not easy to collect money. When we needed seed funding, we pitched to a lot of banks and investors, and the only one who believed in us then was Rocket Internet, who gave us half a million when we were just two guys and a PowerPoint. They believed in what we were trying to build, took a nominal stake even if it wasn't normal for them to do so, and still continue to invest in us. That was when we were getting started. Today, we are pretty comfortable with three rounds of funding of US $59.5 million from some of the most admired and respected investors.

Agustín: When did you feel that InstaReM would be a success?

Prajit: With no background in international money transfers, I decided to get into this business because I was convinced that there was a real problem here. I was confident of this business even before we started. My belief gained validity over time, with prominent investors supporting and putting faith in what we were doing. Starting as a cross-border remittance company in a single—Australia-to-India—corridor, we are now looking to democratize money movements across the globe with innovative products that provide individual and enterprise users with seamless digital payments experiences.

We've been aiming to make cross-border movement of money faster, easier, and most cost-effective and are being recognized at various august industry platforms in Australia, Singapore, India, Hong Kong, and elsewhere, making me more positive about the success of our business model. However, the thing that gives me maximum comfort is the feedback from our customers who continue to place their faith in us.

Agustín: Where do you see remittances going in the future? Will there always be a charge to make international payments?

Prajit: From the days of unreasonable money transfer fees and the absolute stranglehold of traditional players, we have come to a phase where we have new players entering the industry with each passing month. With breakthroughs in mobile and internet technologies and innovative peer-to-peer models, digital money transfer service providers like InstaReM have managed to bring down the costs to much more reasonable levels. Yet, given the continued dominance of traditional transfer methods, the global average cost of sending remittances is around 7%, which is more than the double the UN's sustainable developments goal (SDG) target of 3%. And it takes around 3-5 working days for a traditional international money transfer to complete. Developments in blockchain technology are making international money transfers more cost-effective and quicker. Soon, we may reach a point where costs may not be a differentiator. Therefore, our focus has always been on a great customer experience, and we've been reasonably successful in providing a great experience to our customers.

Agustín: Customer feedback seems to be great for your service, congratulations. Where do you see InstaReM going in the future? Geographical expansion? Additional products?

Prajit: Having started as a cross-border money transfer firm, InstaReM is now transforming into a global payments powerhouse, offering innovative solutions for moving money to and from different countries in fast, convenient ways that provide individual and enterprise users with seamless digital money transfer experiences.

In the next couple of years, we are looking at augmenting our presence in existing markets while expanding into newer markets. We are awaiting licenses in more money transfer corridors in Asia, such as China, Indonesia, Japan, Thailand, and the Philippines.

We recently joined the global payments technology major VISA's Fintech fast-track program in the Asia-Pacific region. With this, InstaReM's fintech partners desirous of expanding in Asia-Pacific can now ride on InstaReM's payments and remittances ecosystem, and issue payment cards to their suppliers/customers in just four weeks of them joining the program. These firms need not go through the rigmarole of getting local licenses in Singapore. They can issue payment cards on the InstaReM license and don't have to wait the six to nine months that it currently takes to acquire a license and develop their own payment infrastructure.

The corporate and institutional cross-border money transfer space is much bigger than consumer remittances and we are aggressively pursuing this segment.

InstaReM is already facilitating overseas payments for three of the top ten Southeast Asian banks, and is in the final stages of negotiations with a few other leading banks to power their cross-border money transfers to various destinations in Asia-Pacific, Europe, and the US.

We are also aiming to disrupt the global travel/tourism industry with prepaid Forex cards. With prepaid cards, individuals traveling overseas can potentially save big by being able to convert their native currencies at InstaReM's zero-margin exchange rates, while avoiding exorbitant credit card charges. The overall savings potential is proportional to the size of the global travel market. We are quite excited to get into this space.

We have a strong funnel of potential business customers. We will engage with them further in coming months for their eventual onboarding to our business platform. Meanwhile, we will continue to improve our existing products and platforms with incremental enhancements, and we will continuously explore possibilities of developing new products that offer a great, differentiated experience to our customers.

Agustín: Thanks for your time and best of luck in your expansion through southeast Asia.

Prajit: Thanks, Agustín. Pleasure speaking with you.

Part 4: **SME-Specific Fintechs**

Companies in this section
Tradeshift
NYSHEX
Increase
Oaknorth
CountingUp
Shine
Holvi
Parasut

Businesses that focus their attention on small and medium-sized enterprises (SMEs) have flourished. I usually see that innovation happens first in retail activity, such as retail checking accounts and consumer lending. It makes sense, as it encompasses more people and it is generally simpler in nature. However, supporting SMEs is of paramount importance, as most companies in the world are SMEs, and helping them flourish can really help to eradicate poverty. By providing financing to small and micro enterprises, by using small business financing, community financing, and project financing through smart technologies as simple as mobile phones' SMSs, then financial services can help move the world in the right direction.

There are different solutions that can be offered to SMEs. An obvious one is a banking account that is suited to their own needs. Starting in the continent that produces the highest number of challenger banks, I caught up with Tim Fouracre, from CountingUp, who is expanding a business account that keeps your books up to date. Going across the channel to France, I had a chance to learn more about Shine, a bank account that has been created for freelancers and entrepreneurs. I was also impressed by Johan Lorenzen's story, who led Holvi until it got acquired by BBVA. Holvi is a fintech that offers business current accounts for small business owners, integrating several services such as expense management and even e-commerce.

Of course banking is not the only need that has been targeted by entrepreneurs. Based in Denmark, I had the pleasure of talking to Gert Sylvest from Tradeshift, who built a cloud-based business network for supply chain payments, marketplaces, and apps. In Turkey, I spoke to Sean Yu from Parasut, who has modernized accounting for Turkish businesses. In Argentina, I caught up with Sebastian Cadenas from Increase, a startup that has simplified commerce for Latin American merchants, who can now focus on selling rather than bookkeeping and calculations.

I have found that several firms are developing marketplaces for specific sectors. One that I found very interesting in particular is NYSHEX, and catching up with Gordon Trouncer Downes I learned how they are bringing change to the shipping industry through an intelligent marketplace.

I felt I could have gone on exploring different companies for a long time, and it is fascinating to learn about the different problems that people are facing and the innovation that is being applied to them. I hope that you enjoy reading these selected conversations.

Chapter 35 Gert Sylvest

Company name: Tradeshift

Location: San Francisco, California, United States

Tradeshift is a cloud-based business network connecting buyers and suppliers. Tradeshift helps companies run more efficiently, using cloud-based technology to improve processes like invoicing, workflow, and supplier financing.

Roles: Gert Sylvest, Founder and GM of Tradeshift Frontiers

> *Our vision is to create a platform that has the potential to connect all businesses in the world and through that to create economic opportunities for the participants.*

Agustín: How did Tradeshift get started?

Gert: That's a good question. It actually started with a few government projects before Tradeshift was actually founded. Tradeshift was started in 2010, but I worked together with my two cofounders for seven years. I was working for Accenture and they were working for the Danish government. Accenture was called in to work on a number of projects and one of them was digitization. So going from paper-based invoicing to 100% digital invoices in the Danish public sector. I got involved, and headed up a project team from Accenture there and we worked on that project.

We learned that there was almost no digitization in the supply chain between companies, and that digitization of invoices was a mere 1% to 3% of the global volume—the rest was paper. We also saw that all the business models around digitizing invoices and purchase orders, and so on, were like sending SMSs [text messages]. It was a transaction-based model, you had to pay a fee for every single digital message that you sent. You did it in closed proprietary

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networks that were operated by commercial players. What we actually started doing was to build up a peer-to-peer based infrastructure for this, for the Danish public sector.

Everything we created, we put out as open source software and as open standards. The government supported this way of doing it, and in ten months we had sixty thousand companies in this infrastructure. Ecosystems started springing up. For example, people integrating this with accounting systems, Excel sheets, and building Linux clients and Windows clients, and other things. That was really, really interesting and we thought that was a totally different dynamic in terms of adoption and in terms of the cost model in this. Then in 2007, we applied the same blue prints into a big, EU project [the PEPPOL project] that connected thirteen member states to implement procure-to-pay processes there.

Agustín: Did these successes prompt you to quit and start Tradeshift?

Gert: We made the same kind of peer-to-peer based infrastructure, based on a lot of the same open standards and some new open standards for both of those projects. By 2009, we felt, we've actually seen this type of infrastructure, scale, at least three times; and also to European scale connecting the backgrounds of thirteen member states. It felt like it was a very special moment in time, where you could actually imagine that you could a see a whole region moving commerce or trade from a paper-based world to a digital world—and do it very, very fast. So, actually, the idea behind Tradeshift was to take what actually happens with finance, with trade, with the relationships between small and large companies, the power balance between these companies, and digitize it; because nobody had actually digitized trade until now, although we've been trying to do it for forty years. That was really impetuous, and when we started we said, "Okay, we happen to know a lot about electronic invoicing, because that's what we did in the public sector for such a long time. So why don't we combine that with the cloud, make a cloud-based infrastructure, so that we can deploy software to any size of company, anywhere in the world, very, very cheaply."

Then we took some ideas from social networks, which was basically saying, instead of building a closed proprietary infrastructure, build an open infrastructure where everyone can participate on an equal footing—whether you are a buyer or you are seller or you are a bank, or a transportation logistics provider or someone else. Then the value you can get out of having insight into this digital flow of trade would be worth much, much more for every participant, rather than if you just made fifty cents per message that you sent across. It's a long story, but that immediately took us into the world of payments, of receivables, of settlement, and all the opportunities of creating financial services on top of this. That had a totally different dynamic from what you see in the markets today, because we actually have insight into real trade between real companies in real time.

Agustín: Let's move on to how you worked with your cofounders. How did you practically work together creating the company? How did you divide the responsibilities among yourselves and how did you approach funding?

Gert: That's a good question. So sometime in 2009, we reacted to a tweet from a local entrepreneur, Morten Lund. He was one of the earlier investors in Skype and through that, he made a lot of money, and he used it to build a great network. He started asking about entrepreneurs who knew something about software for municipalities and we got connected over Twitter. He introduced us to a number of investors and government people and we started talking about what we did for the public sector. The interesting thing that happened was that we had government leaders from countries in Latin America saying that what we had sounded really interesting and whether that was something that we could do for them. We decided, let's do this, and then, with the help of Morten, we sent out another tweet asking if there were people who would help support such a project. Within a week we had, I think, 25 incoming offers to help out, for some stake in the company. The way we really started was on the implementation side. I was working with a team across five different time zones: Sri Lanka, Peru, Guatemala; and at some point, we tried to start out with Kenya. We had three teams here in Denmark and one guy sitting in Sweden. We had distributors set up, where we could get off the ground without having really any money.

Agustín: So you were giving your team members equity in the company?

Gert: Yes, so the founders, we've worked together a long time, so I think we had some fairly natural roles. Christian [Lanng], who's now CEO of Tradeshift, also had a very fast career in the public sector. He started as a student helper and very quickly rose to the rank of managing the whole office and became the Head of the Center for Service Oriented Infrastructure in the Danish National IT and Telecom Agency. He was kind of naturally cast and is really, really strong as a business developer, a sales guy, and has an all-around great understanding of technology and economics. Mikkel [Brun] has been in a few different roles. He's a computer scientist by education, but he's actually set the strategic direction for a lot of these public sector projects that were about digitization. So why are we doing it? How can we use new technologies to actually achieve a political and business agenda? He took on roles that were about developing partnerships and setting strategy for the company and so on. I was always on the implementation side. So, building software, building up engineering teams, writing the protocols, and translating the business objectives, and so on, into actual technology. I think between the three of us we had very good complementary skills and interests and, yes, experience.

Agustín: That's really fortunate. In terms of giving equity to many people, did you regret that decision now that the valuation has increased so much?

Gert: No, not at all, there has been a lot of change in the ownership structure since then. I think if you are a very early stage investor, we were fortunate enough early on to think about making good clauses in their agreements, and that meant that people could convert their equity into cash and so on. I think for a lot of the small-scale investors, at some point it just became more desirable for some of these guys to change their position into cash. A few of these guys are still with us, but I would also say that we started with a pretty big vision and I think we went for the people who actually had some belief in that. It was not like we gave away half the company, but we looked for people who believed this could be a really big thing, and of course then the shares were priced accordingly.

Agustín: Let's move on to Tradeshift. Would you mind describing how Tradeshift was conceived originally and how the business model has changed?

Gert: Yes. Definitely. I think there is one area where we have been fortunate or lucky, and that is that the big picture vision has never really changed. We started off saying, it seems we have an opportunity to actually build an infrastructure that has the potential to connect every company in the world, allowing them to trade globally. That was really the starting point. It was asking questions like, "What would be the social economic impact if you took a whole country or region and almost overnight switched from paper-based trade to digital trade?" That meant we wanted to make an infrastructure that could include everything from a Fortune 500 company, to a one-person company that works out of Indonesia or China or anywhere in the world, and basically trade with these companies. That is still the vision today, the vision to create a platform that has the potential to connect all businesses in the world and through that to create economic opportunities for the participants.

Definitely what we originally worked on has been through a lot of change, naturally, because it's been an impossible vision to execute in one go. I think there are three components that we need to get it to work. One is we needed to start building the network and so we started with electronic invoicing. The reason for that was pretty simple; it was something we knew about and it's the most widely digitized process between two companies—just electronic invoicing. It was a well-understood concept and we had the demand for it. We just wanted to provide that in a better way and a cheaper way and a smarter, more favorable way. That's where we started, initially in governments in Latin American countries. We traveled to Brazil, Guatemala, Colombia, Mexico, and actually made some reasonably good progress, but quickly decided that governments were too slow to act and too unpredictable. We quickly switched over and said, we want to work with really large companies that have very big supply chains. We started talking to Fortune 5000 players, like Nike and DHL, and these guys were pretty quickly in getting the system on board.

As we switched to the large companies and got them on board, we onboarded their entire supply chains, which were tens of thousands of companies, and they started doing electronic invoicing and the focus was really on the automation part. So how can big companies automate payments, avoid exceptions with invoices, all the manual bureaucracy of accounts payable handling, and make automated payment decisions? That's where we started, then we started moving out in several directions. One of them was into procurement. You know if you look at the whole source-to-pay cycle, we basically spread out from there. We started moving to procurement, providing procurement, the solutions for large companies and then on the financing side. In 2013 we started for the first time working together with Citibank, providing supply chain financing on some of the invoice value. Since then, we've moved from procurement to marketplaces, so basically imagine you own Amazon and connect your suppliers into the marketplaces, instead of connecting them to a centralized procurement system and offer that for all your employees, all your franchises, all the people you want to help buy into this model. On the financial services side, a big part of our strategy is moving into the payment space and basically offer financing for every payment, every settlement in the network between companies. Instead of getting paid on day 60, get paid on day one, no matter if you're a large or small company, and so on.

Agustín: The expansion in client base and services must have required an expansion in headcount too. How many employees are now at Tradeshift and how are you looking to grow?

Gert: Excellent question. We are actually over a thousand employees now, so continuing growth, and obviously a lot of stuff has to happen at each stage, like how do we make money? How do we increase revenue? How do we organize all these things? I think on the business side, we are basically getting into bigger and bigger fields. Where we used to sell accounts payable automation, today what we actually sell to companies is a full platform, so we are getting into more C-level conversations about whether they buy, let's say, a procurement tool or an AP tool or they actually buy a platform that has procurement and accounts payable and can be extended indefinitely. That's the difference between the early days and the kind of conversations we have now. We altered the whole combination of cashflow optimization and the processing.

On the organization side, that's of course really, really hard. What has been stable has been the vision. We are still all three founders partway through the journey, but of course we organize ourselves in a totally different way today. In the early days, I think we came up with a thing that worked really well for us and that was the concept of team camps. For the first one, I think we were ten or fifteen employees or so. We took two days out of the year with every employee and said, "We are going to simulate the next three to six months." Basically, everybody got in and answered questions—where are we with our investment, on the financial side, on the customer side, on the product side, on the organization side? What are the challenges we believe we will face in the next quarter, in six months? Because that really, really changes rapidly, we couldn't plan for anything, because every time we turned a corner, everything was, of course, not as we expected it. We did that, and everybody worked together in teams. We asked people to build the products on paper, cardboard, using code, whatever, for the next three to six months and basically tried to find answers to the challenges that we were looking at. Then the day after this team camp, we basically reorganized the whole company in terms of how we set up the teams, where we set our product focus, and so on. We repeated that every quarter, up until a certain size and then we did it every half year and, up until today, we actually managed to keep a yearly sync like that. But that has proven valuable because it's this kind of sync where everybody gets together and everybody gets entirely into the whole company, and everybody gets to work together.

You actually work with the real-world business challenges that we have; and you work together in teams that are a mix of supporters, sales people, engineers, professional services, and so on, and work on the same problem. What that gives is not necessarily, "Here we have the answer for the next quarter," but it means that everyone is acutely aware of where we are actually going—What is the strategic focus? Why are we switching from accounts payable to payments or financing? Or whatever the case may be from quarter to quarter. I think that has really helped, that from time to time everyone gets on the same page. I think that's one component.

The second one is probably the regular stuff, like getting more professional, introducing more experienced leadership; giving more people extra responsibility for coming up with product; product road maps; go to markets; how we organize and sell; and getting more and more seasoned people in from the industry that understand, for example, the procurement side of things or the financial services side of things. So it's just overall professionalizing in terms of the people we get in, and how we manage, and so on. I'd say the latest thing we've done that is making a really big investment is how we onboard people. We have created a one-week program, where we get high level leaders in and design a program that takes everyone who starts through the whole product, then through our history, how the different departments run, and so on. So, after that week you have a good understanding of our DNA—and not just on the need-to-know tools—but also on the cultural side. How do we think about leadership? What are our values? What is our story? We also printed a book, a seventy page book or so, where we have a lot of stories collected, a lot of stories from us the founders, and from employees that are with us now and have been part of the journey, and talk about how they perceive this company and why they actually work at this company—these kind of things, the cultural side of things.

Agustín: What you just said makes me wonder how you deal on a day-to-day basis with the culture of Tradeshift.

Gert: Yes, so, first of all, we were three founders and I think we were pretty well aligned on how we liked to work. I think what often happens, as with every startup during the first months you have the sense of, "My God! You can really move fast!" because you are a small team and you can iterate really fast; everybody knows everything about what is going on; what everyone else does, and so on. You can move very quickly. As you grow, that becomes harder and harder. I think we all had this kind of strong feeling that we want to maintain some of that culture, where there's not a lot of process, but where everyone knows the general direction of where we're going and takes initiative accordingly. That became a value and I actually think it helped us pretty early.

We started in Copenhagen, then we moved our headquarters in San Francisco, already early in 2011. We started planning that mid-2010. That meant we suddenly had two offices and we had to think really hard about, "So how do we actually create a coherent culture here?" We made a few decisions that I think really helped us. One was that the offices both needed to be full offices, so that everyone had contact to both business sides; that there was product development and engineering *and* support and leadership in each of the offices. So that, for example, if you're an engineer, you could reach out to business people, you could get closer to the customer side, you could understand the business—so you had the contacts when you develop stuff. We did that for those two offices as we expanded.

The second thing is that we started very early writing down what our values and our beliefs were for this company. I think as a startup that might sound pretty corporate, but we felt we were forced to do it because we were scratching our heads and thinking, “Our offices are so far away, the time difference is so big, so how the heck do we maintain some sort of cultural coherence?” Another thing was, also pretty early we went into China, so in 2013 we hired the first people there. Of course, the cultural differences between Copenhagen and San Francisco are small compared to either of those two locations to China. So again, we had to think hard about whether we try to create a uniform culture, or could we be driven by some sort of values or principles that allow each location to have their own kind of local flavor, while it’s still a coherent culture. We spend a lot of time thinking about that and discussing that with people and sharing that. I think that that really helps and really pays off in the long run. That said, I think it’s an everyday challenge but I think we deliberately keep our focus on it and sometimes it goes downhill and then we come up with some new things and so far I think that’s been a really valuable investment.

Agustín: I’m curious about your involvement in China. I know that you have opened a research center there, and China is very advanced in fintech. Why did you set up offices there and what do you think about the environment there?

Gert: So we have a hundred and twenty or thirty people in China today and it’s actually a full office. We develop go-to-markets, that are adaptations for the Chinese market, of what we sell elsewhere in the world. My cofounder, Mikkel, is heading that up and has been doing that for a number of years. I spent two years, also with a very intensive China travel schedule. We learned a lot about how the Chinese market is different from the European and US markets and, as you said, the fintech environment, and so on. That made us decide that you would have to have a separate go-to-market in China, because the environment is just totally different—both the business environment and the product and technology environment. I think the number one observation was that we are a 100% cloud player and the cloud and B2B in China felt like being in Europe in 2006, or something like that. So companies are super suspicious of the cloud, you get all the usual questions like, “Sounds great what you are doing, can I please have a copy of it in my basement?” and that’s exactly how it was, trying to sell software as a service to enterprises in Europe in 2006, 2007, 2008. Then in Europe, and the US, that changed completely around 2010-2011 or so, where suddenly people started to have a real cloud strategy and accepted putting stuff in the public cloud. So that’s a major difference. We are network players, so everything we do is about the cloud and connecting companies and allowing third parties like financial services or physical supply chain players, and so on, to plug into that infrastructure. That of course doesn't work in an on-premise scenario. That was the first one that we had to crack in China.

That was a great opportunity actually, because it turns out none of our competitors in the west are really established in China, and I think they are very late to the game trying to figure out how to create network-based models between companies, and we also didn't see any player in China adopting that model. Whereas in the west, companies like SAP, slowly started picking up on what we were doing and started to buy up companies with some network component to it. That's an opportunity.

The next thing is, we made a joint venture with a company called Baiwang, and in China there's a monopoly on issuing electronic invoices, on accessing what is called the Golden Tax System, which is the tax authority system, and every transaction between two companies has to pass through that system. We are actually the only western company that is working together with one of the companies in this duopoly. That gives us a very special position, in terms of offering also financial services, that works on data on that central Chinese infrastructure. I think these things together highlight the difference.

I mention another thing because I was involved in establishing a joint venture in Chongqing, where there is a very low level of trust between participants, that was a supply chain financing company. So doing supply chain financing in the west is very simple, because you trust your bank; you trust your local government; you trust your business partner; you could trust the credit rating bureaus. But that's not the case in China. So establishing trust between parties involves collecting a lot more data, and is today extremely paper-based and somewhat archaic, but that means that financing is not readily available to a much bigger segment of Chinese companies, compared to the west. Again, things work differently, the question about identity and trust is very different in China, but it also means I think there is a very big opportunity there.

Agustín: Let's move on now to emerging technologies, for example, blockchain. How does Tradeshift utilize these and where do you see emerging technologies going?

Gert: On blockchain, I think we have a little bit of a different starting point compared to many other companies. First of all, blockchain speaks to a lot of the things that are important for trade. It's about trust, it's about security, it's about who owns the data, it's about transparency, and so on. That's obviously super-relevant for trade. I think our position is that we actually have built out a network and economic model that is super-compatible with blockchain in the sense that, in our system, companies own their own data, they own their own accounts. They have complete control over who they wish to share data with and what we really ensure is that the data is completely consistent between accounts.

We have approximately half a trillion dollars in receivables and purchase orders going through the network per year, and taking just a part of that volume and moving it to blockchain and combining it with other data is a very, very small step, compared to starting with some blockchain technology and then having to figure out how we are going to connect people; to get them to agree on standards; to make them digitized; and all of that stuff. So one part of our play on blockchain is that it's really as a gateway to blockchain. We want to make it really easy for the 1.5 million companies in the network to actually engage and contribute data to blockchain—whether that is for track and trace, or for receivables financing, or other use cases—and that's fine. We are not looking to roll out the Tradeshift blockchain per se, but we much more see ourselves as someone who can actually facilitate companies in track with the relevant blockchains in their space.

Now the second trend, I think, is that it's just a general trend in finance toward digitization of assets and I think everything that has happened on the public blockchains is about that—whether it's ICOs [initial coin offerings] or utility tokens or markets or exchanges, to show the ecosystem where people actually digitize very wide range of different assets, and somehow understand how to treat them in a common fashion. If you look at, for example, small and medium-sized business companies, they have a lot of assets today, but they are just invisible to the rest of the world. One good example is receivables; so you have nine trillion dollars at any point in time outstanding between buyers and sellers and only about ten to fifteen percent of that is intermediated by finance. That means that obviously they sit with a lot of assets, but there is so much friction in the current systems that they are not accessible and lenders will ask for a very high APR in order to provide financing, because they have so little insight into the actual trade. One of the opportunities we see with blockchain is to basically say, "Could we create a digital assets layer on the whole infrastructure that allows companies of any size to take what is today just information and transactions and actually represent them as digital assets, then make them available to an open financial marketplace. That way hundreds of different financers or peer-to-peer players, or many different kinds of players or institutions, could compete for access to those resources. So, an obvious starting point, is receivables financing.

Then I think we could totally change the game in terms of how you assess risk. You could add scale to SMEs everywhere in the world. That's definitely one vision that we are investing in, and the first expression of that was a product we developed that's called Tradeshift Cash which essentially tokenizes receivables for companies and puts them out on a financial marketplace. We are working on the generalization of that, which could offer a wallet to any company in the world, a digital assets wallet, where the starting point is of course all the transactions whether they're purchase orders or signals from the physical goods that are moving between them; they become assets for the companies who are party to that information and that they can actually monetize. Yes, so that's on the blockchain side.

Agustín: You also mentioned Artificial Intelligence, you have a robot called Ada?

Gert: Yes, that's right. Actually, we started investing in 2013 in machine learning, and we started from a not so sexy angle. That was just digitizing transactions; so taking images of invoices and other documents and using machine learning to turn that into a high-quality structured format. Today I think we are the only player in the industry that has a 100% machine learning base approach to that.

And from that we also developed Ada, which is our general machine learning capability that we apply to a lot of different fields—so to capture invoices and transactions, taking us from unstructured to structured data, that's one example. Another example is categorization of product catalogs, of spending, of invoices, so that instead of manually booking spending to different accounts, we do it automatically. In decision support, so when you have approval of requisitions or invoices, we learn from the approval pattern of different companies in the network and we can make an approval decision, setting a lower approval unless you react in the next three days, and we are going to approve this automatically based on some conditions.

In the big picture, the opportunity is to do the procurement. The way that it is managed today is very manual, so we focus on just a few categories and then you optimize the hell out of it. The categorization of spending is very inefficient. At the network level, we capture the transaction, and that allows us to link to the product catalog, and then we can categorize very accurately and at scale. Then we can offer tools to categorize spending instead of having a centralized procurement that categorizes it. We use AI to empower people to make independent spending decisions. We are moving companies in the right direction, moving spending to where it actually matters.

On the financial services side of things, we have a very broad picture of companies because we know relationships between multiple companies; because we know the relationships between the organization, their customers, and their suppliers. There are logistics providers and financial services providers. We know the whole history of trade between them, so everything from the first quote to catalogs to purchase orders to invoices, what is funded and what is not funded, and we have insights into the in-house processes, invoice approval, requisition approval, categorization of spending, to actual payment, and so on, including the master data of these companies. AI is obviously used here because you have a mix of a very kind of well-structured transactional data and loosely structured more social or workflow type of information. We believe that with this we are in a unique position to drive down the risk in providing finance into all of these transactions. That may also be the turning point on AI.

I think the state of AI has reached very high maturity, and most of this technology is available as open source to all companies. So having the most advanced AI is not what's going to be the differentiator. I think what's really going to make the difference between whether companies are making money on this or not, is whether they have the right data to drive it. What I see in the business or the enterprise space today is there's still a lot of focus on deploying AI in silos that work on data sources that are basically siloed inside a particular company and I think that is really going to limit the value that you can get out of it.

Agustín: It's fascinating how you are using artificial intelligence, and it is definitely the right approach to look at all data holistically, though it can be challenging. How do you see Tradeshift transforming in the next few years?

Gert: I think these years are really exciting. I think we are at the inflection point in a few different areas. One is this really is a transition to a payments and financial fintech company; where I think if you looked us up, you would see the majority of focus would be on the automation side, on the AP, on procurement on network, and so on; and I think if you look at our profile a year from now, you will really see the financing and the payment side of it has come to the foreground. So I think that's one key development and where we of course are investing to make that happen.

The second thing is on the platform side of things. Again, if you look at us up until today, you can mostly see a story about products, but that's actually not how we were born. We were always born as a platform, always as an API. At the core, what we are focusing on is building a network, giving every company an account and capturing the transactions and events, almost no matter what it is. We've always said that we'd be happy if a third party came in and replaced all of our current applications, whether it's procurement or spending or anything. Everything we are building we are building on top of the same API and platform that we offer to third parties and that vision is really taking off these days, we are getting so many partners. I think the most successful area so far is that we have ten of the biggest banks in the world, they build outside the platform and they are completely competing on the platform to offer supply chain payments and early payments and receivables financing; all on top of the platform, and that whole ecosystem I expect to grow very dramatically over the coming one to three years. So I would say if you look five years ahead you would see 80% of our revenue or maybe more come from third-party applications on the platform rather than the stuff we develop ourselves; whereas today it's a little bit the other way around. That will be, to me, the proof of the vision, because that means we can offer value to companies in any vertical that help incentivize them to actually digitize, because third parties could come in and address needs of, let's say, a supply chain leader in Indonesia or an automotive manufacturing company in Germany; they have very different needs and different incentives but if you can make the platform model work, it means you can actually make other people successful in deploying the application in our network and I think that will be a great validation of the vision.

Chapter 36 Gordon Trouncer Downes

Company name: NYSHEX

Location: New York, United States

The New York Shipping Exchange (NYSHEX) is the market created by and for the shippers, freight forwarders, and carriers in the global ocean transport industry. NYSHEX provides the alternative to the unpredictable spot market and volatility of freight rates. It has introduced the first forward freight contract, bringing stability to the industry, and is pursuing a $23 billion economic opportunity by offering insights and providing flexibility to shipping contracts.

Roles: Gordon Trouncer Downes, Founder and CEO

> *Bringing in people from the business that understand the industry, but also have the mindset that allows them to think outside the box, a very good combination.*

Agustín: Please, tell me, how did you come up with the idea of NYSHEX?

Gordon: I spent twelve years working for Maersk, which is the largest container shipping line in the world. While I was at Maersk, it became obvious that the industry had significant pain points around volatility and unreliability, and these couldn't be solved by just one of the big carriers alone. It needed to be solved by an independent third party. That is the reason why I left my day job and began working on this project.

Agustín: How did you feel about that move? Leaving a big job, in a big multinational, to start your own thing. How did you go through this process and how did the funding happen for you, in the initial stages?

Gordon: I think leaving a comfortable corporate job where you've got career growth and all those good things is daunting. Startups have tremendous risk and uncertainty—but of course they are the opportunity to do something very

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new and innovative. What helped me make this decision was knowing that I would regret it for the rest of my life if I didn't. We knew we were setting out to solve a very interesting problem and we felt confident that our team could do it. Your other question was about financing. We raised capital through friends and family, including many friends from within the shipping industry. That was another important data point for me, because when our industry friends made their decisions to invest, that gave us even more confidence we were onto something significant.

Agustín: How did you go about setting up the initial team?

Gordon: The initial team was comprised of colleagues from within Maersk, people I had worked with and believed this was a good idea—worth quitting our jobs to work on full time. As we started to build out the engineering team, we tapped into our network within New York City and managed to make contact with some engineers who turned out to be wonderful team members, and also great friends. So it was a combination of hiring within the industry based on existing relationships and taking advantage of the network of technologists here in New York.

Agustín: For engineering, did you go local, or did you go to some of the lower cost geographies?

Gordon: Most of our engineering is done here in New York, which is, of course, a high-cost location. We also do work very closely with a partner, called Ange Optimization, based in Denmark. I had the pleasure of working with the team at Ange while I was at Maersk. In the early days of scaling NYSHEX, we couldn't afford to hire a big team of engineers, so we worked closely with Ange to build the *minimal viable product*, the MVP. To this day they are still very involved in our technology.

Agustín: When you were originally starting, was there any mistake that you made that you said, if I had a time machine, I would have done this completely differently?

Gordon: There've been a lot of those that, you just unfortunately have to learn the hard way. One of the bigger mistakes is, we hired too many people after we raised our Series A. We were really bullish on the market readiness to adopt the product, so we hired a lot of talented sales and marketing people. What we learned is getting our product into the hands of our members was going to be a lot more difficult than just hiring sales people. Turns out, it would require partnerships with existing players in the industry, time, and the conditions in the market to be right. Those are variables that I don't think we factored in as well as we should have. As a result, we had to make some changes to the organization to right size which is a horrible thing to do.

With the benefit of hindsight, I think once you have a good round of fundraising, and a lot of capital in the bank, there's a great temptation to deploy that capital and try to force growth. That temptation definitely got the better of us, where instead we should have been far more calculated in how we scaled up the organization. I also realize now, hiring people is one of the most critical things that any company does, especially in the early days, so it is important to take the time to do this very carefully.

Agustín: Those are great reflections. You mentioned a couple of things, sales and engineering. Which are the key management positions that you would say are important when you are creating your management team?

Gordon: I'd say that it broadly falls into two buckets: engineering and business. As a technology company, your product is a combination of the technology and how the product fits the market needs. Engineering is crucial, therefore it's essential to have a strong engineering leader who can develop the team, make good decisions, and help the company move quickly based on the lessons that are being learned all the time.

On the business side, it's important to hire people who understand the mechanics that make the industry work the way it does, but at the same time who aren't stuck in the mental model of "Well that's the way it's always been and, therefore, that's the way that it's always going to be." Rather, we need to look at it with a fresh lens and say, "Just because it's been done like that for many years, doesn't mean that it should continue to be done like that. There is perhaps a better way."

Agustín: In terms of your IT, I'm trying to understand the innovation that you bring into the industry. Would you mind explaining?

Gordon: Our technology does two things. The first thing it does is create a mechanism for companies to make digital freight contracts. In order to do that, we've created an exchange whereby a shipper can log in and see the available space on the ships and the price that the carrier is willing to charge. There are elements of enabling price and service discovery for the shipper, demand discovery for the carrier, as well as the formation of a contract.

The second thing is contract monitoring and enforcement. Once the contract is made, we hold security for that contract and then we monitor every step in the process to make sure that the cargo is moving exactly as per the terms agreed in the contract. There's a tremendous amount of technology that needs to be integrated with the various carrier systems in order to determine the milestones of every shipment that takes place.

Agustín: Do you do any blockchain, as part of your register?

Gordon: No, we don't do any blockchain at the moment. We've looked at it very carefully and we're ready to deploy a solution on the blockchain when the time is right to do so. I think that in the future blockchain will bring added efficiencies and immutability to our product.

Agustín: How are prices determined in your exchange?

Gordon: We do not control the prices on the exchange, just like, for example, the New York Stock Exchange doesn't control the prices of stock—that's determined by the market. So, in the same way, we allow carriers and shippers to offer and request prices however they see best. One of the things we do is provide market data to our members. For example, to help a carrier understand whether shippers are looking at their offers and whether their offers are competitive in relation to the market. That helps the decision-makers determine an appropriate price for the market.

Agustín: In terms of your business model, is it based on the volume that is traded?

Gordon: Yes. Our revenue is derived from a transaction fee. So, the more volume that gets traded, the more revenue we generate. One of the advantages we have is three of the top five global ocean carriers are investors, providing us with capital as well as assistance in building our underlying infrastructure. That's actually quite common if you look at other exchanges in how they start and how they generate revenue.

Agustín: So your former employer, Maersk, is one of your investors?

Gordon: Correct, yes.

Agustín: Where do you see the industry going in this respect? Do you see more use of technology affecting the industry, disrupting it maybe?

Gordon: Yes, I definitely see more uses of technology. There is a great deal of appetite among the carriers and the shippers to use digital to bring efficiencies. So we'll definitely see more of this coming. The one thing that I would disagree with is the word "disruption." The shipping industry is unlikely to be disrupted in the traditional sense, like how Uber has disrupted the taxi business. Shipping is such an asset-heavy industry and it's so tightly controlled by a few really large carriers, so it's difficult to see how an outside party is going to come in and disrupt it.

What's more likely to be the case is that the industry will be transformed for the better from within, and the carriers and the shippers will embrace new technology which will help them run the business in a more effective, more efficient way. In that sense, technology is going to be much more of an enabler for digital transformation.

Agustín: So, you've come a long way now, was all of the work worth it to get you here, or would you have preferred to stay in a safe position?

Gordon: It's definitely worth it, but it's way more challenging, stressful, and work-intensive than what I had anticipated. But that said, I don't regret it for a moment. Even on the most challenging days I'm still delighted to have this opportunity to be working on this problem, with a great team, in an exciting global industry.

Agustín: How has your role changed from Day One until now, when you have a more mature company?

Gordon: It's very different. From Day One, you do absolutely everything and get exposed to every element of the business. I used to do the monthly accounting and reconcile all the books and manage payroll and all those things. Fortunately we have grown to an extent where other people on the team take care of that so I can focus my energy more on other things, for example working with our stakeholders and developing the strategy of the company. The role of a startup CEO evolves at a very rapid rate as the company grows.

Agustín: What would you say is your exit strategy and how has that changed from Day One?

Gordon: I try not to think about the exit strategy because I don't think it's very relevant right now. In an ideal world, we can grow the company to be a thriving success and then IPO.

Chapter 37 Sebastián Cadenas

Company name: Increase

Location: Buenos Aires, Argentina

Increase's main products allow businesses to simplify control and grow their operations. Currently, IncreaseCard and IncreaseConciliacion allow more than 25,000 businesses from Latin America control their cashflow, reconciliation processes, and accounting. Increase shows how different regions in the world require very different solutions. They brought to Latin America an award-winning tool for SMEs (small and medium-sized enterprises) as well as corporations, to simplify their internal processes around card payments.

Roles: Sebastián Cadenas, Cofounder and CRO

> *Card payments are a problem in every Latin American country, they can take from 48 hours to 18 business days.*

Agustín: How did your fintech career begin and how did you come up with the idea of creating Increase?

Sebastián: Both my business partner, Matías Doublier, and I had different businesses before Increase. After the other business, but before Increase, I was in a consulting firm, first in New Zealand, then living in the US. Matías had other businesses, a restaurant in Mar del Plata, and a problem that we had in common was that we couldn't tell where were we going to get our card payments. Card payments are a problem in every Latin American country, not just in Argentina, they can take from 48 hours to 18 business days in Argentina, and 48 hours to a year in Brazil. Some countries are more organized than others, but the payment days are a problem. Not everything you sell today will be received on payment. For instance,

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you have discounts—you sell for 100, but they credit 97 or 94, or sometimes even 0 because it's a chargeback, and the difference is costs, in part, but sometimes it's also tax withholdings or promotions or chargebacks. You have to manage all that to get back those funds, and we thought it was a problem only for small and medium companies, but while we developed the technology, we realized that wasn't true. It was also a problem that big companies solved with people, not with technology. And today that allows us to have five clients with more than 800 terminals, including Farmacity, Latam, and Shell.

Agustín: So what are the products that you offer?

Sebastián: IncreaseCard was our first product and it's now the most successful one. Today it has a base of 25,000 users, paying every month. After this product, we added IncreaseConciliacion, which allows you to compare everything you receive with what was registered and with what the banks paid for. Before, we were missing that part of the picture. We're a team of 45 people now; we recently had a funding round of three million, and we're working on pilots in Ecuador and the Dominican Republic, and we're also analyzing Peru and Paraguay with different partners.

What we want the most is to make commerce and managing finances simpler. This is what Card does, and what Conciliation does with the integration we're doing with banks and with the customer's invoicing system, so that they only have to worry about selling.

Agustín: I'd like to know how you started. You said you had a cofounder, Matías Doublier. How did the company begin?

Sebastián: We developed three technologies in total. With the first technology, we wanted to do something similar to what Square currently does in the US or in England, but, because of the way imports were barred in Argentina and because none of the two card processors approved us, we couldn't develop this technology. In a second stage, when the two card processors did approve us, we physically connected POS [point-of-service] terminals. This connection had a couple of difficulties, but mostly because we didn't receive the proper information, nor the discounts, because the discounts were on the settlement level and so the mark on the card does it, but we only had what went through the terminal. We were close to solving the problem, but it wasn't fully solved. At the third stage, we developed two robots—one downloads the file and the other one analyzes it.

And we have all the information we need there. The other is that the team evolved with the company as well. Simply because of the greater talent that joined us in each stage.

Agustín: What talent have you managed to attract?

Sebastián: Currently people who left Despegar, Mercado Libre, and BBVA, are working with Increase and are part of what we do. I believe the talent evolved as well as the founders, as the company required us to. The same thing with the investors. In our first stage, we received $150,000 from an angel investor plus our own funds. In the second stage we did a fill round of $600,000 and the last year we did a $3 million series, mostly focused on expanding. One of the investors was Steve Case, the founder of America Online, the first public tech company in the US. You can tell there's an evolution in the founders, the investors, and the responsibilities Increase requires.

Agustín: How did you draw Steve Case's attention?

Sebastián: Last year we won a Google program. The Google Demo Day for the whole of America, in San Francisco, and one of his partners was there. At the time, he said, "I'm interested," and after working it out a little, they ended up confirming the investment, and today they're partners. Also, Mercado Libre, Supervielle, and Agrega are investors in our last stage.

Agustín: You mentioned the Demo Day, you competed with projects from all around America?

Sebastián: Yes. Last year Google had its second Demo Day. They were all American, Canadian, and Latin American companies. We won this contest. The same thing happened before with Visa, honestly, I appreciate everything we receive and we're constantly trying to improve the entrepreneurship ecosystem. We won an IADB (Inter-American Development Bank) program as well, and a Visa Latin American program in 2016, and that has opened more doors for us to keep working with bigger companies, which has helped us grow.

Agustín: And in this Demo Day, you were showcasing your product?

Sebastián: Yes, we showed our product, but mostly the vision of what we were doing and what we did to get there. How we got more clients, how our product evolved, what problem we solve, why commerce and companies don't have the many problems technology can solve.

Agustín: This problem you faced of the reconciliation of credit cards, you mentioned that it doesn't happen everywhere in Latin America, so I wonder, does it happen in New Zealand, Australia, and the US, too? Or is it different there?

Sebastián: The problem is different in Australia, New Zealand, and the US. Payments are way more organized and everything is paid in 48 hours. This also happens in Spain. Nevertheless, we can add value with the discounts. In Spain, a trade can pay 0.8% or 3.5% depending on the acquirer you use. Payment dates are not a big issue, but discounts are, chargebacks are, and also the information integration you can get from an acquirer and the system each one has. People's work often consists of simply downloading files from one acquirer and putting them into a different one. But they don't have the links to connect them and make the information flow. So we can add a lot of value to the markets. We're not currently looking carefully at them yet, because the opportunities we have in Argentina and in the whole of Latin America make us keep focusing on growing in this part of the world.

Agustín: On the regulatory level, I can imagine one of the problems you have in Argentina, or in Latin America, is that the regulators are not asking for the cards to provide enough granularity. What's your opinion about the regulators?

Sebastián: In 2016, we asked the central bank to create an innovation group where the fintechs and the banks could work together. That innovation group was quite successful and it became the Fintech Chamber, of which we are one of the founding members. In terms of regulation, it's still pretty far behind. Compared to Europe, the most evolved one in my opinion, I don't know if we're 6, 8, or 10 years behind. There's no granularity in the information APIs available. We do have an API, so connecting to the different banks or cards or processors is something that only in 6 or 8 years will actually be possible.

Agustín: Yes. It feels like there is a regulation arbitrage. There are companies that are born because the regulation doesn't allow things to be simple or efficient. But I can imagine that you want Increase to keep being the company that they choose even when APIs exist and everything becomes more efficient.

Sebastián: Yes. Let me tell you about something that happened with VisaNet Uruguay. We proposed and have had a lot of work together with Uruguay's central bank, because of the proposal we did with Visa, they approved how to arrange the information. They're closing in on it, but it's so far from happening in Argentina. We still haven't been able to do it. We created the innovation group, the Fintech Chamber, but there are still so many previous problems that we have to fix, like personal identity, information security, SME laws, entrepreneurs' laws, and many other initiatives that we've been working on for the central bank to regulate. The break in the duopoly of Prisma and Expert Data may be significant. But that is a particular case, it may have nothing to do with this whole situation, but last week it was confirmed that Prisma, with a quite monopolistic position, was sold to Advent. The innovation there was complicated as well. I think sooner or later all these things will be allowed, and at the same time we, as a company, will keep evolving without feeling comfortable with the things we've done, instead we'll think about everything we still must do. Getting involved with credit, creating a sales forecast, there are many products that we're still working on.

Agustín: Do you get involved around preventing fraud and analyzing information, how to provide insight to the industry? Is that in Increase's agenda?

Sebastián: It is in the agenda and we're making a huge migration. Last year we worked a lot on the data. There are two people working on it, one is in Spain and the other one is based in Argentina. There are two tools. One is for preventing fraud. We currently analyze more than 15 million transactions per month, where they are approved, rejected, refunded, and their chargebacks. It's not being developed yet, but one of the products that companies ask for is a list where you can check a card before authorizing a payment, or its history, if it had a lot of refunds or chargebacks. This is sensitive information that you can use to create an interesting score to preapprove it or reject it. The other thing is what you mentioned about analyzing information to understand the purchase patterns. By industry, by geography, by cards, by banks, we share a report monthly containing a lot of our information, which can be analyzed. We don't have a product for commerce, but it is on the pipeline.

Agustín: When looking at your latest round, what do you want to dedicate the funds to? Regional expansion? Product development? How do you want to grow?

Sebastián: From all the investors we have, some are corporations like Telefónica, Supervielle, Mercado Libre, we are asked to ensure we don't get tied to Argentina's economic ups and downs. They all share the vision of what technology commerce needs. We picture ourselves getting involved with processing payments, although some have a lot of experience already. We don't picture ourselves borrowing funds from our balance sheet, but creating a system to compare rates, so the trades can be directly accepted online, that's something that we're actually working on, there's going to be an MVP [minimum viable product]. But mostly what the investors see is, on one hand, getting back what we've done in 2023 or 2025, and on the other hand, support on the vision of what we're developing in the products.

Agustín: So you're thinking of not breaking even for at least four or five years?

Sebastián: We were profitable before every round. We always had a positive EBITDA [earnings before interest, tax, depreciation and amortization]. After confirming the round, we went down. Currently, we have negative EBITDA, but our goal is to go back to a positive EBITDA early in the next year, before our next round. Capital search is fragile, especially in Latin America, needing the funds for the paychecks and operational costs. In the last round, we got $3 million, EBITDA was positive, it then became negative and now we want to be profitable again to make a round with a positive EBITDA, then make it negative again, then return. I calculate that before 2023 we'll be positive again and negative again two more times.

Agustín: How hard is it to be an entrepreneur in Argentina?

Sebastián: I was an entrepreneur here in 2005, 2006, with a tourism agency, then in New Zealand and the US, not a sole entrepreneur, but a partner. Then I did the same here in Argentina. It's hard, it's not easy at all. It is known how hard it is, so a lot of people help, but as an Argentinian I wish it were easier and more people would consider it as a profession after they finish high school, or when they feel like they can take some risks. I believe Argentina would be a better place if people solved their problems as an entrepreneur does.

Agustín: I've noticed there are plenty of entrepreneurs in Argentina, compared to Europe, but mostly because of a necessity than because of anything else.

Sebastián: Sure. Also, there are many problems to solve.

Agustín: When you need help or you needed to learn something, who do you ask for support?

Sebastián: I usually prefer to be self-taught. Before going to someone I try to find the solution by myself. I found support in people close to me though, mostly my wife, but also some of our investors. We have a good relationship and I trust them enough to tell them about problems or situations that, even after evaluating them for a while, I haven't managed to solve; and in my partners who I work with every day, and the strategy team.

Agustín: What is the biggest challenge for you to keep growing?

Sebastián: Developing the regional expansion and adding more talented people to the team.

Agustín: When you talk about adding talented people, how do you do that? What are your standards for choosing people? You have 45 people working with you now and it's not the same as when you started, when you were the one doing everything.

Sebastián: I have a recruiting team, there's a process that they follow, that we got from training with Google. Then there's an induction process. Last year we grew twice as much. By the end of 2017, we were 18 people, and we ended up having 38 or 39 the next year. Only one person who joined us then is not with us anymore. The process works well so far. I still dedicate an important amount of time to the interviews and to know people. Often, we know people who are proficient and we show them how it would be to work for a company like Increase. There's a career here, in that we run faster, which is almost the main way we can compete. The invitation to join Increase is to draw your own path and to understand the impact of all the decisions you make along the way. People in Increase share together outside the company too. This is really valuable for the kind of people who want to make things with a vision of creating value in the clients and users, and in the society we live in.

Chapter 38 Joel Perlman

Company name: OakNorth

The bank for entrepreneurs, by entrepreneurs

Location: London, United Kingdom

OakNorth's mission is to enable entrepreneurs worldwide to access customized mid-sized loans. It offers balance sheet lending in the UK, and licenses its lending platform, *OakNorth Analytical Intelligence*, throughout the rest of the world. Like many fintechs, OakNorth has succeeded in attracting a lot of customers and a lot of investment (over $1B—ranking it as one of the most well-funded fintechs globally). However, what sets this fintech apart from most is the fact that it's profitable—and how quickly it got there. The business reached breakeven cash flow in its 11th month. Since its launch in 2015, it has become the fastest growing fintech in assets, valuation, and profits.

Roles: Joel Perlman, Senior Manager

> *We started a fintech business because of the negative experience we'd had in trying to secure debt financing.*

Agustín: How did your partnership with Rishi [Rishi Khosla, co-founder] begin?

Joel: Rishi and I met at the LSE [London School of Economics] while we were studying for our master's in accounting and finance. After we graduated, I went on to work at McKinsey & Company and after a few years, started a dot-com incubator with one of my brothers.

Rishi went into private equity, working at GE Capital, where in his early 20s, he pitched the idea of a "fintech" fund (it wasn't called "fintech" back

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then) directly to Jack Welch. He was later recruited to run a venture fund for LNM India Internet Ventures.

Once we reached our late 20s, we were keen to start something of our own and take the leap into entrepreneurship. We launched Copal Amba in 2002—it was a financial research outsourcing business. We had just £40k of startup cash but over a period of 12 years, built that business to almost 3,000 employees across 11 markets.

In 2014, we sold the business to Moody's Corporation, returning over 100 times the investment for seed investors.

Agustín: Very impressive result! How did you decide to create a financial technology company?

Joel: The reason we started a fintech business was because of the negative experience we'd had in trying to secure debt financing for Copal. We were four years into the business and were looking for growth capital to scale. We had good cash flow, a strong client list and were profitable so we didn't want to go for equity financing and dilute our equity. However, the best offer we could get from a UK high street lender was £100k and only if it was secured against property. Over the next 12 months, we went to the US several times and were able to structure a dividend recap for £10m. Over the next eight years, we met numerous entrepreneurs who'd had a similar experience when it came to borrowing, so we decided to try and tackle the issue with OakNorth, creating a business that enables small and medium-sized businesses around the world to obtain the debt financing they need to grow.

Agustín: OakNorth broke even almost immediately. How did you achieve this and what can people learn from it?

Joel: We reached cash flow breakeven and had repaid all of our accrued losses within 11 months of launching, and in 2017—only our second full year of operations—made £10.6m pre-tax profit. Last year, profits increased 220% to £33.9m.

The speed at which we have been able to grow our core SME [small and medium-sized enterprises] lending business, coupled with the operational agility and smarter credit analysis/capabilities that our IT environment offers, has played a fundamental role in enabling us to achieve profitability this quickly.

In May 2016, we became the first UK bank to be fully cloud-hosted after months of working with the regulator and Amazon Web Services (our cloud-hosting provider) to push the regulation forward. According to an executive at

Mambu,[1] this resulted in a 60 percent decrease in core banking platform costs, mostly attributable to the availability of AWS's automation tools to manage our daily processing environment, and to apply system upgrades seamlessly. Today, if you're a fast-growing, profitable UK business, looking for a loan of £500,000 to £40 million, or a non-UK bank looking to improve your SME lending offerings, then you should connect with us.

Agustín: What do you recommend to be the best exit strategy when owning a fintech business?

Joel: Rishi and I always say "run your business like you'll be running it forever" so essentially the best exit strategy in our opinion is to not have one. Taking this approach ensures that decisions are made for the right reasons and for the long term. You see so many businesses where members of the leadership team are drafted in for a tenure that's unlikely to last more than a handful of years. As such, decisions are taken for the short term without due consideration for the longer-term implications.

Agustín: What mistakes did you make that you have learned from?

Joel: I wouldn't say it's a mistake, but it was a challenge that we had to learn from. It was learning that some things that worked the first time around in the early 2000s no longer worked. The world had changed dramatically and was significantly more tech-oriented. The workforce was now filled with millennials, who needed different types of incentives. The business model required new and different skillsets. We had to unlearn some of the very approaches that had made us successful before.

Agustín: What specific piece(s) of advice would you give to somebody who wants to start a fintech?

Joel: *Don't sell too soon.* As my and Rishi's first business (Copal) grew, we began to get noticed. We had one offer to sell for a million dollars that we considered. Luckily, that buyer walked away. Then, in 2006, we had another offer for $20 million. We thought seriously about selling the company then—it was quite a lot of money and tempting, but we decided not to sell as we knew we had way further to go. By the time we did sell in 2014, we had a nine-figure deal that would return over 175 times the capital to our original investors. So my advice would be to think about ways of taking cash out of the business

1 https://aws.amazon.com/solutions/case-studies/mambu/

without having to sell it. For example, a dividend recap allows founders to take cash out without having to sell their business.

Too much money in the bank when starting out is a bad thing. When a company has too much capital available up front, it tends to be built on fundamentally bloated cost structures. Spending more money than is necessary becomes a part of the company's DNA and changing this is hard. Having little to no money forces businesses to operate from a mentality of scarcity, and these businesses end up operating much more efficiently. Rishi and I started Copal with just £40k so even though it was much easier to raise capital to start OakNorth, we still took a very frugal approach, ensuring we didn't spend a penny more than we absolutely needed to. That has remained our philosophy throughout the journey so far and as a result, we've managed to turn a profit very quickly.

Make your employees investors. One of the best decisions we've made is giving our team the opportunity to *buy* equity, rather than just giving it away in the form of bonuses. Our teams have invested circa £3m in the business. When someone has skin in the game, it completely changes their mindset. They start to think like an owner in the business.

Agustín: Where do you see the SME lending sector developing in the future?

Joel: I think traditional banks will still be around in hundreds of years and will still be an option for SMEs looking for a loan. However, I think businesses' attitudes and expectations toward them will have changed. Most businesses still treat their bank as a one-stop shop, keeping most of their financial products with just one institution, rather than shopping around for the best products and services for their needs. In the future, I think we'll see businesses banking with multiple providers—that is, they might have their current [checking] account with one, their savings account with another, go to another for a loan, another for a credit card, and so on.

The expectations of businesses will have also changed—I think they will expect speed at every stage of the lending process and will no longer stand for waiting for several weeks to get NDAs signed or months to get a decision on their loan.

Chapter 39 Tim Fouracre

Company name: Countingup

Location: London, United Kingdom

Countingup provides accounting and banking solutions for small businesses, all in one place. It helps SMEs manage and grow their businesses with more efficient administration. Accounting can be a real headache for small businesses and there is a huge gap in the market for solutions that will make the process better. Tim has a strong belief in combining banking and accounting and has previously done a great job for Clear Books accounting software.

Roles: Tim Fouracre, Founder and CEO

Capital builds business so I believe the primary role of a CEO is to raise capital.

Agustín: Tim, you have a background both in accounting and in software development. How did you get started in fintech and how can others learn from that?

Tim: My first ever job was as a web developer and I later qualified as a chartered accountant at KPMG. Being able to code is an amazing asset because it means you can create any kind of web technology business, providing you have a good idea! Having experience in a profession, such as accounting, provides the domain expertise to focus your business ideas around the profession you know. So it was the combined career path of web development and accounting that led me to start my fintech, Countingup, a business current / checking account that automates accounting.

Agustín: What mistakes did you make that you have learned from?

Tim: With hindsight we wouldn't have wasted development time building a wait-list into our app from the outset. We thought it would be a good way to

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create scarcity and therefore demand, as well as a way to manage card production volumes. In a business-to-business environment it became a bit of a conversion killer, so we ditched the code and just let businesses sign up immediately.

Agustín: When did you feel you had a breakthrough that pushed the business forward?

Tim: Two early breakthroughs were launching quickly in production and gaining customer traction. We soft-launched our business current account within five months of starting development work. To actually have an app with a real sort code, account number, and physical Mastercard was a fantastic achievement. We then had several quiet months until our next breakthrough: customers signing up in large volumes. The fact that we had significant customer growth was a very positive signal that venture capitalists needed to back us in our seed-funding round, and they did.

Agustín: How difficult has it been to find investment for your business?

Tim: Capital builds business so I believe the primary role of a CEO is to raise capital. It's therefore an ongoing process for me. Countingup's first two rounds of funding were both oversubscribed so, in that sense, it may appear easy. The reality is the process involves a lot of conversations with investors, lots of pitches and lots of noes before getting to a yes. It goes without saying that investors are looking for businesses that have large addressable markets, which provide unique offerings with unit economics that are profitable, and who are executing rapidly.

Agustín: What specific piece of advice would you give to somebody who wants to start a fintech? Who did you rely on to get started?

Tim: This applies to any business—it's all about the idea. I've had lots of entrepreneurial ideas over the years and I've believed my ideas were all brilliant. However, my wife has agreed with me on only two of my ideas. Her words were fairly uninspiring too, "yeah, that could work." The countless other ideas she shot down and crushed my excitement each time! You need someone who is going to give you that honest feedback and not pull any punches. This is difficult to find because most people will default to being supportive of your new adventure. The two ideas my wife didn't dismiss out of hand were the two that went on to become successful businesses.

Agustín: How will Countingup compete against big banks that want to get into accounting and accounting software providers that want to get into banking?

Tim: Countingup is a new simple way of running a small business. It's your accounting and banking in one app. This "accounting bank" concept is a new category that will disrupt the incumbents in the accounting and banking world who integrate with each other. Our biggest advantage is this unique selling point of providing a business current that automates the bookkeeping and lets you submit a tax return in real time.

Chapter 40 Nicolas Reboud, Raphaël Simon

Company name: Shine.fr

Location: Paris, France

Shine provides a banking account for independent workers. It helps with accounting and administrative tasks (invoicing, receipt management, tax calculations, and more). Shine even allows freelancers to register themselves as self-employed. It has signed up more than 30,000 members, with 4.8 rating on the App Store, without any marketing.

Roles: Nicolas Reboud, CEO; Raphaël Simon, CTO

> *Current offerings were so bad that most independent workers didn't even have a business account.*

Agustín: How did you get started in fintech and how can others learn from that?

Nico: We started by realizing that the admin tasks were one of the main burdens for freelancers. We set out to build an "admin copilot" for freelancers, and quickly realized that we needed the banking information in real time to build what we wanted. Then, when we explored our competition, we realized that the current offerings were so bad that most independent workers didn't even have a business account, and we decided to build it ourselves.

Agustín: When did you feel you had a breakthrough that pushed the business forward?

Raphaël: One day, we had one (happy) user on the phone, and to the question "what do you like about Shine," he answered "I don't know, I just have the

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feeling that if I have a problem you'll be there." That day we realized that we built a special relationship with our users, and that this was the right thing to invest in.

Agustín: What mistakes did you make that you have learned from?

Nico: In a previous company, not raising enough money when we had the opportunity was our biggest mistake. For our first round, we were offered a comfortable series A amount, but thought that given our current growth (+60% month over month), we would only need a couple hundred thousand euros. We thought that we would then be able to aim for a much bigger round six months later. Things didn't go as planned—we had a very difficult time the following year: running short of cash, not being able to invest in core projects, and not being in good shape to raise another round. In retrospect, we had probably been overconfident at that time, and not entirely honest with ourselves. We didn't understand our growth well, and got caught off guard when we realized that there were seasonality effects at play. Time will tell for Shine, it is too early to say at this point.

Agustín: How difficult was your process of finding investment for Shine?

Nico: Since Shine is not our first venture, it was easier than with our previous companies.

Shine is actually the third company we started. For the second one, we had an advanced discussion with a fund that wrote us a term sheet. We thought they were great, but we decided to go with another fund that offered less money but for a much lower dilution, which turned out to be a mistake. So when raising a seed round for our next venture, we naturally went to the same investor first, and tried not to make the same mistake. We raised a significant amount of money for a seed round (€2.8m), and obviously these investors were more comfortable investing in us at an early stage since they had seen our work before.

Agustín: What specific piece(s) of advice would you give to somebody who wants to start a fintech?

Raphaël: Find a specific target that is not well served by traditional players and bring them innovative services.

As a startup working in the financial sector, we have had the opportunity to reinvent services from the ground up, starting from client needs, in a very different way than what traditional players would. In the case of Shine, it's a mix between banking, accounting, customer management, and legal. A banker would probably be more stuck in their own field, whereas we can build hybrid products that serve a specific target better.

Agustín: How do you see the small business banking space evolving? Who will rule this segment in the future?

Nico: For small businesses, service and customer care is key. The winners will be the companies that manage to offer a premium service at scale.

Our service is very personalized by nature. It all revolves around notifications, and automation. We send notifications to our users when they need to declare taxes, when their clients are late in their payment, of every time they make a payment and need to upload a receipt.

We add to that an excellent customer care service that relies on a very thorough FAQ, that goes much further than explaining the behavior of the app. It also answers questions about the administrative tasks our users face. We also spend a lot of time developing the tools our customer care agents use.

Chapter 41 Johan Lorenzen

Company name: Holvi

Location: Helsinki, Finland

Holvi combines modern technology and user experience into banking. With Holvi you can sell your products online, send beautiful invoices, and track your cashflow in real time. All in one simple to use offering. They help you to see your money transactions in an effortless, human-readable format. Holvi makes it easy for you to understand and share your finances.

Roles: Johan Lorenzen, CEO

> *We had a fast-growing and loyal customer base, proving that an underserved segment like small and micro business can effectively and profitably be served across Europe.*

Agustín: How did you get started in financial technology?

Johan: My path in fintech started from a tech and product perspective. I participated a large bank infrastructure project years earlier and recognized a large gap between how banks and financial products work and how we fundamentally behaved as consumers and how technology could bridge that gap to build better solutions at lower cost and bigger markets. Working on other payment systems and infrastructure projects for more banks, I recognized this to be an industry-wide problem.

Being a tech entrepreneur and venture capital investor, I learned how to build and fund high growth teams and companies systematically, which has led me to building an active portfolio of fintech companies of which Holvi was the first.

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Agustín: When did you think of starting Holvi?

Johan: During 2012 I was actively looking at ways of combining low-cost tech with large financial markets based on the newly issued updates to the payment services directive. I had earlier been focused on small business-oriented start-ups and recognized a sizeable underserved customer group in the small business segment.

I then meet Tuomas [Toivonen], Mikko [Teerenhovi], and Kristoffer [Lawson] who were already working on Holvi as a PSD1-based product aimed at group accounts, we kept talking about how to build a "bank replacement" which led to me joining the team as CEO about a year later.

During 2013–2017 we then pivoted the product and focused entirely on serving small and micro business and building the tech stack, product, and team. We also became licensed in Finland and internationalized to three more European countries.

Agustín: And then you had an early exit, right?

Johan: Yes, that is true. Holvi was fully acquired by BBVA [Argentine bank Banco Bilbao Vizcaya Argentaria] during March 2016. Holvi was both one of the first bank challengers to emerge and also marked the first European neobank to be acquired by a global bank.

Agustín: How did the acquisition happen?

Johan: We always had great respect for BBVA and viewed them as global leaders both within fintech and digital transformation. Very few banks really understood both the "fin" and the "tech" part of our industry as well as BBVA.

At this time, we had gained a foothold in Germany and several other European countries and were looking for partners to accelerate our scale internationally, and partnering with BBVA offered a very ambitious and global option to realize a joint vision.

Agustín: What made Holvi such a unique company at the time?

Johan: Holvi really achieved a lot of progress and early proof points for our industry, both in building a good model and breaking ground in customer adoption for a challenger bank. We also wrote a substantial part of the playbook and operational model for neobanking, using modern cloud technology and regulation.

Most of all we had a fast-growing and loyal customer base, proving that an underserved segment like small and micro business can effectively and profitably be served across Europe, but most importantly we had built an excellent and diverse team that could produce the vision.

Agustín: How did you go about funding the business?

Johan: A critical challenge that we overcame in the beginning was that fintech at the early stages did not entirely fit the traditional venture capital model as we were not a typical tech startup.

Today that problem has mostly been solved as venture capital evolves, but during the early 2010s building tech companies had become much cheaper, and the low cost encouraged many to focus on emerging consumer SaaS/ Mobile markets, and most tech VCs were very good at evaluating risks in terms of tech, product, market, team, and setting a price compared to size of the emerging market the company was approaching and the revenue they generated.

Fintech, in contrast, had large and well-defined markets, but also much higher initial cost as you spend considerably more time, money, and effort in getting the company off the ground, acquiring licenses, creating partnerships, and getting access to necessary infrastructure, plus you had to evaluate other risks, such as operating a within a regulatory framework and handling customers' money.

To solve this, we relied on angel investors who understood the financial industry. We later worked with Speedinvest who early on specialized in fintech, who had built a significant portfolio of fintechs, and understood both the risks and upsides of our industry.

Agustín: If you could go back in time, what would you have done differently when you started Holvi?

Johan: We could have optimized our timing to launch the company. Holvi was early into the fintech space and based on newly issued regulation. As first movers, we spent a longer time and more funding getting the first technology, licenses, partnerships, and ultimately international operations in place because we were literally writing the playbook and operating model for neobanking as we went ahead.

During the early stages, we were a small team that had to work in many different areas, and we were building a relatively large product that spanned many areas which were great learning but also very hard work. Securing the capacity to hire more senior people earlier would have been a great help is speeding things up and navigating multiple markets.

Agustín: You left Holvi after the acquisition. Why? And was this agreed with BBVA?

Johan: This was my personal choice and agreed with BBVA. Taking Holvi from a seed-stage startup in Finland to an international growth company was a gratifying journey that brought a wealth of experience. After the first year of BBVA ownership, Holvi was doing well and in good hands with the team and BBVA, and while Holvi was located in Helsinki, Finland, I had a young family in Copenhagen, Denmark, who I wanted to return to.

Agustín: What came next for you after Holvi?

Johan: I am living in Copenhagen and deeply involved in building fintech companies in Europe and the Nordics. The Nordic region has a lot to offer in fintech especially, as digital environments and consumer patterns are very advanced. There is also the modern regulatory environment and an ever increasing community of great entrepreneurs.

I was lucky to gain unique insider perspective both from being an entrepreneur and leader of a fintech startup that was acquired by a global bank, seeing the bank from the inside, in contrast to building and financing nimble self-contained offerings.

Today I'm building a portfolio of regulated fintech companies aiming to reshape large markets and asset classes to work for the customers. Currently, I am focused on areas such as pensions, real estate, capital markets, open banking, and wealth transfer. I enjoy helping to build ambitious visions as both active chairman, board member, and investor. I usually get involved during the early stages when a fast-moving project has to move from concept to scale and internationalization.

A couple of these include, for example, Granhood, a regulated asset manager providing occupational pension solutions; Nordic API Gateway, an account information service provider of open banking infrastructure; Spiir, a PSD2-based personal finance manager; and Brickshare, an alternative investment fund that develops a digital real estate investment platform. I am always looking for new innovative ways to shape the fintech world.

Agustín: Thank you so much for your time, Johan.

Chapter 42 Sean Yu

Company name: Paraşüt

Location: Istanbul, Turkey

Paraşüt provides financial management software for SMEs in Turkey. Paraşüt has introduced a powerful SaaS (Software as a Service) solution to manage the day-to-day activities of Turkish firms. They have pioneered software in a market that has more than three million small businesses, winning several awards along the way.

Roles: Sean Yu, Cofounder and CEO

> *We created an online solution, software as a service, which made it affordable, which made it easy for small businesses to use.*

Agustín: How did you get started in fintech?

Sean: I started my career actually in finance. I studied economics, a Harvard graduate in 2006, and after that joined Lehman Brothers in investment banking in New York. I was there for about a year and a half. If you remember, Lehman went bankrupt in September 2008. I left the company in March 2008. I was recruited by a private equity firm in San Francisco and joined them in March, worked there until about June 2009, so about a year and a half, and by that time my interests sort of diverged. I originally studied economics because I was interested in economic development. The reason I was interested in economic development was that I grew up in a small town in China and observed the opening up of China and the effect that economic development had on living standards in China. That left a pretty big impression on me. During 2009, I decided to really think about pursuing something in that field, but I was not quite sure where to get started. I wanted to

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do something in economic development. I was thinking at the time that I could do something with the World Bank or some economic development bank; I could go back to school to do a masters or PhD; or I could work for an economic development NGO [non-governmental organization], and I ended up choosing the latter. I joined an NGO called Endeavor, and I wanted to work in their headquarters in New York; but I also wanted to work in the field. So I joined Endeavor's office in Turkey. I had been in Turkey before and thought it was a very, very interesting market. Endeavor's development model is that they try to work with entrepreneurs who set up startup ecosystems in emerging markets. They work with entrepreneurs, work with business leaders, the government, financiers, top leaders, and promote this idea of development through entrepreneurship. They worked with a lot of first-generation successful entrepreneurs in Turkey and I started really liking entrepreneurship; started looking at the market, at what was possible. Turkey is largely a SME-based market [small and medium-sized enterprises], small businesses make up 99% of the companies here, but they're run pretty inefficiently; there was not a whole lot of technology for them to help their businesses. I thought that with the Internet infrastructure, with mobile penetration, it was a good time to introduce software as a service and a fintech solution for this market to help SMEs. Naturally, when you start thinking along those lines, you start thinking about accounting software, bookkeeping software, ERP software, so we started doing financial management. You can call it online accounting or online bookkeeping. We started Paraşüt in 2013 for small businesses here. So that's kind of my story.

Agustín: What does the name actually mean? Paraşüt?

Sean: Well paraşüt is parachute; it's the Turkish spelling of parachute. The idea here is a bit of a play on words because 'Para' in Turkey means money, you know, the beginning four letters mean money, but the idea, the thought we wanted to invoke was that if you are a small business owner you are quite adventurous, you're risk taking, you're quite brave. We wanted to provide a tool for you when you are trying to fly, when you are trying to soar as an entrepreneur. We wanted to provide you a parachute to help you get there. You're taking a leap of faith in terms of starting your business, you believe in yourself, you want to create wealth for yourself, your family, your employees, so bring a parachute along. That was kind of the image we wanted to create.

Agustín: I've had some friends who worked at Endeavor, I'm wondering how it helped you to create a business plan and get the business started.

Sean: Sure, I mean before working at Endeavor, I never really entertained the idea that I would be an entrepreneur to be very, very honest. So, as sort of an Asian-American growing up, we're pretty risk adverse as a culture. I was growing up thinking I would be a doctor or a lawyer or a banker—which is what I ended up being—or an engineer or something like that, but definitely not an entrepreneur. So Endeavor was the first organization that actually introduced me to entrepreneurship, and I found it quite exciting that you could see a problem in a market, and you can create a business to address the problem. It kind of made sense and was a practical way of earning a living, but also made sense as more of an idealistic way of solving problems in a sustainable, creative way. Without Endeavor I don't think I would have been an entrepreneur. But, of course, through Endeavor, through working there, not only did I have many good role models from successful entrepreneurs in the market, not only was I introduced to many different models out there, but also the connection to investors, to business leaders in this market, really helped me get started.

Agustín: The other fact that strikes me is your location in Turkey. An Asian-American landing in Turkey, a completely different culture and language. How did you find that?

Sean: When I came, I was twenty-five or twenty-six, so I think when you're that young you're a bit naive to all of it. I never thought it was a problem, because if you don't think it's a problem it isn't a problem. I think Turkey and Turkish people are very open to foreigners, especially if you have something to bring to the market. I found it quite hospitable to create a business, but of course just going, navigating through the day-to-day things, navigating to oversee our legal issues, I have had help. I have two cofounders who are Turkish and I was able to hire a pretty great team that complement me in the ways where I can't really do much due to what you just said.

Agustín: Have you learned Turkish?

Sean: I have, yes, but it's quite embarrassing when I speak in it, so I confine it to ordering food, going to restaurants, taking a cab, but when it comes to business meetings I'm very reluctant to speak in Turkish. That's a handicap I have.

Agustín: I'm sure it's not that bad. So what is the elevator pitch of Paraşüt?

Sean: We are an online bookkeeping software company for Turkish small businesses. Turkey is a market of three million businesses, of which 99% are small businesses. Right now, these businesses are managing their day-to-day financial operations with paper and pen, but they do have computers, they do have Internet, they do have smartphones. The reason why they're managing their business backward, so old-fashioned is that, up until we came along, there was no software available to them. Software that was in this market were on-premises software which made it too costly, too hard to use for small businesses. These on-premises software packages only attracted the medium and large enterprises. We came along, and we created an online solution, software as a service, which made it affordable and made it easy for small businesses to use. Of course, because it is software as a service, we really thought about a lot of the design elements that make it very easy for small businesses. We think about integration to all their different needs, such as integration to their bank, integration to other systems, and to make this all one package for all different SMEs. We started the company at the end of 2013, launched the product in 2014, and as of end of 2018, we have over ten thousand customers.

Agustín: I'm wondering about the product that you offer, you talked about content integration.

Sean: If you think about it, all small businesses need to track their cash flow, so let's break cash flow down to receivables and payables. We help small businesses manage their receivables and payables. On the receivables side, we have e-invoices that they can send out to replace their paper invoices. We have credit card payment that their customers can use to pay for their invoices; we help them track these invoices; make sure that they collect these invoices on time. On the payables side, we collect invoices from suppliers. We help manage their company expenses through bank integration, through credit card integration; we help them manage their out of pocket expenses. We help them understand their cash flow by helping them stay on top of their receivables and payables.

Agustín: What is the business model? Is it a subscription-based model that you apply?

Sean: Yes, it's a subscription, so you can think of it—in terms of the dollar—in terms of about fifteen dollars per month.

Agustín: And for fifteen dollars you get everything that you have to offer?

Sean: With fifteen dollars you get the software; on top of that we have other services that you can use. For example, if you use e-invoices, you buy credit to be able to send and receive the invoice, sort of like cellphone minutes. Then we have other services available through our app store, things that will help you with your payroll, things that help you with tax and creditors, things that help you if you want to integrate to ecommerce marketplaces or platforms, and so on and so forth.

Agustín: I'm very curious about the Turkish market. There has been a lot of great innovation in Turkey and I'm wondering, from your point of view, why is there so much good work coming from Turkey?

Sean: The market is a medium-size market, so on one hand it provides a big enough market for opportunities. On the other hand, unlike a smaller country where you have to think about creating a global business from Day One, you can get traction here without taking it global first. It's kind of a mixed bag. The Turkish market, as well, is not the size of the US or China and it's not well-integrated into the EU. Those are some of the limitations. What that means is, for our business, there are three million customers here and we still have very low penetration. For the foreseeable future, we're going to be focused on growing in this market. If we were starting off in Europe, let's say in a smaller country in Europe, we might then create a platform that complies with e-regulations, which then would allow us to address the entire EU region from the get-go. That's a disadvantage of offering in a Turkish market. The advantage, of course, for our business, is that international companies would have a very hard time penetrating our market because the set of regulations is different from other places. In this market in fintech, the banks have dominated. The banks have been very innovative in Turkey versus the US or in Europe. I think a lot of the fintech opportunities since 2008/2009 were created because there were opportunities that the banks were not addressing or addressing in a less than ideal way. Fintech companies started to address consumer or business needs better. In Turkey, online banking/mobile banking is quite efficient. Then there are also regulations here that are a little bit too conservative. So, unlike the US or the EU, where regulators are thinking about how to work with fintech companies and, similarly, innovation there—although the regulators here are thinking as well—Turkey is a little bit behind where the US and EU are, so that's a limitation as well. On the one hand, the innovation is here, especially from the banks in this market; on the other hand, it's hard, as a fintech, to spot opportunities in this market.

Agustín: Who do you consider to be your competition? Is it the Turkish banks or are there other firms like Paraşüt?

Sean: When we started, we considered Excel or paper-and-pen as our competitors. We were saying that this is a more efficient, better way of managing business than trying to create Excel spreadsheets that can break and that can get lost, or than trying to write all your accounts down in a book, which is hard to use, hard to search, hard to tally. Those are our main competitors. Since we started, we were the pioneers of software as a service in the market. Since we started, there have been other startups, other copycats, trying to do what we do. The traditional software the on-premises guys making ERP [enterprise resource planning] solutions for medium and large enterprises thought that the opportunity for software was only in their market segment, but since then we have proven them wrong, so they have also tried to enter the small business market.

Agustín: When did you first think this idea could actually work? What moment did you think, "This is a really good idea"?

Sean: In all seriousness, it is in some ways a pretty obvious idea. You're a business, and so you're going to have to manage certain things. If you have software, it's easier to manage. Now the technology that allows that to happen for software as a service is the Internet. So, if you have the Internet, you have mobile, you have software as a service. In many respects it's quite obvious and we're clearly not the first company in the world to do it. QuickBooks with their QuickBooks online; Xero, with software as a service for accounting; you know, there are many other examples in the market that have been quite successful.

Agustín: Yes, the idea is clear but was there any milestone when you thought, "Actually I'm doing a good job here"?

Sean: I'm never clear if I'm doing a good job or not. It seems like other people are telling you, such as having ten thousand customers, having market recognition, having copycats in the market, having awards that have been given to the company, when it seems like the outside world is telling you, "Hey! You're doing a good job." But as an entrepreneur, you always feel like you're not quite sure, there are always better things you can do, higher milestones you can reach.

Agustín: Yes, totally understandable. In terms of the growth of the company, what was it like for you to come from a very small team and to have to grow that team as you've grown Paraşüt considerably?

Sean: Right. Well, you know, it's also an interesting thing. While you are working at it you don't feel like you yourself or the team has grown, but when you look back, there are a lot of changes, both in personal growth and growth within the team and the way we do things. There are certain events that would sort of be a reminder that, "Hey, we need to do things a little bit differently." There were certain ways we were thinking at the very beginning of our company, but we're thinking in very different ways now. So at the beginning of the company, you're an entrepreneur, you're trying to get things done; you know that there's complex management, leadership, and you think you're doing a good job. Then when conflicts arise, it's a really telling time, "Hey, this is the time when we need to do something a little bit differently; you need to do something," you just gather yourself a bit.

Agustín: How has your role changed, because now you have . . . how many employees do you have now?

Sean: We're sixty people right now.

Agustín: Yes, so I can assume that your role has changed significantly from those first days.

Sean: Absolutely. Now we're at a size where I don't quite do the day-to-day things, but I have a tendency to slip back into the day-to-day things, just because that's kind of my nature and I'll try to hack things, getting them done myself. I'm always reminded, right now we are finalizing next year's plans, getting our structure in place, aligning with different teams, setting the vision for the future, communicating that. I'm always reminded that's my role, my role as someone who works for the team—sets the vision, communicates that vision—and my role is as a role model, as a leader, getting people motivated about what it is we are working on. My role is to recruit the right people, build the right departments, and let them do their stuff; my role is not to be too hands on.

Agustín: Finally, I'd just like to know whether you are happy in Turkey, or are you looking at moving out of there?

Sean: When we started, one of the hypotheses was that the Turkish startup scene was still new, that we wanted to create a successful example, especially a software and fintech example for the market. That was one of our goals and I think we've done that. Because the Turkish ecosystem was new, we needed to figure out an area where we could actually have a competitive advantage against foreign companies and one of the things is that it's more localized; and I thought there was a tradeoff here as well in fintech and in accounting. Now that we've grown to a certain size, I still believe there is a lot of work to be done here.

Agustín: Thanks a lot for your time and all the best expanding Paraşüt.

Part 5: **Investment Fintechs**

Companies in this section
Riskalyze
OpenFin
Quantopian
invertirOnline
SyndicateRoom
eToro
BlockEx
Jimubox
Liquid

When looking at the world of investments, there are a lot of uses for technology and space for innovation.

The US has always been a leader in introducing change in this field, so I thought it would be good to talk to some leaders in the area. I had a great chat with Aaron Klein from Riskalyze, who looks at empowering the world to invest fearlessly by offering a detailed risk assessment to all investors. After that, I chose to spend some time with John Fawcett from Quantopian, who has herded more than a hundred thousand quants [quantitative analysts] to crowdsource intelligence to be able to invest better. I also had a chance to speak with Mazy

Darr from Openfin, who has built an operating system for finance, which allows traders to have more flexible screens and tailored apps.

Doing a short stint in South America, I spoke with Facundo Garreton, founder of invertirOnline, the top online trading platform for Latin America.

And moving on to the UK, I had a chance to learn more about the story of eToro from Yoni Assia, who created the world's leading social platform, where users copy the movements of leading traders. In the UK, I also managed to catch up with Gonçalo de Vasconcelos from SyndicateRoom, who created an online equity crowdfunding platform where each deal always has a professional leading investor. Finally, I spoke with Adam Leonard from BlockEx who have created a platform for managing blockchain-based digital assets.

In Asia, I spoke with Matt Crooke from Tokyo-based Liquid. They have built one of the most secure fiat to virtual currencies exchanges in the world. Furthermore, I spoke with Barry Freeman from Jimubox, a technology-driven investment and trading platform serving global Chinese investors.

As you can see, different entrepreneurs have come up with a plethora of ideas on how to invest money better. I hope the conversations provide you some insights and inspire you.

Chapter 43 Aaron Klein

Company name: Riskalyze

Location: Auburn, California, United States

Riskalyze empowers investment advisors to capture a quantitative measurement of client risk tolerance and to truly align their investments with their risk. Riskalyze has created an innovative quantitative measurement of client risk tolerance, the Risk Number, that is a lot more detailed than previous measures of risk. It has applied a very successful distribution strategy.

Roles: Aaron Klein, Cofounder and CEO

If you can help your clients understand how to react to risk appropriately, that's how you can turn a fearbound investor into a fearless investor who makes really great short-term decisions.

Agustín: Aaron, I know that you are a serial entrepreneur. Can you please tell me a little bit, high-level, about the companies you've started?

Aaron: Yes, absolutely. It's interesting, I started working at the age of twelve, in the afternoons after school for my dad. He had a company that he had started, and I would get my school work done and be able to go into the office after school. He knew nothing about child labor laws or minimum wage laws and so that kind of worked out for me. But I learned a lot about business, about how business worked. He was actually in a really difficult challenging business, because it was wholesale distribution of security equipment, and so it was brutal. Gross margins were maybe 18% and it was a commoditized product that everybody else had, so it taught me a few different things. Number one is that you have to have a lot of grit to be an entrepreneur, to build a business. Number two, that your business is all

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about relationships and it's all about if you take really great care of your customers, by-and-large most of them are going to take really great care of you. Those were some values of business that I learned early on. I actually ended up negotiating the sale of my dad's company to a larger competitor when I was about twenty-two years old, which was an interesting process.

Agustín: That is definitely an early start. How did your journey continue from there?

Aaron: I started something with a friend focused on the Internet and just doing some different things around websites and dipping into software, running on the Internet. I was just really intrigued about how you could run software on a network and do some really, really powerful things with it, and I ended up founding a company that did business operations software for distribution companies like my dad. It was kind of before it's time. It was basically trying to run software on the Internet (and in those days, businesses wouldn't put their financial information on the Internet). They just wanted to buy software like QuickBooks off the shelf and do it that way. Ultimately that company didn't really work out, but it taught me a lot of things.

I then spent about four years running global products for a division of an options brokerage firm. I remember saying to a friend of mine, whose name is Mike McDaniel, it is crazy how the average person thinks about the concept of risk. He said, "If you think that's crazy, you should see how their financial advisors think about it." Mike was a financial advisor at the time. He said, in the financial advice industry we just don't have the tools to really understand how our clients think about risk and how to get aligned with our clients around the concept of risk. So he and I talked about that and batted a bunch of ideas around, and we had a mutual friend who had actually invented some really interesting technology about how to understand how much risk a client can truly handle and so, ultimately, we ended up launching Riskalyze in March of 2011. We spent the first two years really just building out core technology and validating that the technology was going to work. In about March of 2013, we launched the advisor product. At that point in time, we had practically zero customers and four people in the company and it just took off like a rocket. So here we are, about five years later, and today there are over two hundred riskalyzers—that's what we call our employees—across the country serving over twenty-two thousand financial advisors. It's been tremendous to see what we call the fearless investing movement kind of sweep across this industry, because we believe that if you can help your clients understand how to react to risk appropriately, that's how you can turn a fearbound investor who makes really bad short-term decisions into a fearless investor who makes really great short-term decisions and that, ultimately, great short-term decisions is what great financial advisors use to produce good long-term financial outcomes.

Agustín: How did you actually get started with Riskalyze? Did you raise funds when you started? Did you start without any plans?

Aaron: I had a family, I had kids, and I was not in a position to work for free, so that just wasn't going to work for me. When we decided to start the company, we started from a standpoint of raising some capital and putting together a round of financing to help us build out the initial technology and launch the company. Our initial investors were largely a friends-and-family network and a lot of them were financial advisors. They had a really strong sense of the lack of insight in our industry into true alignment on risk with their clients and so it was pretty easy for them to see that what we were building was going to be a big part of the future of this industry. So yes, we raised capital in 2011, we raised little bits of capital additionally in 2012 and 2013 and when the product launched, we ended up raising little bits of additional capital in 2014 and '15 as well. We were very capital efficient. We had built a business where our revenue was exceeding the amount of capital that we had deployed in the business and the fact that we were so capital efficient was really helpful in explaining our vision to investors in where we were going to go. In 2016, we got to the point where our growth was so strong, we decided to actually do our first institutional round of financing and raised twenty million dollars from FTV Capital, a growth equity firm with offices in San Francisco and New York. They've been a great partner and it really helped us to think about how to become a bigger company, think about laying the infrastructure and the ground work to become a bigger company, and that's been a real positive for us, since we did that transaction with them in 2016.

Agustín: I'm just wondering, like most entrepreneurs that start their company with their own funding. What's the secret to being able to raise? Were you giving away equity?

Aaron: We did equity and, ultimately, we just went out there to the group of investors that, you know, for every four investors I would talk to I would probably get one commitment. Our capitalization table looks a little bit different from a lot of companies, because we had a lot of people who invested twenty-five, fifty, seventy-five, a hundred thousand dollars early on in the company and that was kind of how we built up the capitalization table and put the company together. It has been a great return for those investors. They have already had the opportunity to sell some of their shares to other future investors and a number of them have made ten times on their money or more. That's always really great to see and we're really proud of the return that we've been delivering to our investors, but yes, we started off thinking about it from an equity standpoint, not from a debt standpoint, and that served us well.

Agustín: For new entrepreneurs that are just getting started, maybe they are in their early twenties—not that age matters, as you were starting at twelve years old.

Aaron: Sure.

Agustín: What's the best way to go about this? Were you managing the whole thing, creating the business plan?

Aaron: Yes.

Agustín: Doing the legal aspect of the fundraising?

Aaron: Yes. I think that's probably one of the most challenging parts of this and all I can say is that you have definitely got to raise enough capital or put in enough capital to cover the costs of using a lawyer and getting it right, because there are serious implications for the company if you mess that up and you don't get a lot of the foundation right. Most of it is fixable, some of it though is challenging to fix. If you don't get things like how your option plan for employees is set up, if you don't get that right, there are a lot of things about that that you can't fix or it's very expensive and costly to employees to fix. I think trying to get those pieces right is a challenge for any entrepreneur. Get a good lawyer and make that a part of your plan. The only other thing I'll say is, like the advantage that we had in raising capital, that we were raising capital from interested parties. In other words, a lot of the people we were talking to, to raise capital from, were financial advisors and so they're looking at this and going, "What you're telling me is how the future is going to be different in financial advice after Riskalyze changes it make sense. I can see the need for this, I can see the need to understand this, I get the vision and I want to use it in my practice when it makes sense." So that, in and of itself, was a big benefit when we were raising capital because those investors were not solely buying in on the promise of return, they obviously cared deeply about making a return but they were looking at the idea behind it and really had a ton of passion and conviction that risk alignment was an idea whose time had come.

Agustín: You mentioned legal is an important area. Which are the key positions of your management team? Talking more generally about a fintech, which are the key roles that you think fintech firms need to have?

Aaron: We actually have not put legal in-house, in our management team. We have a great general counsel but he's a lawyer at an outside firm and that's worked well for us. My senior leadership team, my direct reports that I really focus on, are my head of sales; our head of marketing and communications; our CFO, head of finance; and then my cofounder who is our chief investment officer, oversees our customer experience team that supports and trains and coaches customers to success and oversees our partnerships team. Another one of my cofounders is our chief technology officer, and he oversees both our engineering teams, and our VP of product is a big part of our senior leadership team as well. Those are the key roles for us, and we've thought about building that out. A new one that we're actually adding at the senior leadership team level is our VP of talent and recruiting. With two hundred employees, we're thinking very deeply about how we really develop the talent on our team and make sure that we're constantly upgrading the team to handle the challenges ahead, so that's definitely a big part of our focus in 2019.

Agustín: Through the company's growth, how has your role changed?

Aaron: Back in the days where we were four people in the company, my role was basically the chief sales guy, business development guy, partnerships guy, marketing guy, design guy. I designed the logo, because the only other two people in the company back then were engineers on day one. I guess you could say my role has just shrunk, and shrunk and shrunk and shrunk to the point that there are today people that manage all of those different functions and my job has really shifted to working with the team, to figure out our vision and our strategy going forward—making sure that we've got the right people leading the right parts of the company, to make sure that we achieve our objectives. I do a lot of recruiting. I spend a lot of time thinking about how to get the right talent on the team. I do a lot of working with our board and working with our leadership team to figure out the right path forward for us and then just the fundamentals of making sure that we've got the cash in the bank to succeed and that our strategy is sound. That really is the essence of my job today. I do still spend a lot of time with customers though. I'm on the road just about every other week and spend a lot of time visiting with customers out in the field because I think that's the best way to keep me connected with their needs. I invest a lot a time in our product still, thinking about what our product strategy is and making sure we are headed in the right direction with the product.

Agustín: You mentioned that your headcount has gone up quite a lot and there's a conception that fintech's have a very small amount of headcount. How do you explain having so many people?

Aaron: I don't know where that perception comes from, but I think that I've found that finance is one of those very personal, human businesses. Financial advisors are literally entrusted with the life savings of their clients. They care very deeply about making sure that their clients feel safe, feel protected, and know that their money is in good hands. Financial advisors are a pretty demanding lot and I think rightfully so. They are insistent that when they call us, they want to be able to get a human being on the phone to help solve their problems. We really believe in being up to that challenge and so we think two hundred is the right scale right now for our business at this stage. We're not scared of adding headcount to better serve our customers and invest in growth and we think that that creates the best kind of service model that we can create for financial advisors to thrive.

Agustín: You mentioned that you look a lot at the future, the strategy. Where do you think the credit industry is going?

Aaron: That's a great question. I'm not as focused on the credit side of the industry, but I find it very, very intriguing to think about the way that some of the fintech startups out there are able to use different kinds of data to make credit and underwriting decisions. I think it's really interesting to think about how those startups will be using a lot of interesting technology and data to make better credit and underwriting risk decisions that potentially could in a safe way expand access to credit to people who haven't had access to it before; I think it will be really interesting to see what will happen there.

Agustín: I'm curious about your involvement on Africa.

Aaron: I haven't lived there. I have travelled there a lot and that happened because my wife and I decided to adopt. So, our first son was actually born in South Korea. We brought him home at eight months old, he's now eleven years old. Then we ended up shifting gears and we adopted the next time from Ethiopia. My daughter is nine years old, she came home from Addis Ababa, Ethiopia, at eight months old as well, and she is nine today. She thinks she's sixteen, but she's still only nine. This got us involved in a nonprofit project in Ethiopia, building schools for orphans and vulnerable kids. On one of our trips back, we ended up meeting a kid in an orphanage in Addis Ababa, he ended up becoming the oldest Klein kid. His name is Teddy and he is fourteen years old. He's been home almost three years now, so that is our group. It's a wild, crazy bunch, but we love them and they're great kids. That has kept us involved in this non-profit work in Ethiopia and, in fact, next year we're actually launching a new project to do vocational training for orphans and vulnerable kids in Ethiopia. It will actually be a for-profit technology business in Ethiopia that employs student workers, and the student workers will be the orphans and vulnerable kids, who will learn everything from technology to coding to sales to marketing to customer service.

Agustín: Sounds fantastic. Do you see the Riskalyze Risk Number arriving to Africa any time soon?

Aaron: You never know. We're intrigued about that possibility and I think we will see the risk number really take hold in it's first country outside of the United States, probably in 2019. We work in a few different countries outside of the United States, South Africa is actually one of them, but I think we're going to really start growing internationally in 2019 and we're excited about that.

Agustín: That's great news. All the best with the regional expansion, it is very insightful talking to you.

Chapter 44 Mazy Dar

Company name: OpenFin

Location: New York, United States, and London, UK

OpenFin has created a financial industry's operating system, enabling rapid and secure deployment, native experience and desktop interoperability. Used by the largest industry players through to the newest of fintech innovators, OpenFin runs more than 1,000 applications at more than 1,500 banks and buy-side firms across 200,000 desktops in 60+ countries. Its innovative product for has been adopted by the world's largest banks and trading platforms, who use it to deploy desktop applications.

Roles: Mazy Dar, Cofounder and CEO

> *I think that's incredibly important getting the right people as investors in the company. We had no friends and family invest in the company on purpose.*

Agustín: How did you get started in financial technology and how did the idea of creating OpenFin come about?

Mazy: I've been in capital markets and financial technology for about 21 years now. I got a computer science degree at Cornell and then I went to SBC Warburg. It was a complete accident that I ended up going to a bank. I never really thought about finance or working at a bank before I took the job. But I applied to a number of companies, and I got a good offer from SBC [Swiss Bank Corporation] and so that's how I ended up getting into finance in the first place. Then once I started doing it, I enjoyed the problem solving. About two and a half years after I started at SBC (which by that time had become UBS [Union Bank of Switzerland]), the dot-com boom was in full swing and a lot of people were leaving the bank to join start-ups. I decided it was time for me to leave too and I joined a startup called Creditex in Jan 2000. Creditex was an electronic trading platform for credit default swaps.

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At the time, both J.P.Morgan and Deutsche Bank had invested in the company, and so it looked like a nice mix of strong backing, but also a proper startup environment. I joined the company right at the beginning of 2000 and it was at Creditex that I both met my now cofounder Chuck Doerr; and also where we got the idea to start OpenFin.

Agustín: So what did you see in Creditex that gave you the idea for OpenFin?

Mazy: At Creditex we had a front-end trading application that was used by traders at all the big banks—J.P.Morgan, Goldman Sachs, Deutsche Bank, et cetera. One of the first challenges we had was deploying that desktop application to our end users. It turns out that deploying an app to an end user, who sits at a bank behind a firewall, where there's a lot of security and compliance, is just an incredibly hard thing to do. It can take months or quarters or longer to get an app deployed to those end users, and every time you want to release an upgrade of that app, there's a whole other process that you have to go through. Chuck and I worked at Creditex for ten years. Over the years, we talked a lot about the idea that there was a missing layer of infrastructure on Wall Street and that something simple, like app distribution, should happen much more easily since it wasn't a problem that had anything to do with credit derivatives. That was the genesis behind the idea of OpenFin. Creditex was acquired by ICE, IntercontinentalExchange, in 2008 and about a year and a half later, Chuck and I had left to eventually start up OpenFin.

Agustín: Were you part of the founding team of Creditex?

Mazy: No, I was an early employee. By the time I left the company, I'd become Creditex's chief strategy officer, and the only person who had served at the company longer than me was Creditex's CEO. I felt like a founder; but I wasn't officially a founder.

Agustín: Coming from a computing background, how did that happen—that you became the chief strategy officer?

Mazy: It's all about the growth opportunity and when you are in an environment where things are moving quickly, people have opportunities to start getting involved with things that aren't necessarily their day job. I think that's why a lot of people join startups. I was the first in-house engineer Creditex had hired. They thought I did a pretty good job so they put me in charge of the development team. As a development manager who was receiving business requirements, I started thinking a lot more about what those business and product requirements were, and I started having an interest in that. So I started getting actively involved with product management, and from there they made me the product manager for the platform. As the product manager, I started spending a lot of time with our customers and learning what they wanted, which led to me being put in charge of electronic trading—the electronic trading business, not just the technology.

Electronic trading was the core of what we were doing at Creditex, but there were a number of new initiatives that we launched that were based on the same underlying technology and platform. I got the opportunity to spearhead those initiatives. One was a post-trade platform that we built that was called tZERO, and another was a joint venture we did with Goldman Sachs, J.P.Morgan, and Deutsche Bank. I got the opportunity to negotiate deals, get involved with PR, negotiate contracts, et cetera. I think that's one of the things I love about being in a startup. In a growth environment you can get exposure to things that you might have an interest in, you might be good at, and eventually grow into doing those roles full-time. Yeah, so all that eventually led to me being Creditex's chief strategy officer and now all of that experience is what gave me the understanding and background for what we're doing at OpenFin.

Agustín: So you both decided to quit. How did you go about creating this new entity, OpenFin?

Mazy: Yes, when Chuck and I left ICE, we actually didn't know that we were going to do OpenFin. There were two things that we knew. One was that we were going to do something new; the other was that we were going to work together; and that it was going to be a startup of some kind. Beyond that, we actually even thought about the idea of not doing something in finance—at first. We were thinking, "Hey, maybe we'll do something totally different from what we've done before." But after looking at a number of different opportunities and consulting with some trusted advisors, we decided that the OpenFin idea was where we wanted to invest our time. We thought, "It's a space we understand really well and we have a big network of people in the space who could help," and so we thought that was the right path for us. Then, when we first started the company, each of us wrote a check for two hundred thousand dollars, and we incorporated, and we used that capital to hire the first few employees. That's how we got started; and then a few months into it, we did our first round of funding. We had a number of folks who were mentors and established, experienced people from the capital markets space who invested money into the company in our first seed round. That's how we got started.

Agustín: It's really interesting. When some entrepreneurs decide to start with their own capital, like you've done, and say, "Okay, we're going to write these two checks"—which it's not a lot of money for a startup to burn through, when you have employees—did you have a first round of funding a few months into it in mind already? Were you afraid that this wouldn't happen? How did you go about it?

Mazy: Yeah, you know, I often think back to when we got started, because when I think about what we were up against, it's really daunting and there was a lot we didn't know about what it would take to get to where we are now. I think this pattern is common with entrepreneurs where sometimes not knowing, and therefore not fearing the future, is part of how they got going in the first place. I don't ever remember being concerned that we weren't going to raise a round of funding to capitalize the company. It was always a question of, at what valuation? We also felt like if we needed to take some more time or invest some more of our money into it, that we could do that as well. It wasn't something that we were overly concerned about early on.

Agustín: In terms of choosing your investors, you mentioned people from the industry. Do you think that's important and how do you get on with your investors currently?

Mazy: I think that's incredibly important and we were very, very focused on getting the right people as investors in the company. We had no friends and family invest in the company, on purpose. We wanted people who, number one, could help validate the idea; number two, who believed in the vision of what we were doing and the overall mission; and number three, who could help with their network and their experience, who could give us advice that would ultimately help us build this into a huge company. When we did our first seed funding, we had nine individual investors in the round. It started with three of them, and one was John McEvoy, who was Creditex's cofounder. Chuck and I had both worked for John, hugely respected him and everything that he'd done, and he really liked the idea. He knew me and Chuck and our track record, so he was one of our first three. The second one was Mark Beeston. I had actually helped to recruit Mark into Creditex from Deutsche Bank. Mark ran the post-trade business we set up called tZERO. So he and I had worked very closely together; I saw him as both a colleague and a mentor, and he also had a great understanding of the whole capital markets space. Then there was a third person, Sam Cole. Sam had actually been my customer. At the time when he was my customer, he was the COO of BlueMountain Capital, one of the largest hedge funds in the world, and had been very active in the credit default swap space. He and I worked on a number of different initiatives at Creditex and he had also had been investing in companies himself. Sam was actually the person who encouraged Chuck and me to pursue the OpenFin idea in the first place.

We jointly agreed to terms with the three of them, and then we had six additional investors, some of whom were folks that we had previously worked with (Grant Biggar, Ben Lis, Warren Saft, and John Eley), and also a couple of people that we didn't know, who others brought into the round. One of those individuals was Jon Axelrod. Jon is one of the managing directors of ERANYC, which is the Entrepreneurs Roundtable Accelerator in New York. I didn't know Jon before, but Sam Cole introduced Jon to us and he committed to the round over breakfast. Another investor we didn't know previously was Jonny Fine, who was at Goldman Sachs. John McEvoy introduced us to Jonny and he was also quick with a decision to join the round. We were very selective. I got great advice from John McEvoy on this. He said early on, "Look, you want to associate yourself with good people of really high integrity and that's critical." And so that was a key lens for us when we were thinking about who would invest in the company. We wanted to make sure that they were people who believed in the mission and could help, but also people of really high integrity, and we now have forty individual investors in the company, along with a number of VCs and that's been a really, really critical part of how we thought about who we associate ourselves with.

Agustín: When you talk about founding the company, I hear that you have a very tight relationship with Chuck. I was wondering, how do you divide the work and what makes the relationship work?

Mazy: Chuck and I are like brothers. We've worked together for eighteen years now. We don't look alike, but often we sound alike. The basic split is a very typical cofounder split. He's the brains behind the operation from a technical perspective, our entire technology infrastructure, strategy, et cetera. I'm very focused on the business side of things and the product strategy. One of the things that makes things work nicely between the two of us is that there is a middle ground where we overlap. So Chuck knows a lot about the business and about the product and is very comfortable thinking and talking about all of those topics; I also have a computer science degree and coded for several years, so I understand enough from the technology side as well. It allows us to push each other on what the other person is doing and have really good conversations about everything, but, at the end of the day, we each have our main focus. His is on the technical side; mine is on the business side.

Agustín: At what point did you say, "OpenFin will really work"?

Mazy: That's a good question. I think we had validation at different points. I think the first key turning point, or milestone, for us was when a couple of big banks became our customers. I think I'm somebody who is generally very optimistic, so I'm sure that once that happened, I was already convinced that it would work. But obviously there is a lot more that needs to happen, beyond selling to customers, in order to get to an industry platform that is being used by everybody. I think along the way, the Bain Capital Ventures investment felt to me that we had really strong backing from one of the most well-respected firms in the fintech space and that they were going to help us win; each additional major customer was more validation. I don't know if there was an actual point, a specific thing that happened that made me feel like, "Now we are definitely going to win," but in a way, I feel like we had conviction that it was going to work right from when we started the company. I never thought it wasn't going to work. That might have been over-optimism or naiveté, but I think you need a healthy dose of that to embark on a mission like this, particularly in an enterprise environment like capital markets. Building important companies is hard and it takes a really long time. We knew what we were up against and I always thought it was going to take a long time, but I always had conviction that we would succeed.

Agustín: In terms of your actual product, it is very innovative and I haven't seen much like it. Who are your competitors and what differentiates you from them?

Mazy: We don't have direct competitors per se, but broadly speaking, there are a couple of different things that I'd say are alternatives to using OpenFin. One of them is simply the web browser. You can build an app and deploy it in a web browser. Even if your end user sits at a bank or a hedge fund, it's as simple as typing in the URL and they have your app. The problem is the user experience that traders and salespeople and other people who work at banks and hedge funds expect. The user experience they want is an app experience. Think of the Bloomberg experience, lots of windows sitting on multiple monitors on their desktops, the ability to minimize the ones they don't want, to have them pop up automatically when there's a trade or some other real-time event. Web browsers aren't good at that kind of experience. They're actually fairly clunky when it comes to user experience like that. People nowadays—and this wasn't the case when we started OpenFin—but people very commonly decide they are going to build their front-end app in HTML5, the language of the web. Some of those people do end up going down the path of just deploying it in a browser, but increasingly, particularly in our space, we are seeing the banks and hedge funds and asset managers and platforms decide to use OpenFin where they get a secure, native, integrated desktop experience.

So web browsers are one; the other is a number of open source projects that are based on the Google Chromium engine. One of the more popular projects is called Electron. The interesting thing about Electron is we actually use it as part of OpenFin. It lets you build what's essentially a native desktop app but written in JavaScript. Sometimes, to people who are new to OpenFin and new to Electron, it looks like what we're doing may be quite similar. In fact, they're very different and in a number of important ways. One is OpenFin has a very strong security model and that's critical to our customers, and that's not a core benefit from using an open source project like Electron. Second, we're very focused on enabling web deployment, meaning every app that runs on OpenFin is a web application that's served up the same way that a web app in a web browser is served up. With Electron you're essentially writing JavaScript and you're creating installed apps. The problem in our space is, as long as an app remains an installed app, it still takes forever to install, so you haven't fixed the time-to-market issue. Third, OpenFin has an interoperability layer that lets all the apps on the desktop talk to one another—this includes native applications. Electron doesn't enable interoperability. We do have in-house teams that will sometimes look at something like Electron and say, "Well we can build this ourselves," and I think that's a really common challenge for entrepreneurs in enterprise environments where their potential customer has a large technology team that wants to build things themselves. You have to show them the value of using your product, but that's the other alternative that people consider when they think about OpenFin.

Agustín: That's a good explanation. I was also wondering about your industry fit; you're clearly focusing on a specific industry, mostly around trading. Are there other industries that would also benefit from this kind of technology?

Mazy: Absolutely. Interestingly enough, there is nothing financial at all about our technology; it's just that we've aimed our technology at this space, the Wall Street space, where you have a confluence of a number of different things—end users who sit at their desk to do their work, most, if not all of the day. They sit behind firewalls in environments where security and compliance are incredibly important. They are using multiple, different applications to do their work, in a real time environment, which means the user experience and the ergonomics around the application themselves are critical. So if I save you a couple clicks, as an end user or a consumer, it's like, that's great! If you're a trader that might mean the difference between making a million dollars or losing a million dollars. The user experience and the ergonomics around that are really critical. OpenFin solves those kind of problems and finance is the first place that we've aimed the platform, but we've already heard from lots of other folks that similar problems exist in other verticals and in enterprise in general, and so in the future, those are opportunities that we are going to be taking a hard look at as well.

Agustín: When I hear your voice, I hear a lot of enthusiasm, so my question is, after this roller coaster of eight years, has it been worth it?

Mazy: Oh, without a doubt. I would not do anything else, I literally wouldn't know what else to do. I experienced something similar at Creditex, where I spent ten years, but at each stage there's a new challenge and for me as long as I'm learning, as long as I'm working with great people and having fun as an entrepreneur, as a CEO, as long as I see the business progressing in a meaningful way, where I feel like we're on the path to delivering on our overall mission, that's what gets me up in the morning, that's what keeps me going. If anything, in the past year or two, it's gotten more fun than ever, because we've established ourselves in the industry, we have some great customers, we've got a great brand that we're building, and it's actually exposing us to a lot more opportunities. Our customers are asking us for more things and the whole mission of OpenFin is getting bigger and broader. So that to me is incredibly exciting and, for sure, I'm as enthusiastic today as I've ever been about the business.

Chapter 45 John Fawcett

Company name: Quantopian

Location: Boston, United States

Quantopian inspires talented people to write investment algorithms. Select authors may license their algos to Quantopian and get paid for performance. Using an innovative business model, Quantopian has gathered a community of more than 200,000 quantitative analysts that get trained and operate in quantitative finance.

Roles: John Fawcett, Cofounder and CEO

> *We think that the problem of coming up with ideas and exploring them is still, and probably will be for a long time, a job that humans are best at.*

Agustín: When did you get started with financial services and how did the idea of Quantopian come about?

John: I started in financial services in 2000 as an analyst covering software at a fundamentals-driven long/short equity hedge fund. Quantopian is my second startup. I was an analyst covering companies and meeting management teams and trying to keep track of external research while generating research of my own. I found myself writing a lot of software in order to be more productive and more organized. That experience spurred the idea for a company to make tools like that for people in a similar situation, fundamental analysts. I was the technical cofounder of that company, called Tamale Software. We made a research management system and I was the CTO for about seven years. We started in 2001 and then sold it in 2008 to Advent Software. Advent was an accounting system provider and they were looking for a front office product—they have great global distribution and they started selling our research system. The system was a labeled research repository, where users could tag a piece of research with the

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companies that it referenced, the industries, and the people that were sources, and we put all that in a database.

While with Advent, I met quants who worked at firms where there was both a fundamental research group and also a quant research group. The quant research group wanted to extract signals from the internal research data and so when I met this group of quants, I thought to myself, this is everything I like rolled into one; it's the market, investing, but it's also data and software, and it's very systematic. I just fell in love with the field and started trying to learn everything I could about it by meeting people who were professional quants.

Agustín: I'm curious about your background because you didn't study computer science.

John: That's correct. What is now the School of Engineering and Applied Science at Harvard was in the Department of Engineering and Applied Science at the time. I studied mechanics and materials within that department. It's not quite mechanical engineering; there's a lot of overlap, but it's really the study of physical materials in different ways. In the course of that experience, I ended up working in a lab that had measurement apparatus in need of automation. I ended up doing a lot of programming over the summers at that lab and ended up taking computer science classes because I discovered I liked it so much.

Agustín: Got it, so you're self-taught.

John: That's right.

Agustín: But then you moved on to Tamale.

John: Well, also the software business is more about software engineering then it was about computer science, so I feel like I learned a lot of software engineering from running that company, for sure.

Agustín: And then you decided to start doing some coding yourself, as a quant?

John: Right, I was trying to meet people; it's very difficult to even find people that work at these firms, let alone get them to tell you what they do. It was slow going at the beginning, but one of the things that came up a lot was backtesting and simulation and that's a very fun problem. You have to move a lot of data through a simulator. There's a very difficult academic question of, what will the impact of your trades be on the price of the securities that you're buying and selling, in order to estimate the spot price. I got really interested in that problem and wrote a very simple simulator. That turned into the greatest conversation starter because, while the quants that work at firms are not allowed, and don't want to tell you what they work on, they're very interested in telling you what they want from a simulator and what's wrong with the simulator they've written. So I was having all these great meetings and learning a lot about that piece of the process. By just getting to meet these people and talk to them about their companies and their work, I started to observe some patterns in the way that the firms are organized.

Agustín: What did you learn from talking to the quants?

John: Certain things really popped out to me. The first is that everyone agreed that the source of all value was the research groups, and that the critical activity was finding inefficiencies in the market that came from doing research. The second thing I noticed was that, due to the structure of these groups, they all hit a natural limit of about 150 researchers. The firms are often research-led, so the people at the top of the firms are often researchers. The search for alpha [a strategy's ability to beat the market] to me seemed much more like a manufacturing process or as a software engineering process. The way that research was conducted then, they weren't maximizing the number of people who could be doing research within their group, and as someone who had just been running a software company for seven years this was fascinating to me.

I got very obsessed with the idea of expanding the research department, with just a very simple model. If the value is coming from the research department and the amount of value is in proportion to the number of people who can coordinate to do the research, then what would happen if you had 500 researchers? What if you could organize 5,000 researchers? Which is my estimate for how many professional researchers there are in the whole industry. What would happen if you had that much research capacity? I just really couldn't stop thinking about that question; and the approach that I settled on was to crowdsource the research and to coordinate people in a very unusual way—just give them access to a platform and the data that was needed in order to do quantitative research and use that as a magnet to attract talent, and then look at the work that was produced and see if the crowd was able to produce alpha. That's the model that we've been pursuing for the last several years and we are just at the point where we can say the crowd can produce alpha based on our analysis.

Agustín: Just stepping back for one second, you said there was this opportunity of crowdsourcing research. How do you go about it? Creating a company? What steps did you take in order to create the company?

John: I mostly used the backtester. I noticed that before I had the backtester, I couldn't really get anyone to talk to me. After I had the backtester, it was easy. When I had this idea to try to get many more people involved and interested in researching, what popped into my head was to just put the backtester online. I made a really simple UI [user interface], so that you could go to our website, code up a strategy in Python, and then I would run it through my backtester. I started showing that to people, and people were interested; we engaged a lot of professionals, a lot of aspiring quants. It's a really interesting idea for people, the concept of it not being dependent on a big firm in order to have access to a tool like this. I showed it to enough people that I met Ernie Chan, a blogger with a big following. I gave him a demo and he wrote two hundred words about it and, all of a sudden, I had a whole bunch of users the day after. I think we went from five users to a hundred and something. I started to get confidence that there were enough people out there [who were really interested in quantitative finance and wanted to have access] that I could build a community around the platform. For crowdsourcing, it's really essential that you first are able to draw the crowd, and in many ways that's the most difficult step—just getting people with this particular talent to pay attention to you and show up. Once you have the attention of talented people, then the next thing is to try to get them to focus on the problem that you want to solve, and the last step is to take all of the answers that they've given you and put them together in a way that's more valuable than any of the individual answers.

Agustín: So you were just chasing the idea with no business plan or funding?

John: In the beginning, I was really focused on gathering the crowd. When I got that, I was still a sole entrepreneur. When I got initial interest from users, I went and raised capital. I felt I had the evidence that I needed to personally commit to working on this for a long time. We were able to raise a seed round of capital in January of 2012 and with that capital I was able to attract my co-founder Jean Bredeche, who joined at that point. He and I had worked together for a long time previously and so I was really excited to have him on. Then we spent a lot of time from 2012 onward improving the platform and gathering the crowd and then made that transition to start focusing on getting the crowd to do the right thing. That piece, directing the crowd in a productive way, took a long time to figure out, so that was a very difficult challenge. Once we had a critical mass of users, getting them to produce alpha that we could then harvest was really complex to think through. It's very easy to frame the problem, but hard to accomplish the rest. We tried a huge number of experiments over the years and have settled on our daily contest. We have a contest now that is a beacon for everyone in our community to understand what a good algorithm is. What is alpha? How do we find it? How do we measure it? And that's been working really well. It took us a couple of iterations, we've run the contest for a couple of years and I think we really landed on the right formulation for the contest last February. In just under a year, we've seen a really dramatic improvement in what we call "yield" and that's the number of algorithms that we choose to license after our valuation, from the algorithms that are produced, and the yield from the contest has been very high, higher than anything we've ever done before; we're very excited about that.

Agustín: How do you run the daily contest?

John: We calculate the leaderboard every day. The score that you get is based on the last three months of simulation. The score is essentially a slightly modified Sharpe ratio. The real key is that to get into the contest, to even be scored, you have to meet certain criteria that are judged on the portfolio that your algorithm produces. We look at the simulated holdings of the portfolio and check it for risk constraints and concentration, individual positions, and turnover—pretty mechanical things. We are able to give that feedback in the UX [user experience] of the platform, actually, so while you're working on the algorithm we can tell you if you're meeting these criteria. That's been really powerful because it gets people focused on the important thing, which is whether or not they are producing alpha. While it's very difficult to accomplish all of these requirements in the portfolio, I think it puts all of their attention on the creative aspects of finding alpha, so that's been really productive.

Agustín: And you have over 200,000 quants registered?

John: That's right. We have a really large community of users. We have a very active community and we like to see the back and forth in the forums; the way that people are connecting to each other. Quantopian is becoming a bit of a standard, in the way that GitHub is for engineers, but for quants. Quantopian is the obvious starting point for a lot of people, because we've really focused on education. The formula for getting people to come to the site in the first place is that we are offering access to this field and there are a lot of people all over the world who have really high aspirations to break into this world, to learn what it means to be a quant. They might want to be a quant themselves; they might be in the industry and want to understand what a quant is; they may have a scientific background and have friends that are working in finance and they want to know what it's like; they might want to be in a field where they can do lots and lots of data analysis but, unlike most scientific fields, don't want to spend years gathering data. So there's just a huge amount of interest in learning in this field. We feed the community a lot of training, everything from how to program and basic statistics all the way to advanced financial engineering concepts and quantitative investing concepts. That's worked extremely well for growing the community and once we have someone in the community, we try to direct them with our contest.

A great side effect of all this educational material is that some universities now teach using Quantopian. We have a whole bunch of course materials that we provide for free, including lectures. The contest is based on everything we learned from trading user algorithms that we licensed at the time that we designed the contest. As a result, the contest requirements and scoring are extremely realistic. If you're doing something that's performing well in the contest, that means that you're doing something that is meaningful within the profession and it's the type of work that is expected of professional quants. As a result, it's a really popular capstone project for classes to have students learn quant over the course of a semester and then a final project to create an algorithm for the Quantopian contest. We noticed that was happening and so our marketing team actually built a dedicated university contest, just for current students.

Agustín: You mentioned that there are only 5,000 professional quants and you have 200,000 users. That's a lot of non-professional quants out there.

John: Yes! The people in our community are all very well-trained. Most of them have an undergraduate and often graduate degree in a STEM field, so there are a lot of people who are either professional academics, or working as professional scientists, or working as data scientists in all different industries, whether it's the Internet or oil and gas, anywhere you would find people building models. They are all, generally speaking, trained in model building in one form or another and what they have been hunting for is a way to use their model-building skills within finance. Sometimes it's just curiosity. Sometimes it's ambition. There are a lot of different motivations, but they really just want to get access to the field and it was just such an unmet need.

I think that's why we've had so much growth; there's really nowhere else to go where you can get an introduction to all the concepts, a really professional quality platform. Our platform is so strong now that we have been able to partner with FactSet, which is a very large data provider, to sell our software to professionals; so it's not just that the platform is the best free platform, I think the platform probably compares favorably to any internal system, even to the best firms in the world. That comes from having lots and lots of users. The best thing for software is hours in service. We have more hours in service now than any other platform that has ever existed and we are accumulating more hours of service every day. It's probably more per day for us than other systems gather in a year; and all of that feedback and data that we get on what is and isn't working, we roll back into the product. We have a gigantic advantage for compounding the quality of our platform. So, if you're a student or an aspiring quant and you're curious about this field and you're not in one of the top three cities for finance, London or New York or Hong Kong, and you want to try it, you can just go to quantopian.com and try it. That really resonates with people.

Agustín: I am curious about your business model, you have the servicing bit, and then there's the selling of technology. Are you monetizing this community in any way?

John: We have two business lines. One is the software business and that is straightforward: we license the software to firms who use it internally. The second business is the asset management business and that's where we crowdsource the algorithms. If you write an algorithm that we use in our asset management business, we contact you and license it. We have a license agreement where we pay a royalty to the author of the strategy if we use it in the asset management business.

Agustín: You're not thinking of charging for training or anything around the community?

John: No, we want to do everything we can to get as many people as possible engaged in the field. Our philosophy is, anything that we can do to benefit members of our community we want to do because we want the experience of Quantopian to be incredibly positive for every person that comes to the site; so that we continue to grow and we continue to attract the best talent in the world. I think we are constantly asking ourselves what else we can do to make the Quantopian experience more beneficial to the community. So there's a lot of education benefit, there's the opportunity to enter the field by licensing an algorithm to Quantopian, and we're thinking of a bunch of other things that we would like to do to help our community advance and break into the field.

Agustín: In terms of new technology, there's a lot of talk right now about artificial intelligence and machine learning replacing humans. But what you're actually doing is gathering humans and training humans. Do you see any benefit in your line of work for machine learning?

John: Yes. Absolutely. First of all, crowdsourcing is most useful when you have a really large search space and you want to fan out and get away from any local maxima, and you want to have a very heterogeneous set of solutions. I think of the search space in quantitative finance as a two-dimensional grid. There are all the markets in the world and then there are all the data sets in the world. That is a massive, massive search space. It's a really, really great target for crowdsourcing. Imagine, we have these 200,000 people. They've made something like nine million different investment strategies and so the problem of deciding which strategies to use and how to combine them is also very difficult.

That's where we use artificial intelligence, in the estimation of our confidence and individual strategies, and then thinking about how to combine them. It's a natural mix of the two. We think that the problem of coming up with ideas and exploring them is still, and probably will be for a long time, a job that humans are best at. It's a very, very creative endeavor and benefits actually from scaling down and having idiosyncratic ideas, and so having a large team of people just looking for inefficiencies in the market is appropriate. We think this is a really good way to search, but then once you have a bunch of strategies and are evaluating how to put them together, that's where we think AI and ML are really most applicable within our domain.

Agustín: What are the key roles in your company?

John: I think the really essential key functions for us are our product and engineering. We have this platform and that's really the heart of our business. Building a platform that our users love, and love to use, drives a lot of our growth and drives both our businesses. Then, the next thing that's really critical is our marketing growth. We really need to keep growing our community, so that's an essential function of the company. Those two together sort of form the assets of the company—the platform and the crowd. We also have our asset management business; and our investment research team really drives the investment business. Then we have our enterprise business and that's selling our software to other firms. Finally, there's the infrastructure to support all that, for which our CFO is responsible.

Agustín: As technologies evolve and as they get more intelligent, where do you see the future of quant? Where is quant investment going?

John: I think right now the industry is up against a barrier trying to figure out how to contend with all the data that exists and it's not a new problem. People have been talking about this problem probably for about ten years and we still haven't solved it. Data is growing at a compound annual rate of around 200 percent and spending on data technology is growing at 10 or 15 percent. There is just an enormous gap between the amount of data that exists and our ability to analyze it. I think people are starting to get focused on how to close that gap. There are productivity tools to make teams more efficient, there are new technologies under the AI and ML umbrellas to try to more efficiently label data, more efficiently explore data; and then I think there is a need for more human capacity, which is obviously where we're focused. I think these problems are most acute in finance, but they're affecting every industry and it is the big unsolved information problem of our time. How can companies and industries and societies process all of the data that exists now and use it to make better decisions? I think Quantopian is pursuing a particular solution; there are lot of other interesting fully-AI-powered solutions that people are exploring and I think in the next five or ten years we're going to see some new breakthroughs in terms of how much data and how many distinct data sets single firms can manage, operate, and extract value from.

Agustín: What do you think about quantum computers? Is that something that's likely to be a game changer?

John: Yes, conceptually for sure. I think quantum computing now is still nascent, so obviously the potential power of quantum computing for exploring search spaces is extraordinary. I think that we are just at the very beginning of understanding that field; we have yet to build the computers and develop algorithms on top of that type of computing, so I think there's a long, long way to go. But, certainly, it's a really important scientific trend that we need to translate from pure science to something that could be engineered. I am sure there are companies that would disagree with me, but I think it's still very early.

Chapter 46 Facundo Garreton

Company name: invertirOnline

Location: Buenos Aires, Argentina

invertirOnline is an online stock trading company in Latin America. A fintech before the fintech era, invertirOnline was created at the start of the century and has educated Latin America on how to engage in online stock trading. It operates in Argentina, Brazil, Chile, Colombia, Mexico, and Peru.

Roles: Facundo Garreton, Founder

Selling a company is like when your son grows up. You start from zero, it grows up with time, you watch how it evolves on its own, and it doesn't depend on you anymore, it has its own life.

Agustín: The first question I'd like to ask is: how did you start with this fintech business? I'd like to know your story.

Facundo: Actually, when I started, there was no such thing as fintech. I've been an entrepreneur from a very young age. I started when I was 18 with my first professional venture. I was the first Internet provider in the north of Argentina. I saw that opportunity when I was an exchange student after finishing high school. I went to the U.S. and there I saw what the Internet was. I'm talking about the early 90s, when the Internet was only available in some universities. I was fascinated by technology and with what connecting different computers represented. Then I created an Internet provider. Later, when I was 23, I sold that company and left to get a master's degree, an MBA at Berkeley [University of California at Berkeley].

While I was at Berkeley, I discovered the world of finance. In 1998 and 1999, when it was the boom of the Internet companies, before the first bubble exploded, I was in that area. It was the hottest technology market zone in Silicon Valley, and all my mates were investing in the stock market, in the IPOs that were there in the beginning, in technology companies, and then I started doing

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my own online investing. I didn't know anything about finance, and during my MBA I started to discover the financial world and I became passionate about finance. Then when the Internet bubble exploded, I realized that the one that always gets the money is the online broker. At that time, I was working with a company called DayTech. E*Trade and Tradeswap already existed, this was the first one to appear where I really liked what they said, "We take Wall Street to Main Street," and I thought that was a spectacular concept. So I said, "Okay, this must exist in Latin America. We have to create a company that somehow replicates these models, of basically creating financial intermediaries to buy and sell stocks, but adapting it to Latin America, which is a completely different market." That's how invertirOnline was born, by the combination of this technological background that I had as a systems analyst and my university education with the MBA focusing on finance, in the beginning of the year 2000, which is when Internet companies were still starting.

Agustín: So when you left to get your MBA, what was your objective? Was it to create another company, or what did you have in mind?

Facundo: Technically it wasn't an MBA. It's a master's degree in international business administration, and I got this degree there when I discovered the world of finance, like investment management.

When years before I went to the United States and I got to know different universities, I was fascinated by Berkeley. I wanted to go to that university without knowing exactly what to do. I wasn't clear on whether I was going to create a company after that, here in Argentina. I had been an entrepreneur before, and did well, and I thought that experience at Berkeley was going to be useful for some other things, but I wasn't sure. It wasn't my main objective to create a fintech company. No. That's just how things went.

Agustín: You said the model in the United States is very different than what you found in Latin America. How would you describe these differences?

Facundo: Well, first, I remember when I was there in the U.S., I read a book that was called, if I remember correctly, "The Lexus and the Olive Tree," and that book precisely talked about how the society was evolving and the democratization of some stuff. It talked about the democratization of technology, and how the appearance of computers, phones, and all that, was democratizing the access to technology. Another topic was the democratization of information and knowledge: data, information, and knowledge. Through the web and the technology, more and more people had better access to information. The third point I want to mention is the democratization of finance. Somehow, access to the capital markets in the U.S. in the beginning was only available to a segment with the highest purchasing power, with people who knew a lot about it. Then some companies appeared and democratized it and created access for anyone to buy and sell stocks or financial products at a low cost, and technology made this possible.

I saw that almost 60% of the economically active part of the U.S. population invested in the stock market. And when I analyzed Latin America, it was between 5% and 10% depending on the country. So, that was the first difference: in the U.S. the majority of the population invested in the stock market. That's where our mission came from, we wanted to democratize financial services.

Agustín: So, how do you democratize financial services in Latin America?

Facundo: It was a challenge at first because, in Latin America, even though we may have a lot of things in common, like our language, our values, and some other stuff; on the other hand, every market interacts differently, and when it comes to the financial market, the same thing happens. Every market is a different world, with different regulations, different systems. So what we had to do was find a strategy to access each one of those fragmented markets, and see how to get into each one of them in each one of the different countries, and unify all that. All of this combined as well with the complexity of starting to educate people. You would get into these websites in the U.S., like E*Trade or eSwap, and all these sites were online trading, where you would get in, buy and sell. Instead, we had to adapt ourselves because, in the U.S., there were a lot of financial information services companies full of websites on finance and with a lot of information. In Latin America there was nothing. We had to create the content: a website with information, news, research, and adapt it for each country, and also have a transactional site at the same time. Everything in just one website, which was a very different challenge. It was democratizing Latin America, trying to consolidate quite a fragmented market, and unifying a bunch of services, from information to transactional services in the whole territory, which was really difficult.

Agustín: How did you go about funding the business? I imagine in the past it wasn't as easy as it is now to get an investment in a tech startup.

Facundo: Yes. Absolutely. It was extremely complex. First, by this time I had a startup that was going to focus on buying and selling stocks; that was quite basic, but what I mean is that first, investing in stocks or financial products was already complicated for sophisticated people, and doing it online was even more difficult.

During the first years it was really hard to get funding even though we had seed money, in the very beginning, before the bubble exploded in 2000. Then, when the dot-com bubble exploded by the end of that year, the stock market closed and we had to fund a part of it with the seed money we received, then we tried to get to breakeven as soon as possible, to survive, to get to the next round. Until 2004, we didn't get a significant amount of money and we were very focused on breakeven, centered in Argentina at the time, until later we could get more money, which helped us start a process of growing into other markets. We were only able to consolidate the company in 2007–2008 when we began to make acquisitions in other countries, which made the process of gaining recognition very complicated, especially for an Argentinian startup focused on the Latin American market.

Agustín: Has the investing scene changed a lot since then?

Facundo: It's a different story. Today you have funds in Argentina that are specialized only on fintech. Then there were no venture capital funds in Argentina or in the territory at all. They appeared later, so it was always very complicated. In 2004, when we had some extra money, it was thanks to business angels; they put in enough money for us to start growing and moving forward. Then we had funds in 2005 when Comafi Bank joined, a local Argentinian bank, which was our first relevant institutional resource, and allowed us to take our company to the next level until 2008, when three new funds joined as well and changed everything in the process of consolidation in the territory.

Agustín: And you worked 16 years on invertirOnline?

Facundo: Yes, as a founder I started it in the 2000 and I was there until 2014 as its general manager and president. By the end of 2014, I walked away from being the general manager, and in 2015 I quit from being the president. By the end of 2015, I got involved in politics, so yes, I was the manager for at least 15 years. I continued being the main stockholder until we fully exited and sold the company that year.

Agustín: Do you believe you started the company too early?

Facundo: Yes. For the market, yes, but certainly the first mover has a bunch of advantages that you can see with time. You analyze the most relevant companies on the Internet or based on the Internet or technology in the region, and the biggest ones were born in the same period. If you think of Mercado Libre, which at the time competed with DeRemate.com, today Mercado Libre is worth like, I don't know, 15 or 16 billion dollars, and it was born in 1999. DeRemate.com as well, and they were business models quite advanced for their time, and they lost a lot of money in the beginning; millions and millions during those years in order to gain position in the market. You take Mercado Libre, DeRemate, Despegar (travel agency), all these companies—the biggest ones in invertirOnline were born in 1999, 2000, and 2001. So the market wasn't ready for it, but it allowed them, or us, to capitalize on all this learning at that time.

When we started, I remember, two years passed before we managed to have 1% of the stock market transactions in Argentina, and the last year we managed to have 30% of all the buying and selling transactions in the Argentinian stock market. I think there are no other countries where someone has 30% of the market. And that's precisely because we started so long before, adapting and creating a path. Because, in a way, we were such pioneers in the very same markets, that organizations like Merval, the Buenos Aires Stock Exchange, the Argentinian Comisión Nacional de Valores, weren't ready for this and didn't know how to do it.

So we had to show them what we were doing and educate them, and they adapted their systems as well to look at the new technology. It didn't happen in Argentina only, it happened everywhere in Latin America. Now it's easier because a lot of stuff has been standardized. The technologies in communication protocols for financial transactions, what we know today as FIX technology [Financial Information eXchange] for connecting financial transactions didn't exist, so somehow, we were pioneers on all these things, which is why starting so long before was good, because as the first mover you could capitalize all the time.

Agustín: How did you make the change from being a little startup to being a company that has a lot of investors? How did you change the business to a more civilized and organized structure?

Facundo: Yes, good point. In 2005 we started the process of analyzing the regionalization. I decided to create a team of a different category. That is, stop being a startup with the known founders and friends that we had begun with, and try to make it more professional with new managers. A team of eight people quite qualified—the general manager of a bank, who you'd never think would work in a startup, I brought a supervisor, I brought a high qualified manager to involve in the management of a methodology of stock options, a mechanism that wasn't very usual at that time; so they could join the company and we could move forward with the consolidation process in Latin America.

I remember in 2008 when we had some important acquisitions, the team had already been working together effectively for two or three years. The key was to make the team more professional. I try to always work with people who are smarter than me. I always hire people who are quite specialized and superior to me when it comes to some specific knowledge. I think that was the key, building a team that allowed us to consolidate all of these processes and a growth strategy; one part based on acquisitions that was very complicated, with a lot of financial engineering for it.

What we did was that when we went into a country, we analyzed that country and we checked out the ten biggest financial companies, of brokers, and out of those ten we ignored the banks; and we would have five left, and out of those five, we ignored the first and second because they were too big, and we tried to create an association with the third, fourth or fifth independent player in each country. Then we would take a minor position, usually between 15 and 25%, and we stayed with a call, an option of buying up to 51% of the company. We put in the online model and the company began to grow with the online model, keeping the base of the offline traditional business. That strategy worked really well, but I must insist, I think the key was the team behind all of this.

Agustín: And this was funded with company profits? Or did you look for a new way of funding for expanding into new territories?

Facundo: It was a combination. In 2008 we did a relevant round when a few funders joined us. But we also used our own money. In fact, I think in 2007 when we got some new funds, Comafi Bank, for example, who was already our stockholder. They didn't want the international strategy, we bought out their participation with our own money and we tried to find some other funders that did want to support the company in its international growth and not only in its regular organic growth. It was a combination of our own money and the money of other funders that we managed to get.

Agustín: I also wonder how you compare invertirOnline with Patagon, because they were born at almost the same time.

Facundo: Yes, absolutely. In fact, there are a lot of things in common. It's just that Patagon began two years before, in 1997 or 1998. I was still studying at Berkeley, and they were installing their offices in Miami; and they called me because they wanted to buy what we had in invertirOnline, which was still a student's project. Soon after, Patagon was sold to Santander and the whole operation came down. Without a doubt, they started way before and with a lot of advantages with their funders, which made it impossible to sustain over time, from my point of view. Our start was humbler. When we did the seed round for $500,000 USD they already had $25 million USD. Then when they sold everything to Santander for more than $500 million dollars, it wasn't able to sustain itself any longer because they had a weak structure. We didn't jump like that until we had breakeven or until we were close to having it. Otherwise, we wouldn't have had the funds, because we noticed the bubble had exploded. It was all about the timing. If we had started two years before, maybe we wouldn't exist, like Patagon or many other Internet companies.

Agustín: How was your exit from invertirOnline and what do you do now?

Facundo: In 2012, during this internationalization process, we bought a position in an American broker dealer, Bulltick, where we bought 20% of that company, with the same strategies, and we even had the option of buying 51% of it. I think we closed that transaction in 2013. At the time, I had to go to the U.S. for a few years in order to move forward with that process and the truth is that the situation in Argentina was quite complicated because of the Kirchnerism [political party]. I was very involved with an organization called YPO (Young Presidents' Organization), where the ones who got in were presidents of companies with less than 45 years in the market. In Argentina there must have been 100 members. Some of them started to get involved in politics. They called me and asked me if I wanted to be a candidate in Tucumán, which I thought was crazy because I was an entrepreneur and I had never been involved in politics, and I was educated in a different field. They insisted and Macri [Mauricio Macri, president of Argentina] called me one day and invited me to have lunch with him. He told me he needed more people like me, mostly for the north of Argentina, because of the way things were going in Argentina; and at that moment I had to make a decision. If I left for the U.S., as my son was starting high school, I didn't feel good about leaving Argentina knowing Kirchnerism might win again and that it would make us go back in time, maybe even be like Venezuela today. I thought it was better to analyze the situation, I talked to the family, to the investors, and I began the process of leaving the company, as I explained before, and finally that year we completely sold all the invertirOnline stocks to the Supervielle Group.

Agustín: So are you happy with changing business for politics?

Facundo: It depends on the point of view. With the Supervielle Group we made a really good transaction and they were happy, too. On a personal level, selling a company is like when your son grows up. You start from zero, it grows up with time, you watch how it evolves on its own, and it doesn't depend on you anymore, it has its own life. You feel good about it too. Of course, you miss some aspects, but you also feel good about it, although you obviously miss the adrenaline of the startup and all the challenges when it's growing up, you miss that too. On the other hand, politics is completely different, it's a different logic, it's way more complicated, there are a lot more variables, a lot of times it's a fight for power and there's a lot of interests in the way, and you must permanently find a balance, and that makes it completely different. The difference is that the impact you create through politics is so much bigger. Today as a member of the congress, for example, one of the laws that I promoted is the law for entrepreneurs. In Argentina, over the past two years, more than 12,000 new companies were created as simplified joint-stock companies, a new company type that can be opened in 24 hours. There is also regulation in place for crowdfunding, and a bunch of other things that are new, so we have had a big impact. That's the good thing. The bad thing is how inefficient the system is. The congress, not only in Argentina but in any parliament in the world, are institutions that are becoming obsolete. We're in the 21st century with institutions like congresses and parliaments that come from the 15th or 18th century and with technology of the 15th century, I have to fly every week from Tucumán to Buenos Aires to sit there and raise my hand, with papers and signatures, it's completely obsolete. That's why the whole system is very inefficient and I think those are the next challenges we have—how to save democracy with new institutions and new technologies that can be more efficient.

Agustín: From the political point of view, how do you think the new fintech technology will help a country like Argentina?

Facundo: I've always thought new technologies are helping democratize and decentralize a bunch of things. I think when you talk about fintech you talk about a lot of things behind it. From blockchain itself you can completely change a lot of paradigms, beyond cryptocurrency. You can talk about smart contracts, you can talk about systems for registering votes, you can talk about direct democracy, you can talk about a lot of things that the technology behind fintech can do for creating an impact on the future of democracy; and in the productive systems, with smart contracts and decentralized currency, that can help developing countries greatly leap forward, from this point of view. I think Argentina, with blockchain specifically, has a big opportunity. We're pioneers in a lot of aspects and I think there's an interesting future for our country, and that deep inside this kind of technology is changing paradigms. We'll see if we're up to the circumstances of capitalizing on everything that is being created around the world.

Chapter 47 Gonçalo de Vasconcelos

Company name: SyndicateRoom

Location: Cambridge, United Kingdom

SyndicateRoom connects ambitious investors with some of UK's fastest growing private companies. The company invests via its own funds and via the platform into companies alongside top-tier professional investors, on equal economic terms.

Roles: Gonçalo de Vasconcelos, Cofounder and CEO

> *We pioneered the investor-led model, whereby for every deal on our platform, every company has to have a VC or a business angel leading the funding round.*

Agustín: How did the idea for SyndicateRoom come about?

Gonçalo: I got into fintech almost by accident. It wasn't designed to be; it was purely a result of the idea that I had for SyndicateRoom. Personally, I've always been incredibly interested in both financial services and in technology, so it made sense that I would get involved at some point with fintech, but I never planned to get involved in fintech. I never thought, "Ah! This is going to be the hot sector of the next ten years, and therefore I need to ride these waves." It was far more the consequence of having the idea, the vision for SyndicateRoom, that then obviously led me into fintech as a result of what SyndicateRoom does. The idea behind SyndicateRoom really came to me during my MBA in Cambridge, when I was working a lot with business angels and with VCs and I could see all these incredibly cool companies, very inspiring entrepreneurs that they were investing in; these were professional investors. At the same time, I could see all of these brilliant companies with an amazing potential to change the world and to be very profitable, struggling to raise financing and my thinking behind it was actually very simple. If they already have a well-known business angel or venture capitalist backing them, and there are so many other people out there in the

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world that would love to invest a little bit of money in these companies, but that don't have the means to reach them and they don't know about these companies because they're not networked, then why not provide a way to allow those people to invest alongside the professionals. So allow these online investors to invest alongside the professionals, sharing the risk and the reward, fairly. That's how the whole vision behind SyndicateRoom came about, allowing people like you and me to invest from a thousand pounds upward, alongside the professional investors. This means that, it doesn't really matter whether you invest a thousand pounds or a million pounds, the risk and the reward should be fair. So, on a pound per pound investment, everybody should make or lose the same amount of money. That was really how I started SyndicateRoom.

Agustín: Where does the name SyndicateRoom originate from??

Gonçalo: Interestingly, the name of SyndicateRoom came from the room where I was when I had the idea for SyndicateRoom. I was studying for my MBA, as I said, at the Judge Business School, here in Cambridge. There's a room in the business school for students to use to brainstorm—whatever it is they want to brainstorm—and we happened to be brainstorming ideas for starting a new company, and that's when I had the idea for SyndicateRoom. I said, "Right, I have this vision of people being able to invest online alongside professional investors in a fair and transparent way, but I don't have a name for it. What shall I call it?" A friend of mine pointed at a little plaque that was in the corner with the name of the room: Syndicate Room. She said, "Oh, why don't you call it SyndicateRoom? It makes sense. You are organizing syndicates of investors. You are pulling investors together." I looked at the plaque and I saw the name Syndicate Room. I thought, "Ah! That's a rubbish name, but that will do for now, so let's just go with SyndicateRoom for now; I'll change it later," and five years later, or six years later now, almost six years later, it's still called SyndicateRoom.

Agustín: That's a good story and you should sponsor the room now in Cambridge. Syndicate Room, sponsored by SyndicateRoom. When you first started with the idea, how did you put together a team and how did you get funding for your company?

Gonçalo: At the beginning, it was actually very tricky. Two things were very tricky, one was to find a cofounder because, as an entrepreneur, when you have an idea for something that doesn't exist yet, it's actually very difficult to get people to believe in your idea. Think about Airbnb and how hard it has been to convince people that one day in the future people would be renting their own bedrooms online to complete strangers. It is vision, and these entrepreneurs, these visionaries, find it. They create something that doesn't exist, and they can see a world that doesn't exist yet and that makes finding cofounders very tricky, and that was one of the toughest parts. I had some friends that joined me, but then they, because they were doing their MBAs got very well-paid jobs elsewhere, so the time was not quite right for them. I carried on, on my own, until Tom Britton joined me about a year and a half into the journey. That was one difficulty. It was completely by chance at a networking event in Cambridge, by the way. We started talking, we got along really well, and then eventually I invited him to join SyndicateRoom, which gladly he did. Then the second thing was money—and for the same reason—when you are trying to sell a vision of something that doesn't exist yet. I thought that because of my connections with business angels and VCs, and SyndicateRoom being based on how to effectively do angel investing and VC investing much more efficiently, I thought it would be pretty easy to raise money—and I was completely wrong. It was because of their knowledge of the industry, it just made it a lot tougher, because the answer that I got over and over again was, "Well, I would never invest online, so why would anyone else ever invest online? I don't think the idea's ever going to work." Its crazy to think now in 2018, and it's crazy to think that just five or six years ago, investors didn't believe in investing online. Now it's something that when you think about it, how could you not see that coming? But it is true. Back, just five years ago, it was actually very hard to convince investors that there would be a market for an online investors platform.

Agustín: Did you ever consider to actually crowdfund the funding for your own company?

Gonçalo: We did consider it, and we actually did it. We did our own funding round, on our own platform at a later stage, but at the very beginning we didn't have the platform for the FCA [Financial Conduct Authority] authorization, so the regulatory approval to do it. The initial bit of money, the very seed money, was the hard part to find, then it became easier and easier. Then by I think our third round or so, we raised 1.2 million pounds in less than twenty-four hours. It took us eighteen months to raise the first one-hundred and fifty thousand pounds; it took us less than twenty-four hours to raise 1.2 million further down the line. So obviously, when the company's up and running and working, it becomes a lot easier to raise funds, naturally.

Agustín: If I'm running a startup and I have a choice between getting venture capital or going out and doing crowdfunding like maybe Monzo has done or Revolut has done, what are the advantages of one side or the other?

Gonçalo: Right, so they are different things, but they're not exclusive. In fact, our entire model relies on the lead investor. We pioneered the investor-led model, whereby for every deal on our platform, every company has to have a VC or a business angel, leading the funding up. They're not mutually exclusive; actually we say they should be together. They should have a more active investor like a VC or a good business angel or good business angels, helping you out with the company and then you shouldn't have too many active investors because that then becomes a pain to manage. Therefore, the rest of the money should really be passive. That's what we bring in is this passive factor. For us, for companies, it becomes a no brainer, because they have a lead investor that covers part of it. It's very rare that a lead investor covers the entire round and even then, they come to us to top up. But usually what happens is a lead investor will cover half of the round and then they can come to SyndicateRoom to close the rest of the round in a very, very efficient manner. It can take them a month from start to finish to close the funding round, without changing the investment plans. That becomes very attractive, because it reduces the hassle and the time-consuming task of finding more and more and more investors by the company. It just makes it a lot easier to close the funding round and to focus back on the business. In terms of Monzo and Revolut, the reason why they do crowdfunding is different, it's just pure marketing. They don't need the crowdfunding and chances are they wouldn't do it, if it wasn't for marketing.

Agustín: Right, so when you say they don't need it, do you get more favorable terms in terms of equity, I mean, if you do just venture capital?

Gonçalo: No, quite the opposite. When companies do pure crowdfunding, which was not Monzo or Revolut's case, what they did was they raised money from VCs, then they'd crowdfund for the marketing value, so that they could bring in their customers, which is a very different proposition. It works really well for consumer-related products and services. Then, in SyndicateRoom's case, it works very well when companies raise money from an angel or VC and then close the funding round with us, very efficiently. The third option is pure crowd equity crowdfunding, which is when companies just go to the crowd and ask them to invest. That's when companies get much better terms than they would get from a professional investor, because those investments are not negotiated. They are set by the company, hence the reason it's called company-led crowdfunding because they're set by the company. They set the valuation, they set the share class, and investors can invest the money—it's up to them. But if the same company goes to professional investors, the valuation will be negotiated by the investors and that's why it's called investor-led crowdfunding, which is what SyndicateRoom does—investor-led funding. The terms usually won't be so good for the company, but the smart companies will understand that overvaluing yourself in the early rounds is actually a very, very risky thing to do, because further down the line you are increasing the chances of having a down round, which is going to piss off all the other investors.

Agustín: I was going to ask you about when did you think that this was really going to work? At what point in the life of SyndicateRoom did you say, “Hey, I’d better keep on with this business, because it’s going to be successful.”

Gonçalo: <laughs> Very good question. Oh, I need to think about that one. I am incredibly driven and ambitious and therefore I’m never quite entirely happy about our results. I always think we could and should have done better. So breakthrough moments, there hasn’t been one where I thought, “Yes, we’re really making it.” There’s been plenty where I think, “Yes, this is going the right way,” and one of them, no doubt about it, was when we closed our first EIS [Enterprise Investment Scheme] Fund Twenty8. Fund Twenty8 is the first ever, and I believe the only, passive early-stage investment fund. It’s a passive fund, that is, it’s a bit like a tracker, a little bit like an ETF, but featuring private companies, for early-stage companies. It uses data from our platform, and that is the first ever in the world and it’s an incredibly interesting, but very new, proposition. Again, it was very hard to understand how investors were going to react and the reality is that they reacted really well, and it’s been an incredibly popular product of ours, the Fund Twenty8. Two years on and we are going to close our fourth Fund Twenty8, which is incredible considering that most VC funds take two years to close one fund, or sometimes it’s really more than two years. When we closed Fund Twenty8 with such success, there was a moment when I thought, “Yes, this is an amazing product and we have the audience for it and it is working and people clearly have the same belief in it as I do.” That was the sort of the breakthrough moment, if you articulate it that way, or certainly a way of thinking or certainly a moment where I thought, “We are on the right track.”

Agustín: I’m wondering how do you see yourselves against the competition, when people think of crowdfunding they usually think of firms such as Seedrs or even Kickstarter?

Gonçalo: Right, so Kickstarter is completely different. We don’t compete with Kickstarter because it’s crowdfunding, but it’s not investment crowdfunding. It’s you put money in, and you can get a product or service or a thank you, whatever it might be. We don’t compete there because it’s something completely different—most of the things or almost all of the things that we do, would not even be appropriate for Kickstarter and vice versa. With Seedrs, Seedrs is a crowdfunding platform. It’s a company-led crowdfunding platform, where the companies usually set their own terms. They have a very different approach from us. Their minimum is £10; they work with the companies and, my understanding is it's very B2C focused, so consumer-related products or services and at the very early stage of a company. We are an investor-led platform, so we allow sophisticated investors to invest alongside professional investors and what that means is that the sectors we work in are completely different. Our sectors tend to be the ones that professional investors will invest in, so they tend to be companies with very strong intellectual property behind them. Some of our sectors that we're strong with, are things like life sciences, engineering, cleantech, and software as a service—so incredibly scalable businesses that the professionals are investing in. As a result, although both Seedrs and we are online investment platforms, the end result of the type of companies that we fund are very different from any other platform out there. Our key competition with them is more on getting the attention from the media. Even the type of investors is different.

Agustín: How do you source your companies?

Gonçalo: We have an incredible process to vet companies. We have several stages of vetting. We keep on asking companies for more detail. We look at them and we see whether the companies are suitable for the platform; if we're happy with the valuation and who is the lead investor; what their experience is in that sector; how much we believe that the company might grow, because if we don't believe that the company might grow, we won't accept it. We have a fairly small number of projects going live out of the hundreds of projects that we see, precisely because we believe that only by taking the best can you have a good investment outcome.

Agustín: How is the vetting done?

Gonçalo: We vet a company by carrying out a lot of due diligence, to look at the lead investor or lead investors, see what their experience is in the sector, and really hand pick those companies that we believe that can absolutely fly. A lot of them will fail, no doubt about it, but we will fund those that have a good likelihood, or in our opinion, of flying.

Agustín: It might be a bit of a contradiction, because you make money out of each deal and at the same time you want to get good quality for the investors.

Gonçalo: Actually, it's very rare that anyone brings up that point and it's a very, very good point. We changed our revenue model, precisely because of that. Usually platforms like SyndicateRoom work on the basis of charging a percentage of the funds raised, as you quite rightly pointed out. We changed our revenue model, so we charge a much, much smaller success fee at the time of raise. Then we charge an ongoing fee to allow the company to report to shareholders and to do all the admin with the shareholders. What that means is that, if we fund the company and the company fails, say in the first year or two, we are out of pocket. It is not in our interest to be funding companies that can fail in one year or two. If they go on to become . . . to keep on growing and so on and they stay for five years, because we have that ongoing fee every year, then we are in the money. We make more money out of it that way. It is in our interest to fund companies that have a real chance of success, because otherwise we are out of pocket. Furthermore, for the companies, it works a lot better, because what happens is the initial fee is reduced vastly, and then they have an ongoing fee. That means that when they need money the most, which is at the very beginning, their cost of raising that financing is lower, much lower. Then, as they grow, the management fee that they have to pay to us, every year, is actually fairly small as they grow. So, by year five when they have thirty, forty, fifty employees and they generate millions of pounds in revenue, our management fee is peanuts to them. It actually works really well on both sides and it avoids that conflict of interest that you're talking about, or potential conflict of interest, of us being incentivized to fund as many companies as possible, without caring about the outcome. We very much care about the outcome for those reasons.

Agustín: Yes, a really good business model. A brilliant idea. Let me now ask you about training. I suppose there's an element of training on both sides, so for investors and companies that want to get involved in one of these rounds. How do you deal with that?

Gonçalo: Training for investors. It's not formal training, but we share a lot of information. We have a "learn" section on our website, we've produced an actually amazing guide that everybody should read, any investor should read, which is on due diligence. What to look out for and so on. It's available on our SyndicateRoom website. We do exactly the same thing for the company. We also produced a guide called "The Art of Fundraising" and it explains the steps that a company really should go through and how to prepare. On top of that, I write quite a bit for forums to help companies and entrepreneurs, and we do a lot of informal events for companies but that's not so much on the fundraising, it's more on how to grow the business. We give a lot back into the ecosystem because, to be honest, it's in our interest. It's a bit selfish. If companies know how to grow better, then we just increase the likelihood of success, which is great for us. If investors know how to invest better, then they understand the much higher quality of SyndicateRoom compared to other platforms and therefore it is also in our interest. Then we don't have to sell anything; we just have to inform people, and everything works out in our favor.

Agustín: How do you see SyndicateRoom growing in the future? Is it international? Is it offering other products?

Gonçalo: It depends very much on how Brexit turns out. That will inform our strategy. We have two ways that we can go. We can go internationally and that depends on things like the FCA and so on, and what is going to remain in place to expand into different countries, which we've already done a little bit. Or we can go into further products based purely in the UK. To be honest, we're waiting to see what Brexit is going to do, what's going to happen there, because that's going to have a strong impact on our strategy.

Agustín: That's a good point.

Gonçalo: Everything is so uncertain here in Britain at the moment, that we cannot say, "Yes, this is the way we go." It could change by the end of this week to be honest. In terms of SyndicateRoom's growth, it's exponential; it is a very scalable business and we've been growing at an amazing rate every year. As I said at the beginning, I'm incredibly ambitious, I'm incredibly driven, and the objective is to further increase that growth rate as we grow. So, it's really about scaling the business.

Agustín: I would like to ask you about your view on ICO [Initial Coin Offering]. This new form of funding which is kind of competing with yours.

Gonçalo: Now in terms of ICOs, a very interesting question you're asking. ICO's have gone through quite a ride in 2018, from being the hottest thing ever, at the beginning of 2018, to be the things that most people don't want to touch at the end of 2018. I think that the technology behind ICOs, that is, blockchain, is incredibly powerful and the technology behind ICOs allows SyndicateRoom to be even more scalable. The technology can really put stock exchanges around the world at risk, no doubt about it. However, the way it's been used and the players in the market, in my opinion, the vast majority of ICOs are not worth the paper they're written on and that is the key downside to ICOs. There was a sudden gold rush, and that means that the average quality is low; that is the key barrier to a much wider adoption. But the technology? Absolutely spot on. I think it will take time to get there, but I think the technology can be used to do all the right things with ICO, but it's not there yet.

Agustín: That's very interesting to see all of the money flowing and, yes, seeing what will happen with all of these companies.

Gonçalo: Well, let's hope, yes.

Agustín: It will definitely become an opportunity for firms like yours, seeing how technology can be utilized. Thanks for your time.

Chapter 48 Yoni Assia

Company name: eToro

Location: Offices in the UK, the US, Israel, Gibraltar, China, and Australia

eToro is a social trading and investment platform that allows users to trade currencies, commodities, indices, stocks, and cryptocurrencies. It has brought innovation to personal investment by enabling users to watch the financial trading activities of other users and copy them, as well as enabling them to make their own trades. It is a great way to learn from other users and capitalize from shared insight.

Roles: Yoni Assia, Cofounder and CEO

We brought copy trading to the masses.

Agustín: How did you get started in financial services?

Yoni: I first began trading when I was 13 years old. My father knew a lot about finance and often sat down with me and educated me on trading and the wider financial system. This meant that I was quickly able to make money at a young age and I knew this wasn't something to take for granted. I soon realized that not everyone has access to someone like my father, so I knew I wanted to find a way to share financial knowledge and make the complex world of finance accessible to more people.

Agustín: How did the idea of eToro come about? What was the original business model and how did it develop?

Yoni: eToro was founded in 2007 by me and two other entrepreneurs who wanted to disrupt the world of trading. We wanted to change the way people think about trading and investing, ultimately reducing dependency on traditional financial institutions to make trading and investing more transparent and fun.

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We wanted eToro to become a community where people could share ideas. We built the platform as a social network for traders and investors, where they can execute trades, but also see what others are doing and talk to each other. We brought copy trading to the masses, and ‘copy’ remains a key feature of our multi-asset platform today. It allows you to copy trades of traders you pick in proportion to the amount you choose to invest and you can stop at any time. Around half of our clients use it, both in terms of following others, or investing in our growing range of CopyPortfolios.

Agustín: How has eToro evolved from 2007?

Yoni: While we have come a long way since 2007, this social or community ethos still holds true. We now have a community of over 10 million registered users from over 140 countries. Today, eToro acts as a bridge between the old world of investing and the new, helping investors navigate and benefit from the transition of assets to the blockchain. eToro is the only place where investors can hold traditional financial instruments such as stocks or commodities alongside ‘new’ assets such as Bitcoin. We believe that in the future all assets will be tokenized and that crypto is just the first step on this journey.

Agustín: How did you go about funding the business?

Yoni: We have always looked for investors that provide added value. This means that at the early stages, angel investors that had the ability to help us shape our product and its market fit, mentoring and helping us build the company and management team. At a later stage, as the company grew and our product matured, our main focus was on distribution and we on-boarded big financial institutions such as Ping An, CommerzVentures, China Minsheng, and SBI [State Bank of India], that could help us to build trust locally, to localize and utilize their robust distribution channels.

Agustín: How did you go about putting together your management team? How fast did you grow your headcount?

Yoni: To scale eToro we needed a broad range of expertise, as eToro is a tech company, a multi-regulated broker, and an online marketing company. This is reflected in the composition of our board and management team. As we have grown around the world, we have also been sure to on-board the right local expertise. The last two years have seen a rapid growth in eToro’s headcount reflecting both our global expansion and the growth of our crypto offering.

Agustín: Growing your user base can be very expensive in your industry. How do you approach this?

Yoni: We believe that investing should be a social experience. We make better decisions together than we do on our own. eToro is a global community of over 10 million people. Our best way of growing the community is for existing users to spread the word themselves. The way to do this is obvious. We need to make sure our users get an amazing experience so that they want to share the experience with their friends.

Every eToro user who deposits more than $5,000 has a dedicated account manager who is available to support them in terms of answering questions about the platform and discussing markets or investment opportunities.

We have also invested in marketing to grow awareness of eToro and understanding of social trading.

Agustín: How do you see social investing developing in the future and how do you see eToro growing?

Yoni: In the future, crypto and the blockchain technology that underpins it will have a huge impact on global finance.

Blockchain technology is going to facilitate the greatest transfer of wealth ever seen, not from one group of people to another, but from privately held databases to publicly available distributed ledgers.

This process is called tokenization. Tokenization will convert the rights of ownership of any asset into a digital token which is then available on the blockchain.

This may seem complex but, in essence, tokenization will mean ownership of traditional asset classes will be more easily transferred and more securely stored. Perhaps most importantly, markets for more niche asset classes, previously the reserve of the wealthiest, will be made far more accessible.

Just as eToro has opened traditional markets for investors, in the future we want to do the same in a tokenized world.

Agustín: What differentiates eToro from its competition?

Yoni: Investing has been a closed world. Knowledge has only been shared by those in the know. A small number of institutions have, for too long, had disproportionate ownership of the world's assets.

Everyday people have lacked one or more of the three key ingredients needed to effectively invest their money: (1) access to the assets they want, (2) knowledge and insight, and (3) someone to make the process easy. eToro is focused on giving people all three ingredients in one place and at a price point that makes it accessible.

Joining eToro gives investors of all types access to the assets they want today from commodities and stocks to cryptoassets. They also benefit from being part of a global community who share their investment strategies and insights and anyone can follow the approaches of those who have been the most successful. It is simple and easy to set up an account, then buy, hold, and sell assets. For those new to investing, the community aspect of eToro's platform and the educational resources introduce users to the risk profiles of the different asset classes and the types of returns to expect. Our community is alive 24/7 to answer questions and share insight.

Chapter 49 Adam Leonard

Company name: BlockEx

Location: London, United Kingdom

Description: BlockEx allows users to trade digital assets, and uses blockchain technology for settlement. BlockEx brings governance and confidence that investing in specific projects is legitimate and sound, and are profiting from ICOs (initial coin offerings) and STOs (security token offerings) increased popularity.

Roles: Adam Leonard, Founder and CEO

When raising capital through an ICO be prepared to do it right, put in the work and don't expect easy money.

Agustín: How did you get started in blockchain technologies?

Adam: Back in 2011, a good friend of mine called me up and suggested I look into it. He said, "I have no idea how this works, but if it takes off it will change the world." Brock Pierce, founder of Blockchain Capital and creator of the EOS coin had introduced him to it. From this encounter, I pulled out an old laptop, found an Internet relay chat channel with instructions on how to approach mining for cryptocurrency, and started doing it. By the end of 2011, I had set up a program where people could use credit cards to cash out their Bitcoin BTC. Before I launched this program, we killed it off because we were concerned about anti-money laundering [AML] issues.

Agustín: What mistakes did you make that you have learned from?

Adam: I feel that at some point I should have accepted more investor's money and gotten to market faster. We turned down money a few times, in one case an outright buyout of the firm at pre-launch stage from two equity investors. Also trying to be perfect, we delayed our launch and had to fight harder later to gain

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market share than we would have if we rolled the dice and had launched earlier.

Agustín: When did you feel you had a breakthrough that pushed the business forward?

Adam: There have been a few breakthroughs. The first one a few years back when we started having tier one banks and regulators approaching us to request our time to learn about blockchain. That's when we decided it was time to start working on BlockEx.

Lately the biggest breakthrough for us is our bond issuance product going live into production. By the time this goes to print, we should be issuing corporate debt on the blockchain.

Agustín: How difficult was your process of finding investment for your business?

Adam: It feels like we are constantly looking for investment. I have been building startups or helping startups since 2001. Raising money for a proper blockchain business is much easier than any company I have been involved with in the past. In 2017, a crazy market was experienced where money was being tossed around, as if investors hated their own money. Then in 2018, I've noticed a return to normalcy, a situation in which founders need to justify appropriately the business case for their investment.

Some people are talking about how hard it is in 2018 to get investment, but in my opinion, its just a more normal way of raising money: proper pitches, proper road shows, proper due diligence.

Agustín: What specific piece of advice would you give to somebody who wants to create a blockchain company or an ICO?

Adam: Be prepared to do it right, put in the work and don't expect easy money. Run an initial coin offering (ICO) like you are going to do an initial public offering (IPO). In fact, do a security token offering (STO), give up some equity to the right investors who can help open doors and challenge your line of thinking and keep your feet on the ground.

Make sure your personal life is in check, I was lucky to have a very supportive wife given we have three children. If your partner is not supportive of the 24/7 work schedule its going to be hard.

Agustín: How do you see distributed ledgers evolving in the next 10 years?

Adam: Ten years is a long time! I having trouble foreseeing 2019 <laughter>. I could make a bet on quantum entangled distributed ledgers built by Elon Musk using his own singular technology, of course. In essence, I have no clue but can't wait to see what is coming our way.

Chapter 50 Barry Freeman

Company name: PINTEC and Jimubox

Location: Beijing, China

Description: PINTEC is an intelligent financial services technology platform. Jimubox, the leading Chinese fintech marketplace, is a multi-asset class, multi-product type financial marketplace that provides intelligent financial advice to the next generation of Chinese investors. Barry has built really successful businesses in China by finding the right opportunities and scaling them up at the right time. His story shows how important it is to understand both regulation and technology when starting up a fintech business.

Roles: Barry Freeman, Cofounder

> *I firmly believe that China is the most competitive market in the world from the standpoint of technology startups. If you have any good idea, you'll have fifty competitors in a week.*

Agustín: How did you get started in financial services and entrepreneurship?

Barry: Well, interestingly, my background's actually more in investment banking and investment, private equity. I am American, and I originally moved out to China in 2008 and I was working for a small investment fund. One of the first investments we made was in a credit business, out in western China, in a place called Yunnan. It was a relatively small investment, but, it was for an entrepreneur, Jun Dong, who's from China, who had just moved back from the US and was educated in the US, but is a guy from Yunnan. We invested in his business and through that I got to know him quite well. We were providing consumer finance and SME [small and medium-sized enterprise] loans into the local market. It was a very local offline, traditional, non-bank, lending business. That was a very interesting experience, moving there with my wife; I didn't have kids at the

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time. I joined him as CFO and helped him grow the business. I lived there in Yunnan for three to four years and I really cut my teeth in the local Chinese credit market, working with the banks and how to make loans. Through that experience, we spent a lot of time looking at the market. At that time, it was the beginning stages of the Internet finance revolution in China.

Agustín: What was the Internet finance revolution?

Barry: Where you have this confluence of consumer demand for credit that was not being served by traditional financial institutions, combined with an extremely relaxed regulatory regime, as related to the new technology innovations in financial services, combined with a team that had experience in the credit and Internet markets. China had next generation personal payment infrastructure, led by the key Internet players in China. Alibaba and WeChat were really connecting the large consumer market via personal payments. You had this very high adoption rate of individuals utilizing these payment platforms to transact. It was around 2012, and we started looking at the market saying, "What can we do with our credit backgrounds?" having an understanding of how to manage credit risk, with the confluence of these three major factors. At that time, we decided to start a new business. Then, four of us got together and we started a company called Jimubox. The idea for Jimubox at the time was to create an Internet platform where Chinese consumers or retail investors could come to the Internet and buy financial services products, and we helped them to invest their capital. But when you come in to combine that with our credit experience, knowledge, our capacity to originate credit assets, it turned very quickly into a peer-to-peer lending platform.

Agustín: Sound like the timing was good.

Barry: At that time, around 2013, it was kind of a perfect storm for us, getting to market at the right time and launching this business and getting traction in the market. It's a combination of our technology capabilities, combined with traditional credit and loan origination capabilities, combined with where the market was at the time, from the standpoint of consumer adoption to invest their capital through the Internet and the regulatory situation. A very hands-off regulatory situation. We started that business, Jimubox, in 2012 and ending up launching it in 2013, and it was really kind of fascinating to see what happened quite quickly, the uptake and growth of the business. Really what we were doing was matching credit assets, through this Internet platform with retail investors.

Agustín: How fast did Jimubox grow? And do you think timing was important?

Barry: We literally started from zero trading volume on the platform and in eighteen months we were doing a billion and a half RMB [renminbi] a month of new trading, new issue assets, all funded by retail investors, averaging per person investment size of about 50,000 RMB. So it was a huge scale from the standpoint of demand for investing in this new asset class, which Chinese investors where super interested in because of the current yield. A new place to put their money outside of the real estate sector, which was getting overheated at that time and had significant demand for fixed income, currency yield, type of investment products. We got really lucky from the standpoint of the timing when we went to market. I think for any of these financial technology businesses, really, in startups generally, there are three or four factors that dictate success. One is the team, we had a high-quality team, that could execute. To have a good idea, a business model, that is differentiated in the market would be number two. Three would be timing. And four, access to capital, to be able to grow and scale your business. So those four factors we timed perfectly; and they all happened at the same time. The timing, from the standpoint of the regulatory situation that was very hands-off and let us do things that were very differentiated and new, was perfect. We created this trading platform, where individual investors could come in and buy fractionalized loan assets; where people who wanted to lend money would fund those loans on a fractionalized basis. You'd have a loan for 100,000 RMB, so $15,000 US dollars. On a 100,000 RMB loan, you might have 400 people,100 people, 200—all fractionalized—where they would buy a very small percentage of that. And then we also created a secondary exchange, to where they could get liquidity on their investments. So there's that fractionalized stake in that individual loan to a new party.

Agustín: Did the lack of regulation help you at the time?

Barry: It was really innovative at the time, and the reason why we were able to do that was mainly a function of the China regulatory situation at that time. It was very hands-off and allowed us to do these things that were new and innovative. Fast-forwarding a few years later, after the business continued to develop, we were able to bring on some high-quality investors and partners to help us scale the business. Then, because of the same rationale of why we were able to be successful in terms of regulatory situation, we had many competitors pop up that were doing similar types of things on an unlicensed basis. That created a significant amount of malpractice in the market given the low entry barrier, so you had a lot of fraud starting to occur in the market. That changed the regulatory approach to this fintech market in China, where it then went from an under-regulated market to a, you might say, over-regulated, or you might say, properly regulated market, depending on your viewpoint. That's what's been occurring over the last few years. But looking at the early days of the business and what we were able to do, we had really good timing with a high-quality team and access to capital to be able to grow our business. That was the story of how it all developed. PINTEC then became a spinoff of that business. Once we started developing the business, we started developing very specialized technologies to do things like credit scoring and consumer credit collections, and differentiating the product design and unique user acquisition capabilities, using the Internet, and that turned into PINTEC. PINTEC evolved out of our initial business Jimubox, to where it became its own standalone business. But it actually incubated as part of the original platform; original business that we started 2012.

Agustín: That explains very well your journey around fintech. If we just go back to the beginning, you initially travelled to China for a job. What was that like? As an American expat, how did you decide to stay and what is it like to live in China?

Barry: Yes, I'm American, so initially it was a kind of a two-year maximum project mandate that I was working on. I had a very short timeline, and I wanted to do something different. I had just gotten married and I had been doing some business in China from New York and was quite fascinated by the place and happened to meet some people through my previous work that had already been doing some investment work in China. That's how I originally came over; but then I met my business partners through the first work I was doing and that kind of snowballed from two years to four years, and now I'm ten years in. You never know how it ends up happening. It's just that we started having success and I ended up staying. That's kind of how it evolved. But it's certainly been a unique experience. My wife's also American, she moved with me, both in Shanghai and Kunming, Yunnan. The business has been based in Beijing for the last five or six years, so we've been moving to different places around China, and the last ten years have been a very unique experience for us. I had no idea, before I actually moved out here, that I might have the capability to speak Chinese, but I've worked in local companies now for ten years and I now work in Chinese local language, full time. It's taken me a long time to develop those skills, but now I'm at the point where it's kind of natural.

Agustín: Great achievement! Chinese is a very complicated language. How about the culture? What was it like for you to adapt yourself to the local culture? Obviously people do things in a different way in China.

Barry: Yes, they just have a different perspective. When I first got out here, I had a very difficult time understanding how they see the world. But I adapted to where I learned to see things from their viewpoint. I certainly don't agree with their viewpoint in every situation, but I have learned to adapt and to ensure that I always make sure that I can see the world the way that they see the world, before I make major decisions. It's been a great experience for me to have that perspective and I think that definitely applies to not just my business in China, but everything that I do. It's made me a much more well-rounded decision maker, by forcing me to see the other side that I normally would not necessarily be naturally inclined to see the world. In the past ten years now, before we had the trade war issues, being an American, I have had very close relationships with Chinese business friends and business partners. It certainly is a very interesting time to be doing business in China now.

Agustín: It definitely sounds like it is. How did you fund these businesses? I'm curious about how difficult it is to get funding in China.

Barry: We actually have been very lucky, as I said, from the timing standpoint of how we got to market and how we got to scale. We really scaled the business quickly. We were able to, literally in eighteen months, go from our Series A to B, to Series C. We raised, $10 million, $37 million dollars, and $85 million dollars of venture capital, literally in eighteen months. The capital was there, because the market was there. In China they call it a wind channel. There are these industries where they are constantly seeking improvement; they're wind channels, meaning the wind is at your back and it's an opportunity to scale up in the market. Certainly, in the finance and financial technology areas in China, around 2013, it was a wind channel. The funding was there because we had a good team and good product and ability to scale. When I look at the global fintech market, I think one of the things that I've noticed from my experience in China is separating out different parts of financial technology businesses using innovative technologies, or uniquely innovative products, that utilize technology, versus regulatory arbitrage. There are two different parts of the market and I think, a lot of what's been happening in financial technology, really in the last five, seven to eight years, is regulatory arbitrage. Meaning you have some type of a pure traditional financial institution, that has different types of regulatory requirements around launching products, around capital requirements, around really whatever the regulatory regime in which the financial institutions sits. It's given financial technology companies a big opportunity to exploit those, specifically in China, and that's happened over the last five to seven years. I think, as that regulatory arbitrage gap closes, it really is that the businesses that will be successful are the ones that are able to build unique technology driven products; and it's starting to occur in the China market now, certainly. When you look at it globally, fintech in the other more mature markets like Europe and US haven't had as much regulatory arbitrage, but you they still had it to some degree.

Agustín: Why do you think the opportunity in China is so large?

Barry: I think when you look at why the China market in fintech is still so large, it's really because of the underserved market combined with the regulatory situation to run these businesses has been right. That window is closing on the regulatory side, where we're becoming more and more regulated like a traditional financial institution. There is still a large market opportunity in China, but I think the days of 2012 and 2013, where we had these super high growth business models in financial services, is inherently over; it's a highly regulated industry and it should be, because of the impact it has on individuals' daily lives.

Agustín: If we looked at a company such as Jimubox, it looks like it was good not to have regulation, but I am sure there are lots of stories of other companies that failed or were conning people, due to their lack of regulation. Can you think of any?

Barry: Can I think of any? Of course! There were many of them. Yes, I think there was a certain phenomenon occurring in the China market relative to these businesses, where there were many examples. But I think, in our business, we always focused on having absolute transparency. I actually fundamentally believe this is necessary with fintech businesses. What this technology allows you to do is to be radically transparent with your business and you can provide ultimate levels of transparency, down to the type of business that you're doing, to any type of constituent that you're interacting with. Whether it be your customer, your regulator, your shareholder, your investor, your source of funding. The technology enables you to provide a detailed level transparency, down to the individual loan assets that we are working on and the supporting data that you go through to determine the quality of the assets. I think that's one of the keys, certainly one of the key things that we focused on in our business at Jimubox, and how we differentiated ourselves to become a market leader where we were always very open with the regulators on what our business model was and how we were doing business, and provided very detailed information to the market through our website and through different, information disclosure portals, that allowed us to be extremely transparent. Many companies were not, and of course the ones that were not as transparent were the ones that ended up having problems or involved in some of these malpractice instances that you're referring to.

Agustín: China's got a reputation of being very fast at copying things. When you launched your project, were there loads of others trying to compete with you? How do you deal with competition?

Barry: Yes, certainly. I think if you look at Jimubox, because the China market was so huge, you can have a business model that has success and it will certainly be replicated quite quickly, because there is always more and more of an addressable market for it to be a good product. If it works in a certain part of the country, it will most likely work in other areas. Yes, I firmly believe that China is the most competitive market in the world, from the standpoint of technology startups. If you have any good idea, you'll have fifty competitors in a week. You have to constantly be evolving, constantly changing your business model to adapt to the market situation, both from the standpoint of customer demand and the regulatory situation. I think if you don't have that ability to adapt your business and change your business in real time, you will certainly die a very quick death in this market, given the amount of competition that there is.

Agustín: I was very impressed by how grew the use of your service very quickly, to four million users. How did you acquire customers?

Barry: We had many different customer acquisition strategies. A lot of direct marketing through the Internet. We did a lot of offline marketing where we held information sessions, where we'd get key constituents on board with our business and then create some viral marketing tools where we would incentivize people to refer their friends to the platform. Once we've built trust with core constituents, we were able to cross-market through our customer networks, to scale. We combine that with a traditional search engine, direct marketing, and other types of user acquisition investments.

Agustín: China has been a pioneer in terms of regulation around cryptocurrency, and banning sales of bitcoin at one point, and even blocking ICOs completely. How do you see the cryptocurrency space evolving in China?

Barry: I think, generally, the regulatory situation around crypto here, and I'm not directly involved in it and not an expert in crypto, but I certainly have been following the trends, but it seems to me that the government is very supportive of cryptocurrency as an underlying technology, but at the same time, they want to ensure that the industry grows on the government's terms. I think, fundamentally, the control over the development of that industry, given the implications of cross-border capital flows is a major issue for Chinese regulators. I expect the Chinese to embrace cryptocurrencies, but at the same time it certainly can be regulated and controlled in how it grows. And looking at bitcoin from the beginning, it has had huge demand from Chinese consumers for cryptocurrencies, but I think there are certainly major concerns and risks around the cross-border capital flows, that are extremely sensitive to Chinese regulators.

Agustín: How did you finish your stint at PINTEC and Jimubox?

Barry: We listed PINTEC and that ended last year. I'm still a shareholder of the business but I've moved out of the business from an operating role at the end of 2018. Last year, I joined a global private equity firm called J.C. Flowers as an operating partner, where I'm working with traditional financial institutions that fund and advise in helping integrate technology, financial technology products, and services into these traditional businesses.

Agustín: Sounds like a fascinating role.

Barry: Yes, it's a really interesting role, using my entrepreneurial skills in trying to pollenate them inside of these traditional financial institutions. Fundamentally I believe that, as I mentioned before, regulatory arbitrage in financial technology is disappearing quickly, and that in the longer term I'm a big believer that traditional financial institutions will be around forever. Fintech is not going to replace traditional financial institutions. The next phase of fintech to me, I think, is taking innovative technologies and partnering them with traditional financial institutions and turbocharging these existing traditional business models with new technologies and embracing the regulatory situation inside of financial services. In JCF, that's a great platform for me to do that. It's been a great situation for me, I'm still very involved with my businesses in China from the standpoint of a shareholder and helping them from time to time, but yes, I am no longer in active management.

Agustín: So, are you back in the US or are you still working in China?

Barry: I'm still in China. I'm based in Hong Kong, but it's now more of a global footprint, not necessarily just China. I'm on the board of a bank in Korea, that's a JCF portfolio company, and then looking at businesses on a global basis now, instead of specifically just in China. I do think that the China playbook around financial technology, specifically around alternative uses or alternative data and technology driven credit scoring and consumer credit product innovation, which I call the China playbook, is very relevant for traditional financial institutions, globally. What we did at PINTEC and Jimubox is certainly an operating system on how to deploy that. I'm taking that experience and trying to replicate that into traditional financial institutions.

Agustín: Looks like a great transition.

Barry: Yes, it's a good transition for me. I'm still an entrepreneur at heart, but at the same time, I think there's a lot of opportunity to inject these new technologies into traditional financial institutions. I do believe that that's the next step in fintech development and growth as regulatory regimes become more and more crystalized and clear around how they're going to treat startup businesses. Even these, you have to be looking at it from how do you build your business inside of a regulated industry—I keep talking about regulations, but my big take away from this, from the China market, is that you have to be building your business to meet regulatory demands early on, otherwise it will never be successful in the long run. Regulatory arbitrage is a short-term game, so if you can develop these technologies and then partner with or integrate into traditional financial institutions that already have regulatory experience and knowledge on how to navigate their existing regulatory framework, I think that's the recipe for success and the next wave of fintech growth.

Agustín: So your prediction is that companies that have a lot of experience with dealing with the regulators will survive?

Barry: Yes, not only just dealing with them, but adapting their business models to meet these regulatory requirements. Because you can't build your business to be outside of a regulatory web and expect it to have long term staying power. Now you might sacrifice some growth in the near term, but you are building a longer-term business. That's what fintech has been super successful with, being able to change its business model based upon the regulatory requirements. Look at my partner William Wei, his number one capability outside of his EQ and ability to manage people is his understanding of what the regulators are going to do next, and being six months ahead of them and building and changing the business to be able to meet that next requirement. Because if you can't navigate and change your business model and meet what's going to happen with the regulators in the future, you're going to die, really fast. As soon as they see one of your competitors doing something that's nefarious, regulators will clamp down and it takes out the good guys who are not necessarily doing anything wrong, but just happen to be in the same spot. You have to be moving quickly to be able to change your business model, based upon what's going to happen in the future, and that's something where William has done a really good job in helping make sure that PINTEC stays ahead of the game.

Chapter 51 Mike Kayamori

Company name: Quoine

Location: Tokyo, Japan

Liquid is Quoine's global cryptocurrency trading platform that allows its users to trade virtual currencies for other virtual currencies and fiat assets. It also facilitates fiat currency deposits at local banks spanning many international and Asian currencies such as USD, EUR, JPY, SGD, and AUD. Liquid is a pioneering crypto exchange platform, winning several awards for the technology deployed. They have also raised one of the biggest ICOs in the world to provide liquidity to the crypto economy.

Roles: Mike Kayamori, Co-founder and CEO

> *We wanted to make cryptocurrency mainstream, because we thought that technology innovation of crypto and blockchain could completely transform the existing financial industry.*

Agustín: How did you get started in crypto? I know you have a background in venture capital firms.

Mike: Way back in 2010, I was a venture capitalist in Silicon Valley. I invested in startups. For me, there was always an appreciation of entrepreneurs creating value. We were venture capitalists providing capital to entrepreneurs, but the entrepreneurs were the ones who were actually creating value. While in Silicon Valley I came across bitcoin. This was the first wave. The bitcoin whitepaper was appropriately timed, written in 2009 just one year after the global financial crisis. Bitcoin came to Silicon Valley in 2010. People were talking about this as digital money, the internet of money, the future of finance – it was very interesting. I was trying to buy bitcoin, but there was no exchange where I could buy it. Then I changed jobs and joined SoftBank, relocating from Silicon Valley to Asia. Fast

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forward to 2013 and the second wave of crypto happened. The price of bitcoin was more than a thousand dollars and people were talking about how disruptive the technology was. This time it was not only about bitcoin. When I learned more about the underlying technology behind bitcoin, blockchain, I knew that this was here to stay.

Agustín: What do you think made it so attractive?

Mike: In Asia a huge portion of the adult population does not have a bank account. They don't have access to basic financial services. But now, most have access to a smartphone. With that smartphone, a mobile app and cryptocurrency, you start to create financial inclusion and provide access to financial services that are innovative and inclusive. With that realization, in 2014, I knew I had to start a crypto exchange with co-founder Mario Gomez Lozada. At the time, it was only for bitcoin. We wanted to support this technological revolution.

Agustín: What was the name of the exchange?

Mike: Our original company name was Quoine so we called our first exchange Quoine exchange, or simply Quoinex. Launched in 2014, Quoinex was a bitcoin-fiat exchange. A year later we launched another exchange called Qryptos, which was a crypto-only exchange. We kept the exchanges separate in the interest of regulatory compliance, but then regulators started saying there was no real difference between a crypto-only exchange and a crypto-fiat exchange. So, we decided to consolidate and combine both platforms into one and call it Liquid. In this crypto ecosystem, many assets are becoming digital: stocks, shares, bonds, tokens, utility. All of these are becoming tokens and that's why there needs to be an exchange. But the challenge is liquidity. If you are a popular asset or stock, you won't have a problem with liquidity, but if you don't have liquidity you won't be able to buy or sell at the price you want. That is why our exchange is called Liquid.

Agustín: That's a really good summary of how you got started. Where did the name Quoine come from?

Mike: We wanted to find a name that resonated. The problem was, C-O-I-N, was already taken and too generic a word. So, we decided to use Q, but Q-O-I-N, was also taken, so we had to go with Q-U-O-I-N-E. To this day it's still difficult for people to pronounce. Liquid is much easier.

Agustín: You have an MBA from Harvard?

Mike: Yes, correct.

Agustín: How did that help you in your entrepreneurial career?

Mike: I wouldn't say an MBA will help you in terms of being entrepreneurial. A lot of entrepreneurship is really taught in other business schools such as Stanford. So to start a company, it didn't really help me. But right now, as our company expands to three hundred and fifty people, it's helping enormously. It's relatively easy to manage a company when it's 10, 20, 30 people, but once it becomes over 300, now it's important to really have shared interests, core values and a mission. You have to make sure that everybody is cohesive, that we work together to empower people, that you don't become a bottleneck. All of these things that are critical in scaling a business are what the MBA and business school prepare you for most.

Agustín: Many of our readers will not know exactly what you do at Liquid. Would you mind explaining it, in simple terms?

Mike: It's actually very simple. We are a cryptocurrency token and fiat exchange. We're one of the largest crypto-fiat exchanges in the world. So if there is anybody who wants to buy bitcoin, Ethereum or any of these crypto tokens on a proper, regulated exchange, we're the place to do it. We were the first global cryptocurrency exchange to be regulated and licensed out of Japan.

Agustín: And Japan has many crypto exchanges, right?

Mike: Sixteen, correct. Just for your reference, Japan is the first global economic powerhouse, or first G20 country, to regulate cryptocurrencies. So it's not like Malta or Gibraltar or Panama. Japan was the first country to regulate cryptocurrency and we were the first global exchange to be licensed in Japan.

Agustín: Do you think that Japan has so many crypto exchanges because of regulation?

Mike: Japan has always been a large FX market. Rather than people buying stocks, bonds, commodities, derivatives, 401ks or financial products, Japanese people were more interested in foreign exchange. To them, cryptocurrency was an extension of fiat currency.

Agustín: That's very interesting. Given that there are so many crypto exchanges, how do you differentiate yourself from the others?

Mike: Obviously having the largest volume helps, because for people who are interested in trading cryptocurrencies, they will always do their homework and look at information sites, media, bulletin boards and be attracted to an exchange that has liquidity. But most importantly, what differentiates us is security. For people who want to invest or buy bitcoin and cryptocurrency, when you do a little bit of research, they know that a lot of exchanges get hacked. What is increasingly becoming important for exchanges is to be really, really strong in terms of security. We are one of the few exchanges that have never been hacked and our customers have never lost any assets. That differentiates us because we put almost all of our efforts into making sure that our customers assets are segregated and protected.

Agustín: Could you tell us about the Liquid Distributed Ledger and why it's important?

Mike: There are a lot of blockchains and distributed ledgers. Obviously the most famous one is the bitcoin blockchain. The next-generation blockchain was Ethereum, which allowed developers to build and write smart contracts. But the challenge with these two early blockchains has been performance. Traditional networks like Visa can process hundreds of thousands of transactions persecond – far more than bitcoin. Our background is financial services. My co-founder Mario and most of our senior management team came from banks. We know what challenges financial institutions face, especially if they want to migrate to blockchain and distributed ledger. Our ledger is focused on fintech companies. If you are an aspiring fintech CEO and you want to build a distributed, decentralized service, which protocol or which smart contract would you want to use? Do you want to use a generic one that might be good if you're building a consumer app? Or maybe not good if you wanted high performance, continuous settlements? I'm not interested in providing our ledger to large global banks because they always prefer a private blockchain and we're proponents of an open, public ledger. Our Liquid Distributed Ledger, LDL, will provide the necessary tools, features, smart contracts and libraries to build applications on top of a distributed ledger platform.

Agustín: How has crypto been growing recently?

Mike: Obviously a significant amount of bitcoin's notoriety came in 2017 when the price went up more than twenty times. While bitcoin received the most press, it was nowhere near the biggest return. For example, in one year Ethereum went up over a hundred times. When the prices rise that much, there's bound to be a correction. 2018 was a year of correction. Consumer sentiment is always transactional and it's unfortunate when markets overshoot. The coming years are when things get real. There are going to be real blockchain applications. When those things happen, the price of crypto will come back. I look at 2019 as the year when bitcoin, cryptocurrency, blockchain and distributed ledgers grow up.

Agustín: Did you predict that bitcoin will reach new highs soon?

Mike: Yes, I did. I believe bitcoin is superior to gold. Gold has been around for more than five thousand years, and people say there's intrinsic value in gold, but when you look at it, can you have gold bullion and send it across the globe real time? You can't. Can you divide a gold bar and split it in half? No. Can you actually use it to buy groceries? You can not. So gold is valued because it's gold. I actually think in this day and age, bitcoin can be the digital gold. You can send bitcoin across the globe, in real time, for almost zero fees. You can divide bitcoin and you can give it to anybody. If millennials and the new generation look at bitcoin as digital gold, I think bitcoin can still go up a hundred times from now. I expect the price of bitcoin to surpass its all-time high. Then again, it's so difficult to predict the future.

Agustín: So should I keep my bitcoins?

Mike: I think you should look at it long term. Bitcoin just had its tenth year anniversary, Ethereum is only four years in. Gold has been around five thousand years. Obviously I'm not saying bitcoin needs another five thousand years to be like gold, but when you look at another five years, ten years, when everything in the world becomes digital, bitcoin was the first where it had value digitally. There is no one government, no central bank, that can shut it down. Looking forward another three years, five years, ten years – oh my goodness, the potential and the possibilities are infinite.

Agustín: There are a lot of crypto exchanges around the world. What do you think is going to happen in the future? Will we end up having just a few exchanges?

Mike: Right now, the terms "exchange" and "broker dealer" are kind of interused. For example, even in the US there's the New York Stock Exchange, there's the NASDAQ exchange, then there are a lot of brokers, where users sign up with eTrade or Ameritrade. All of these are used as an exchange. I think there are going to be more clear roles for exchanges working with brokers, service providers and other companies that need liquidity. They might have end customers, but they all need to work with someone who can provide the necessary liquidity or exchange for their specific token or cryptocurrency. It's going to be a case where there's going to be consolidation at the exchange level, but then there are going to be a lot of service providers who will provide a quick buy or sell. In the back, they will be partnering with exchanges like us who can provide that liquidity.

Agustín: Do you think that your business will be like a wholesaler for qualified people who deal front line with customers?

Mike: I think it will be a hybrid. This industry will continue to evolve. It could be kind of a hybrid where we have a retail arm, but we will also have a B2B arm. It can be very interesting because the regulators are starting to come in, so there's going to be clearer guidance. They might say, "If you want to address retail customers, these are the things that you need to do from a regulatory compliance perspective, but if it's B2B, accredited investors, there are certain, different things that you need to do." Based on how the regulators evolve, we will evolve our business as well. When you look at users or customers, and where they want to deposit their hard-earned money into a financial product, that service provider needs to be regulated, licensed and secure. You won't want to deposit your hard-earned income into an unregulated, offshore exchange.

Agustín: It looks like regulation is key in this particular asset class. I'm just wondering whether you are reactive or whether you are proactive with the regulators.

Mike: When I started this company, I looked around and I was uncomfortable when I looked at other exchanges globally in terms of their security, compliance and processes – so that's why we started this company. We were always pro-regulation from day one. We wanted to make cryptocurrency mainstream because we thought that technology innovation of crypto and blockchain could completely transform the existing financial industry. We were always proactive; we talk with regulators to give them input. We tell them our lessons learned, how we look at it from a service provider perspective. I go and speak to regulators constantly and that takes up a lot of our time. Again, it's part of this industry growing up, and we want to be a core part of that.

Agustín: Just a final question, it's a bit more on the personal side as an entrepreneur. What was it like for you to grow a company, from less than ten employees to a company that's got more than three hundred on staff now?

Mike: Every day is a challenge, not only on our team and culture, but also managing growth, working with external partners, working with shareholders. There are more stakeholders now and not a single day passes without a new challenge. Again, when the market is booming there are challenges in terms of growth. When the market is in correction, there are challenges downsizing, and when those things prolong, then there's a challenge to be more prudent. The biggest challenge I have now is to maintain that startup mentality. It's important to stay humble with that startup mentality.

Agustín: Thank you very much for your time. It's been very interesting and insightful for me and I am sure it will be for our readers as well.

Mike: The beauty of fintech is that the space is collaborative. In traditional banking, it's more like a walled garden. They say, "Hey come into our branch, we'll give you an account and a debit ATM card. Don't go to other banks. We'll give you a loan, we'll give you these financial products." It's more of divide and conquer. In fintech, it's more about providing one service really well, so companies are willing to work with other fintechs to provide a great experience and a better return to the customer. I look forward to working with all these people.

Part 6: **Insurance Fintechs**

Companies in this section
Cover
Slice
League
Assurehedge
Clark
Bayzat
BIMA

I was very keen to explore disruptors of the insurance industry. Many people like to separate insurtech from fintech, but I think that they go hand in hand and deal with similar challenges. When looking at disruption, I like to look at how new technologies can reinvent the core of insurance. I'm keen on seeing how Artificial Intelligence [AI] and the Internet of Things [IoT] will shape future products and business processes like distribution, claims and underwriting, and pricing.

The insurance landscape has slowly started to change, incorporating the benefits that new technologies offer. First, noticeable initiatives have been around comparison websites and apps offering a nicer user experience. However, some emerging players have created new products such as cyber risk insurance and sharing economy products. In vehicle insurance, startups have incorporated telematics-based services, and are starting to look into self driving car insurance. Also, social brokerage and peer-to-peer insurance are very promising areas.

On my round-the-world exploration, I started in the US, meeting Tim Attia from Slice, who has created an insurance-on-demand platform that covers new types of products such as home sharing and cyber, and we looked at the challenges of scaling internationally. I also spoke to Karn Saroya from Cover, which provides fair and sustainable insurance, mostly for car and home. Moving on to Canada, I discussed with Mike Serbinis how insurance is connected to employee health benefits and discovered their award-winning platform. Interestingly, I got the chance to talk to Talal Bayaa, from Bayzat, who has created a similar platform in Dubai.

In Ireland, it was refreshing to talk to Barry McCarthy from AssureHedge, which developed a platform to hedge against currency fluctuations. In Germany, it was interesting to learn from Dr. Christopher Oster about Clark, an insurance robo-advisor that allows management of a suite of insurance products through a dashboard. It was fun to interview Gustaf Agartson from Swedish BIMA, a leading insurance and health tech provider that uses the mobile phone as a means of distribution in developing countries.

Insurtech could have provided enough interesting stories for a whole book, so I hope you enjoy reading this very insightful selection of stories.

Chapter 52 Karn Saroya

Company name: Cover

Location: San Francisco, California, United States

Cover is a mobile-first insurance platform that streamlines insurance by integrating smartphone technology into the buying process. Cover's aspiration is to become a multi-line national property insurance entity, and it has grown impressively since its founding in 2016, gaining several accolades along the way. Its mobile app is simple, intuitive, and beautifully designed.

Roles: Karn Saroya, Cofounder and CEO

> *We quickly learned . . . that most of the value chain in insurance is pretty fundamentally broken. There aren't very many players in this space that are, at their core, technology companies.*

Agustín: Would you mind telling me briefly about your career?

Karn: This is my second business. The first one we built was a fashion e-commerce marketplace called Stylekick. We sold high-end fashion on native mobile devices—iOS and Android. We grew that business to about a million active users. Then we were acquired by Shopify, as a team. We eventually left Shopify to join Y Combinator and start Cover.

Before tech, I was a management consultant at Oliver Wyman, specifically in their financial services practice, in financial risk and insurance. From a schooling perspective, I did my undergrad in commerce, with a focus on finance, then got a CFA [Chartered Financial Analyst], and went to MIT to continue studying finance. The work that I was doing for banks, hedge funds, and insurance companies, concerning stress testing, solvency, and capital reserves, was all tangentially related to what we do at Cover.

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At the end of the day, I appreciate the level of polish that I accumulated during my ten years as a management consultant. That said, I didn't feel like the occupation itself fit very neatly with my own risk/reward mechanism. I tend to be on the risk-taking side. I like to build something from nothing and that wasn't really an opportunity that was available to me as a management consultant since I was weighing in on operational issues with clients that were well into maturity.

Agustín: So after doing management consulting, what did you do?

Karn: Actually, the first thing that we did was build a body scanner. That was my first idea. We used an array of three connected sensors, and because it was web-based, we used webcams. With three points of perspective, you can use computing power to figure out a body form; you can use mass to shave away clothes and you get point-to-point measurements. So we thought that we would build a body scanner to inform sizing decisions for online clothing purchases and that turned out to be a pretty terrible idea.

After a couple of pivots, we found that folks interacting with content on a mobile application specifically geared toward fashion and lifestyle was a better way of capturing information about our customers preferences and ultimately showing them things that they wanted to buy. That realization helped, and Stylekick did extremely well. It was featured by Apple in 80 countries, translated into 14 languages, scaled to about a million active users, but e-commerce is a viciously competitive space.

Agustín: What did you learn from that experience?

Karn: It's a difficult space to win. From that experience, we learned how to build a world-class product, and how to drive a million people through our apps. Understanding how distribution works with consumer-facing products is a challenging thing to do and I think we learned how to do it very well. We then moved over to Shopify, where we were building experimental marketplace apps. We got to work with most of the senior product folks there and I really appreciated having had the opportunity to work at Shopify because it gave us a glimpse into what a rapidly scaling tech company with an excellent leadership team looked like. It gave us a glimpse into the scaffolding that was necessary to scale a business of that size. Ultimately, we decided that we were going to leave. We applied to Y Combinator, we got in with an idea, did extremely well during the batch and ended up raising a seed round from folks like Social Capital, Tencent, Shasta Ventures, and Sherpa Capital. What we brought to the insurance business was a really good, really beautiful product to drive significant distribution.

Agustín: Did you get any traction out of being in Y Combinator?

Karn: Within two weeks of launching Cover, during Y Combinator, we were featured as one of the best new apps by the Apple App Store. At the time, we were picking up a new quote request every thirty seconds. For an app that had just launched, founded by cofounders with very little insurance experience per se, we thought that was a pretty significant accomplishment. But all we were trying to do during Y Combinator was prove that the pipe, from a user acquisition perspective, was significant enough for us to drive a viable business—and we did that. We quickly learned thereafter that most of the value chain in insurance is pretty fundamentally broken. There aren't very many players in this space that are, at their core, technology companies. So when we were selling leads (very early on), we were selling to brokers that were operating brick-and-mortar enterprises, taking weeks to get back to our customers. If they weren't taking weeks, they were spamming them and weren't delivering on a product and consumer experience that folks would expect from a native global app that has instant gratification, instant pricing, and excellent customer service. None of those expectations were being met, and so, what we inevitably did was we built a national insurance agency. In the United States, we operate in forty-nine states, work with thirty non-captive carriers, and that's worked out very well for us over the course of the last year or so.

Agustín: What is your view of the incumbents in insurance?

Karn: The reality is that most insurance companies, especially the ones in the United States, are going to make (at best) incremental progress at being able to deliver on a product with consumer experiences that modern customers are expecting. They don't have simple things like payment or pricing APIs, their apps are largely wrappers around a web experience. The "user" for most insurance companies are their agents, rather than customers themselves, and this split focus has made it very difficult for them to interact. Sophisticated, third party, distributors insurance. What you've seen in the United States is an aggressive tilt toward being able to stand up your own products.

Agustín: Would you mind describing the basic offering of Cover?

Karn: Cover is a multi-line national property insurance entity. Our customers take pictures and videos of the things that they want to insure, and we make a market for those risks. We have thirty carriers across the country; our customers walk us around their homes, documenting their property to get homeowners or renters insurance. They give us 360 degree views of their vehicles to get car insurance. They send us pictures of their cats, their dogs, jewelry, and electronics. All of this is just behavior that we uncovered by launching the simple MVP app very early on. All it did was use a few screens that indicated: "Take a picture of something you want to insure," that led to a standard camera view. They sent us pictures of tanks, tree houses, all sorts of very esoteric things; and what we found was that if people were actually willing to conform or use an app to get insurance in this way, we had probably uncovered a behavior that no one else had uncovered, as of that moment. That was the genesis of Cover.

We're increasingly moving in the direction of being able to underwrite our own products—being a fronting carrier relationship. That's largely because we simply don't believe that most carriers, especially on the specialty side, or the second- or third-tier insurers, are going to be able to interface with us moving forward. You should expect us to continue on the path of being a multi-line property insurance entity, where you can take pictures of physical property for insurance.

Agustín: You provide insurance for anything that you can take a photo of. In terms of the innovation—you're collecting data, in photos and videos, and then, how do you process that?

Karn: The vast majority of our business ends up being traditional policies—so these are auto, home, renters. We get people taking selfies, trying to do life insurance, but the long tail really is comprised of pets, jewelry, and electronics. Those things tend to be very underwriting light to begin with. For example, for pet insurance, you need a zip code, age and breed of the pet, and you can more or less get a price. With jewelry, again, it's very simple; it's zip code and then what's the appraisal value?

We act as sophisticated frontline underwriters, and so, the pictures and videos themselves are intended to prove that the property exists in a given time, place, and condition. For us, it's more about mitigating fraud on the front-end. For the customer, on the back-end, if they need to make a claim, the adjuster will have geo-location data via lock-down camera, that the property existed at a given, time, place, and condition. That is super important to anyone adjudicating that claim. So it's a tool for the customer. In a case where you need to make a claim, it's easy. So, you walk around your house and the TensorFlow-based camera picks out your 4K television or your furniture, or any fixtures that are interesting or valuable, and those things are documented and taken care of in case of a home flood.

Agustín: There's a lot of talk right now about creating blockchain registers of assets. What's your view on that?

Karn: If you think about what insurance is, fundamentally, it's a network of individuals who are, at the end of the day, white-collar bookies. There's somebody trying to sell a dollar of risk to somebody who's trying to buy a dollar of risk. The seller could be a retail customer, who's trying to cover some catastrophic circumstances, like their house burning down. But at the end of the day, you have this chain. You have the retail broker, you have wholesale brokers, you have carriers and MGAs [Managing General Agent]; you have reinsurance brokers, you have reinsurers, you have retros. Eventually, it goes to ILS [insurance-linked securities] and the capital markets, but you have six to seven players who are taking a slice of every dollar of originated premium. Really, all they're doing is putting up their hand and saying, "Hey! I'm going to take a bet on this particular risk." Here's what my model's back up the expected loss to be, here's the margin that's acceptable to me, and that's my loss pick, and we're going to work backward from there. That is effectively what it is; it is exactly what a prediction market via, say, Ethereum would do, and what you should expect in the future is for this to manifest. The ability for folks to be able to directly take risk positions via the prediction market, rather than have seven intermediaries.

Agustín: You're very knowledgeable about insurance. I'm just wondering where did you pick all this up?

Karn: Just trial by fire. I mean, to be fair, most of the work that I did in insurance prior to this was solvency-related. So nothing related to the distribution or underwriting of insurance. All of this has basically just been like any other tech entrepreneur would have to do when entering a business that's either regulated or tangential to software. I just had to learn the business very quickly. That's it. <Laughs> If you have to learn it to survive, you will.

Agustín: When you say really quickly, was it by interviewing your customers?

Karn: Well, our customers are more going to talk about the experiential aspects of buying insurance and servicing insurance. I think we have a very good grasp of that specifically, but the intricacies of insurance itself and the functions of each of these intermediaries, all the way down to being able to negotiate a quota share re-insurance agreement, those are all things that we've had to pick up as we've gone.

Agustín: Do you get involved in that claims process?

Karn: At scale, it makes sense for any insurance entity to take over claims. Just take a look at LAE [Loss Adjusting Expense], which can be anywhere from 7% to 10% of the underlying dollars, so that's just the amount of money that's spent on handling a claim, rather than paying out claims. It's absurdly high. So, at a certain scale, say, hundreds of millions of dollars, in net new premiums booked, it makes complete sense for claims as a function to exist inside Cover. But, as of right now, we're still sub-scale; we're writing a million dollars a month and, eventually, we'll write ten million dollars a month. But it is, for us, a claims practice. I think it would be a little bit distracting from our core business of distribution in underwriting as it stands but, as a product company, I think it is imperative that the claims function eventually ends up in our hands. At the moment, we use third-party administrators and we prepare our customers to the best possible extent to deal with the adjustors for the carriers that we work with. A big part of that means that we're arming them with information to have a very smooth claims process and having a video of your property, existing at given times, certainly helps with that.

Agustín: When you look at your vision for the future, would you see yourself developing as a company such as Lemonade? How do you see yourselves growing?

Karn: I actually think most insurtechs are still fairly immaterial. We sell Lemonade, and we probably sell just as much premium as Lemonade does on a monthly basis. I'll give you a few examples of folks who are quite a bit bigger: Hippo's a good example, the Next guys, Clear Cover. I don't think it's fair to characterize us as smaller than they are. At the end of the day, the only thing I care about is making sure that we continue to move along the path of becoming a multi-line, national property insurance entity. That's it. A place where a customer comes in, for any given request, and we are able to seamlessly service that request. That's the goal, first and foremost, and if that means that we need to fundamentally rebuild the entire insurance stack, that's what it means. That's the direction we're headed.

Agustín: I wanted to ask you about how you went about funding. You mentioned Y Combinator. Not everybody will be familiar with them.

Karn: Y Combinator is a seed-stage program that has funded Reddit, Airbnb, Dropbox, Zenefits—a fair number of sizeable companies. We're lucky enough to have had a prior relationship with some of the partners there, having a applied with our first startup, Stylekick. Being based in San Francisco and Toronto has helped us gain access to a fairly solid group of tier one venture capital. We have Tencent, Social Capital, Shasta Ventures, Sherpa Ventures, Maveron, SV Angel. More recently, we brought on Exor, Samsung, and Tribe, who have been excellent partners thus far.

Agustín: You get these important names and you say that you're lucky—do you get a lot of feedback from them in terms of how to grow?

Karn: No, I think the best investors are the ones that recognize they don't know enough about your business. They invest in you to learn more. They're investing in our ability to create value, rather than our ability to ask them questions and ask for help persistently. The best VCs are the ones that know when to inject themselves and have more stories that are instructive, but may not map one-to-one with the specific things that you're dealing with. Usually those end up being the types of VCs that have been prior operators. We're lucky enough to have a lot of those.

Agustín: You've mentioned this scaffolding for growth, and you've been growing Cover, from Day One, significantly. What has it been like to grow in terms of recruitment, in terms of a bigger operation, and the change of roles for you?

Karn: I think what we've done and what's really important at the early stage is to hire the right people. It's especially impactful if you make poor hiring decisions in the early stages of a company, especially at the senior level. We're always learning from our mistakes and we've made it a priority to take our time when hiring and create processes that can scale.

We've hired folks on the risk side from Square, we've hired insurance sales folks from Metromile. We came from Shopify, and Shopify is basically a sponge that sucks up all the talent in Toronto, so we know exactly who the top towns are in that city and we're super competitive from that perspective. I think if there's something we've done exceptionally well, it's hiring.

Agustín: You mentioned that you've been grown to forty-nine states.

Karn: Yeah, we're in forty-nine states. The only state we're not in is Virginia.

Agustín: How complicated is it to go into these states?

Karn: In the United States, each state has its own DOI [Department of Insurance], so insurance is regulated at the state level. It's a little bit like dealing with fifty different countries. So it can be relatively complicated.

Agustín: What's your perspective on how insurtech will grow in America?

Karn: My perspective on it is this: There are hundreds of insurance companies in the United States that are low billion-dollar companies. They all run on paper processes; they focus on niches like workers comp, bicycle insurance, pet insurance. The ones that are most obvious are the multi-line P&C [property and casualty] ones that spend billions of dollars on advertising every year. But it's very, very possible to become a billion-dollar business in insurance. The cash flow nature of the business makes it possible, especially if you're focused on high-value customers and are closer to distribution underwriting than you are to holding capital. There's no doubt in my mind that you are going to see either insurance companies become technology companies, or technology companies just overtaking insurance. I'd say the latter is much more likely.

Agustín: How are you planning to grow the business? How do you see your role changing with the growth?

Karn: When we first started Cover, I did a little bit of everything—product, growth, sales. Inevitably, I had to go and hire for each of those functions. At the end of the day, my job is to continuously hire smart people, to fill roles that I previously did, and to make sure that the lights stay on. So I'm continuously fundraising, continuously hiring, making sure that we're not doing anything that will shoot ourselves in the foot, from a strategic perspective.

Agustín: One final question: when you want advice or when you want to learn, who do you go to?

Karn: I go to founders, also my network. We've been able to raise money from a number of tier one VCs. We've also raised money from a number of high caliber operators. Ryan Petersen at Flexport and Danny Zhang who runs wish.com, for example, and Arjun Sethi of Tribe Capital who is a prior operator with Lolapps apps and MessageMe. I tend to defer to the stories that other people who have built sizeable businesses have to tell.

Agustín: Just out of curiosity, how difficult was it to get Cover.com?

Karn: It was a roughly a three-month negotiation. The way that I did it was through hiring a domain broker who works at Wordpress who then hired another broker to proxy through. We'd just raised our Series A and didn't want to announce yet so the sellers of cover.com didn't know we had raised money. Digital Media has booked hundreds of millions of dollars in domain sales over the course of the last decade and so they didn't really need to sell it. It just so happened to be a compelling enough price, with enough information and symmetry to get it done.

Agustín: In your opinion, how important is it to have such a memorable domain name?

Karn: From my perspective, it's not going to be this thing that leads our business to be successful. It's also not going to be a decision that kills our business. We'd have to be doing something fundamentally wrong. I was thinking, "Hey, right now we're a startup. We have to be capitally efficient and fairly surgical with our acquisitions. But we are going to be competing on name recall, and general awareness, and the ability for a customer to be able to find Cover very easily. If it leads to minor changes in conversions, it can have dramatic impact on our bottom line." That was the context for our thinking.

Agustín: Thanks a lot for your time Karn, and all the best!

Chapter 53 Tim Attia

Company name: Slice Labs

Location: New York, United States

Slice Labs is an insurtech firm focused on cloud-based, on-demand digital services ecosystems for the new economy. Using AI, machine learning, and PhD behavioral science expertise the company is enabling insurers, technology companies, and other service providers to build truly intelligent and intuitive pay-as-you-go digital insurance products. Slice Labs is constantly innovating around developing digital on-demand insurance products. They also help companies to personalize, experiment, simulate, predict, create risk models, and offer product recommendations by leveraging its data analytics, scoring, and machine learning capabilities.

Roles: Tim Attia, Cofounder and CEO

> *We learned in the first part of our career that trying to give technology to insurance companies was futile, and also that trying to just cut a front end and make it look like a good experience and tackling distribution and scaling was just also impossible.*

Agustín: How did you get started in insurance?

Tim: I have two cofounders, Ernest Hursh and Stuart Baserman. Stuart and I were in school together in Montreal for electrical engineering. Ernest Hursh is in the US, outside of New York, and we've worked together for the past 15 years or so. All three of us have an insurance background, working for consulting firms, insurance technology companies, et cetera. We got hooked on insurance right away, because obviously it's a big industry.

Agustín: Very interesting, so how did you get started as an entrepreneur?

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Tim: We split off from the consulting firm; we started a company where we built one of the first product configurators for insurance. This was going back a while, and at a time when nobody wanted to buy a product configurator, so we built something nobody wanted because insurance companies were line-of-business focused, not really product focused. A product focus requires you know customers and back then, you could argue even today, insurance companies didn't think of their products with a customer experience focus in mind. Anyway, we built a policy admin system around it, we started selling it everywhere, and sold our company to SAP, so it's our system in the US and abroad. We got very disillusioned with that.

Agustín: Not bad selling your company to SAP. How come you were disillusioned?

Tim: These projects were big, they were multi-year projects, eight years by the time they started, our target operating model was already four years old. They failed 50% of the time. If you saw 5% percent of the value you wanted at the beginning, it was a success. We were very disillusioned, even though there was a lot of money exchanged, there was not a lot of value added to the industry. So our summary, out of twelve years of working, was that it's really difficult, almost impossible, for insurance companies to get any real value out of it. It was just very difficult unless you take one or five basis points of expense out, which is important. Five basis points across a million and trillion is massive, but it's incremental.

Agustín: Where did you go from there?

Tim: Then we became online agents for about six years. We were one of the first, if not the first, direct to consumer for commercial, small business in the US. We learned a lot doing that. We learned that we can't solve the problem by just putting lipstick on the front. You can't just put a nice veneer on top of ancient systems and processes and magically make it look good, or without pouring in a lot of cost and hamsters on wheels. We also learned, and this was a hard lesson, that distribution was really, really expensive. We had a joint brand with American Express. We were spending maybe $80 million a year on AdWords [Google Ads] back then, which is nothing compared to some carriers now spending $1.2 billion on advertising. We just learned the hard way what everybody knows. Maybe not all the startups know, but we learned the hard way that distribution and scaling is very, very difficult. We learned in the first part of our career that trying to give technology to insurance companies was futile; and then we learned trying to just cut a front end and make it look like a good experience, and tackling distribution and scaling was also impossible.

But we learned some good things. Besides learning insurance along the way, we learned that when we started small commercial in the US, the three big carriers we were working with as agents in the beginning, had one underwriting rule. They wouldn't write for anybody with less than two years in the business, and of course we were an online, small business, so we were seeing all the new startups coming at us, wanting to buy our insurance. But the biggest rule was, nobody took anything that was less than two years in business—and they were all less than two years in business. Then we learned that whether we had three carrier appointments, or sixty carrier appointments when we left, they all underwrote the same things and they all didn't underwrite the same things, so there were some huge gaps in the market. If you were a company with less than two years in business, you were out of luck anyway; but if you said you were an app company, starting up in California to allow people to use their personal cars to act like taxis, in violation of local municipal regulation, there was just no way to get insurance. We came out of that with the view that if we want to be able to innovate, we're going to have to do it all ourselves and we're going to have to leave everything behind. So, our view was, any current system or process comes along with a cost; so if we use a current value chain or current structure or current process, then everyone of them would stop us from getting to the value we wanted to get to.

Agustín: Sounds like the perfect opportunity to create something new in insurance.

Tim: Yes. We said, "The only way to do it is that we have to completely depart from the way insurance is done today." Then the other part of it is the old economy. There's an auto or motor policy, or general insurance, commercial policy, that was probably built 80 years ago and the world has changed. Those policies didn't envision cars driving themselves around, or people sharing their houses, or people not owning stuff. Things like cyber were just not envisioned. We clearly wanted to be an open field, we didn't want to go head to head with Geico or Progressive or AXA. But we said we definitely want to do it a new way, because that's the only way you're going to get the value, and we also wanted to go into what we called the "new economy," into an open field. We picked a new quadrant and said, "That's where we're going to innovate, and we're not going to convince an insurance company to do it, because they won't even listen to us. So, we're going to have to first do it ourselves." In the first year there was a fine line between a vision and a hallucination and we probably spent most of our time on the hallucination side of the line.

Agustín: How do you scale your product?

Tim: We scale via partnerships. Plain and simple.

Agustín: Do you have an application form?

Tim: We don't have an application for insurance. If I can underwrite in real time, all the time, I don't need a renewal transaction. We don't need to ask people to tell us their risk when we can get the data in real time. And that is one of our biggest differentiators—that we process data in real time. We're interested in loss history, of course, but we're more interested in what's happening right now. That's the premise we started with.

Agustín: How did you approach digitizing the product?

Tim: We had to leave everything behind and think about the way the economy today (and tomorrow) works. We had to ideate and create based on the fact that people move back and forth between personal and commercial lines all the time, and that all the data we need is out there. It was just a matter of harnessing the data to create a frictionless, digital experience for the end user.

Agustín: How do you define on-demand insurance?

Tim: In our world, on-demand isn't that you turn on insurance when you think you're going to have a loss, that's called gambling. Think about the music industry. I used to buy an album or a CD, then I could buy a single song from iTunes, but now I just subscribe to Spotify and I get all the music I want. We look at how we can bring that on-demand experience into insurance.

Agustín: Sounds really forward thinking. In terms of the product that you do cover, are Homeshare type of security and Rideshare your main offerings?

Tim: Yes, we started Homeshare and Rideshare about the same time. We started October 2015, and we wrote our first policy in Iowa one year later during our minimum viable product (MVP). Then we started scaling across states. November we were in Colorado, which is a top Airbnb state. We went to Maryland, which is a natural catastrophe state. During our Homeshare MVP, we were literally meeting hosts personally, gaining Homeshare customers, getting feedback and testing assumptions. But we had to find a way to scale. Our first year was our MVP, our second year was our product market fit—which we achieved. And then we launched a partnership with Progressive in October 2017, selling homeshare insurance as Progressive Homeshare by Slice. That forced us to grow up quickly, because we had to meet all of their requirements. What's cool is that I think we are currently the only product on Progressive.com that doesn't use a call center and that's significant for them.

Agustín: How does the Homeshare product perform?

Tim: On our Homeshare product, we get three to five times more rate than an annual policy. Our original hypothesis was that if we could take out a lot of the costs and get more rate, then that was true sustainable competitive advantage.

Agustín: How do you approach product launch?

Tim: We knew that we had to put out products differently. So we came up with a hackathon and launch to quickly put out products. We took a very different approach than other insurers. We believe we can create any product; it just has to be digital and on-demand. As long as we're not asking the questions we already have answers to, we can provide the on-demand experience.

Agustín: Would you say that the ideal business model for you is to offer a white label technology solution that companies with a large user base can benefit from?

Tim: We're open to white label or co-branded arrangements. Each partnership we've formed has been unique in how they brand the on-demand product. Either way, we offer a standalone, end-to-end, digital platform. It's a way for digital channels to embed insurance into the experience.

Agustín: Looks like a compelling proposition, and you are getting traction with incumbent insurers.

Tim: Yes. Incumbents realize they need to have digital, on-demand offerings. The fastest way to move into that space is via collaboration with a company like Slice.

Agustín: Do you see an urge in incumbents to digitize?

Tim: Yes, the signs in the economy and market all point toward the need for digitization, and incumbents see that.

Agustín: Who do you see as your competitors?

Tim: Our competitors are digital technology providers—think Amazon, Uber, Netflix. Not because we compete in the same space (now), but because they're setting market expectations for on-demand experiences. And now it's our job to match that experience in insurance.

Agustín: And maybe some of the new platforms.

Tim: Yes. There are new startups that are building platforms like the traditional players.

Agustín: What's your opinion on a company like Lemonade, the face of insurtech?

Tim: Lemonade's execution has been flawless. Lemonade is making an existing insurance product better. Slice is about where insurance is going, and we are focused on new innovative products that companies can sell using new business models on-demand or as part of a larger digital services ecosystem. Lemonade is about providing a better customer experience in renters insurance without changing the business model. We are on-demand, we are playing with time, Netflix is playing with time. Lemonade still has legacy annual renewable policies. So when you think of insurance, Slice is like Netflix and Lemonade is more like Blockbuster waiving the rewind fee.

Agustín: I'm sure you're familiar with ZhongAn, the Chinese company.

Tim: I don't know a lot about ZhongAn, but I'm familiar with them, yes.

Agustín: Would you think that the Chinese are more advanced?

Tim: If we simply look at their market and the number of users they have, those two things alone outweigh everything else. The Chinese have some barriers to work through, but I think the Chinese obviously move very quickly within new business models within China, so there's a possibility ZhongAn will end up as competitors. We'll see if they're able to expand beyond China.

Agustín: That's very true. Where do you see life going in, let's say, five years?

Tim: I agree with McKinsey's predictions that ecosystems will account for 30% of the global revenue within five years. At Slice, our roadmap is based on this assumption. I envision us in markets where insurance could be part of life experiences. We will be a little bit blended into the mobility industry and the travel/leisure industry. Our customers right now, who are licensing our digital insurance, are insurers mostly, but I think five years from now we probably would have crossed the 50% marker where we're licensing our digital insurance to be a part of a different ecosystem. I'm hoping that five years from now we'll have some of our own insurance products that go head-to-head with some of the big guys.

Agustín: Seems like an exciting future.

Tim: It is exciting, but it is hard to predict the future. The only time we're going to know is when we look at it in the rear-view mirror.

Agustín: Thanks for your time, Tim, and all the best in scaling up Slice Labs.

Chapter 54 Michael Serbinis

Company name: League

Location: New York, United States

League is a digital health platform that connects people to a comprehensive network of health services and benefits. League's all-digital platform makes it a breeze for businesses to enjoy their benefits and automates all the HR admin work making the experience easy. Michael's journey building companies is very impressive, having created and sold multimillion dollar companies.

Roles: Michael Serbinis, Founder and CEO

> *Great teams are not necessarily filled with great athletes, but people that work together as a team, to become a better version of their collective selves.*

Agustín: You are a serial entrepreneur. I was just wondering how you got started in entrepreneurship and a little bit about your story and how you got into League?

Michael: I started as an engineering physics student that happened to do some jet propulsion work at NASA and got introduced to Kimbal and Elon Musk, who went to the same college as I did. I moved to California and helped them on their first startup and then thought, "Oh this is fascinating. Building companies that disrupt new industries, this is actually a lot more exciting and maybe even a harder problem than just building products or just building tech." That was my first experience in the mid, late 90s. I left them and I started a company called DocSpace, which was all about the cloud and storage on the cloud. Then I was with a company called Critical Path who acquired DocSpace, but we had to recapitalize that, restructure it, and eventually exit that to private equity. Then I

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moved back to Canada and I thought about the world of books and what happens when books go digital, and then I created Kobo which was Amazon Kindle's number one competitor worldwide. We grew that to tens of millions of paying customers, in every country, and we were number one and number two everywhere. And then I thought I was going to do nothing for a while and I got really interested in this healthcare industry and how it seemed to be immune from technology and the mass consumerization we were seeing in every other industry. And so I decided to start League to empower people with their health every day and help transform healthcare.

Agustín: That is a very quick summary of a lot of achievements in your career. You've met some very influential people and you've raised a lot of money and exited very nicely. What do you think got you on the right path? What qualities have you got that make you successful as an entrepreneur?

Michael: One of my best experiences, was again working with Kimbal and Elon. I guess it was a real learning experience for me, because I had always been an athlete; I played a ton of team sports growing up. I was just really used to this idea that great teams are not necessarily filled with great athletes, but people that work together as a team to become a better version of their collective selves. For me, I translated that to the world of building companies and being an entrepreneur. The central idea that, it's not extreme people doing extreme things, working to the bone to a nervous breakdown. It's not that that makes successful companies and successful products. But, instead, it's high performance teams that get together. That work hard, work smart, that focus on the right things, focus on their health, and the health of that team. It's high performance teams that make successful companies and successful products that drive innovation. For me, I've always focused on that and I've surrounded myself with great people and I've focused on building mission-driven companies where everybody's working toward the same mission and with a real eye on performance. You can never really rest on your laurels or become complacent. Every day is grow or die, and if you're not in the relentless pursuit of viability, you're kind of dead men walking in the world of startups. I guess I've always been great at building teams, great at setting very ambitious targets and objectives and bigger missions—missions bigger than any one person—and then execution and getting people to continually adapt, continually push, continually aspire to new heights. I think the combination of those things is fun and why I keep doing what I do. I couldn't imagine doing anything else, but I also think it's been part of the success we've enjoyed.

Agustín: You mentioned building teams. That obviously means choosing people, but then also getting them motivated. What is your advice in this area?

Michael: I think it's something that is a practice, it's something that you don't just do once, but you must do constantly. As a CEO, I think of my job as to make sure there's money in the bank, make sure there's a strategy and a plan, bring on the best people, and build great teams. But, for all of that to work, the rocket fuel is people inspiration and motivation; and with a startup you're often failing at something. It's never really always happy. There are often many failures and it's easy to become demotivated when you're the small, up and coming, David versus many Goliaths. You struggle to see the forest through the trees. So motivating the team and knowing when and how to do it and who to leverage within your organization to also motivate and inspire people, is an important skill. I do things like, every Monday morning for the last, I don't know, maybe ten years, I put out a note or a blog post to my entire company called TWA, "The Week Ahead," and that's one tool. I have town hall meeting every Thursday. I work with our executive team, our senior leaders, but I also try to meet every new hire and work on developing our up and coming leaders. I find kicking off the year is a very important thing to do, to do really well. I invest a lot of time in making kick off—or at League, we call it launch, League Launch—a very exciting, motivating experience, where you walk out and you feel like you can accomplish anything. I try to bring that same feeling through the day, throughout the week, throughout the month, the year, into other things we do as a team, so that all of our team members really can operate with this idea that they can accomplish anything they attempt.

Agustín: When I look at your profile, it looks like you have several roles, apart from being the League CEO. How do you manage to juggle all of these different responsibilities and roles?

Michael: I'm a big believer in fostering and supporting scientific research and innovation and young entrepreneurs. I once had some help from different people, as I got started; I think it's important to support that next generation. I sit on the board of the Perimeter Institute, which is leading theoretical physics, science to the world, focused on all sorts of quantum technologies and quantum research. The Vector Institute, which is a leading artificial intelligence and deep learning institute, founded by Geoffrey Hinton, known as the godfather of modern AI and machine learning. And then, of course, the Creative Destruction Lab, which is an accelerator, and something called the MaRS Discovery District, here, in Toronto, which is really all about entrepreneurship. It is a lot of time, to be honest, and all of our schedules get busy at times, but I do see it as very important and I do commit the time. It forces me to get better at prioritizing all that I do and, frankly, not only can I help, but I end up learning a ton and I found that constant testing and expanding of your brain is only helpful in making better decisions and being creative and building my company. The short answer is, I find the time and it's worth it and I think net-net it's a value creator.

Agustín: That's a good way to see it. If we move on to talk about League, particularly, how would you describe League for our readers?

Michael: League is in the business of transforming healthcare. We started the company with this idea that we're seeing the mass transformation of everything, transportation with Uber, travel with Airbnb, content and film with Netflix, but why not healthcare? As individuals, as consumers, we see the cost of healthcare continuing to go up; we see an experience that is very difficult to use, very frustrating, and we ultimately feel powerless. We started League with the idea that this is all going to change. Healthcare is going to get consumerized, there's going to be a better way, a digital experience, that's personalized, preventative, always on. We started building that experience, but what we learned along the way is that most people think of accessing healthcare through the lens of health insurance. That was really the shift where we became more fintech, focusing on the health insurance market, which is about a trillion-dollar market for employers across America, multi-trillion around the world, and employers are as frustrated as every consumer. It gets more expensive, nobody uses the old, one size fits none, kind of product and the experience is terrible. It's worse than what prisoners feel about prisons in America. We built League to be this new layer, new platform, that employers can use to modernize their healthcare, their health insurance experiences, in fact, their overall benefits to a brand-new generation of workers, the Gen Z's, the millennials, and of course, frankly every other generation that's still working. They also would rather have Netflix versus their parents' cable TV. So the market is clammering for a modern experience, a modern platform that is frankly easier to use, saves money and delivers better outcomes.

Agustín: If you have to compare League with other firms, what innovation are you bringing in?

Michael: If you go into a typical company today, you get a bunch of cards, a bunch of booklets, and a bunch of different providers for different aspects of your health insurance and how to manage it and where to go. It's very manual and very challenging. We are a digital platform that brings all of that together. We automate all of the administration for the back end and we bring a unified experience to the end consumer. Compared to other players in the market, I see markets typically going through multiple waves of transformation. The first wave is always with the beginning of a new kind of business model. The second wave is a lot of point solutions that do just a piece of the problem. The third wave, and ultimately the winning wave, is really all about platforms that bring it all together, and that's really what League is. We are a fully integrated, digital, end-to-end platform for healthcare.

Agustín: When you talk about your integrations, you mean to HR systems, or what, specifically?

Michael: Yes, so we'll connect to HR systems, payroll systems, ERP [enterprise resource planning] financial systems, in the enterprise or in the enterprise cloud. Then when it comes to underwriters, services providers, insurance carriers, we'll connect to their back end systems for provisioning claims, or other service interfaces. Then finally, when it comes to healthcare providers in particular, we create interfaces to make it easy for you to discover, book services, or buy services, paid digitally. So there are a number of different constituents.

Agustín: You've managed to attract really high-profile clients such as Unilever, KPMG, et cetera. So how have you gone about finding customers?

Michael: We've done it in a way where, frankly, we've been wrong at every step of the way. We made a lot of mistakes. We started like most tech companies do and most entrepreneurs. We started selling to friendly companies, people that we knew, our friends. Typically, small 10 to 20-person tech companies and then we started to evolve and realize we could serve large employers and we started to build a demand generation engine, both inbound and outbound, with a direct sales force. As we started to get more experience over the last two years, we realized that the largest, most complex employers, some of the biggest brands we know, they're the ones that face this challenge with healthcare, its cost and its current capabilities, in the form of health insurance and health benefits. They're the ones that have the biggest problems. In 2018, we started approaching those larger clients, promising what a platform can do to unlock value in their investment, in their employees and healthcare and health insurance, and one-by-one, we started winning these very large companies, large brands, who really see the potential of how we can transform their experience.

Agustín: You had a big round in 2018. How are you planning to expand League?

Michael: We closed this Series B, just over $47 million US and the primary leg of expansion is really across the US. We operate at a country level and at a state level; healthcare and health insurance is regulated at the state level as well as federally. We already operate in Canada, but we're bridging into the US and getting deeper into the US, but also starting to bridge into Europe. Today we have headquarters based in Toronto, US headquarters in Chicago, and we just started serving clients in Europe. So we'll continue to push into the US, while opening up European countries, one at a time.

Agustín: That sounds really exciting. In terms of your business model, is it commercializing your technology or is it doing the end-to-end business?

Michael: Our business model is primarily a SaaS [Software as a Service] or subscription model, per employee per month, and as we sell through insurance services and other financial products, we also earn commission.

Agustín: And that's a model you're thinking of following as well in Europe? So, setting an office there, and doing the entire process of attracting customers and serving them?

Michael: Yes, very similar. We are getting to the scale now, though, that we're starting to work more regularly with very large consulting houses or advisory companies that are bringing us in to their clients as a solution that can help modernize their HR or overall employee experience. For all intents and purposes, it will remain a SaaS subscription model and where there is an opportunity to flow through financial products, we'll take a commission.

Agustín: There are some startups that are coming up in the space, none I think as big as yours, but who would you consider to be your competition?

Michael: We operate in two segments; what we call the mid-market, anywhere from a few hundred employees to a few thousand, and then the enterprise, a few thousand employees up to a hundred thousand. And, in the mid-market segment, really the competition is inertia; it's doing things the same old way, and so we typically run into a VP or HR or a CFO that have been working with the same insurance broker or plan for many years and they're unhappy, but changing is hard. Really inertia is the main competitor there. Large enterprises have looked for many years at point solutions that solve part of the problem. For example, healthcare navigation, there are companies like Accolade that solve part of that problem; benefits administration, companies like Benefitfocus solves part of the problem. What we're coming in with is a different proposition saying, "No, no, we are a platform; we solve the problem end-to-end." And so you don't really have a direct competitor, as in the case of Coke versus Pepsi, but really, it's a question of "do you want to buy into a platform or are you going to buy point solutions and assemble your own platform?"

Agustín: Where do you see health insurance going in, say, five years?

Michael: I think with respect to health insurance, the future is really not about insurance, it's about health. And so this idea of delivering a highly personalized, digital experience, that is based on a data warehouse of your health profile data will help you make better decisions, better choices, that help you live happier, healthier, longer, but also optimize your experience from a financial standpoint. I think really that's the trend. So, big pools of data, a completely consumer-driven model, where you have technology, machine learning, and big financial or big networks of service providers, that are really part of this one integrated experience, that help you achieve your goals. I think that's really where we're headed.

Agustín: So, do you think that the internet of things, like fintech information, and other devices to track the health of people and incorporate that into quotes and that kind of thing are the answer?

Michael: That kind of information is one facet, like Fitbit information and the number of steps you take, it can only be used for so much; it's not sufficient on its own. You need claims history and claims information, other lab information, other test results that come in or data points that come from different places; and have the capacity to put it in one place, and then be able to provide recommendations based on that combined data set.

Agustín: I was going to ask you, finally, about your mentoring of different companies. What is your advice for somebody that's got an idea to do some kind of startup in fintech?

Michael: I think the first step is always the hardest, and the last step is never what you would have imagined. So, starting is hard, but be prepared to let go of any aspect of the idea that you had in the beginning because it's all going to change and the successful companies are the ones that are relentless in their adaptation.

Agustín: Having been in different companies and successful in different companies, what keeps you motivated and excited?

Michael: For me it's really about solving hard problems and having this vision or an imagined future that is better for me as a consumer, and for all of us, and striving to be the ones that help bring us that future. I guess what's shifted over the years is that I'm not really interested in the next dating app anymore, I never really was, but solving the healthcare problem or solving energy problems, these are the massive problems of our time and someone's got to solve them. I doubt, or I have, I guess, little hope that the solutions will come from the existing industries. What motivates me is really being part of a movement to help transform those industries from the outside, in the way that I know works, as an entrepreneur.

Chapter 55 Barry McCarthy

Company name: Assure Hedge

Location: Dublin, Ireland

Assure Hedge provides automated currency hedging solutions for individuals, businesses, and institutions. Assure Hedge is an award-winning financially-regulated MiFID (Markets in Financial Instruments Directive) company using the latest technology to simplify FX (foreign exchange) currency hedging, specializing in FX options. Its story provides excellent insight into how to do proper idea evaluation and customer research.

Roles: Barry McCarthy, Founder and CEO

> *Hedging is like travel agents a few years ago, you'd have to walk into an office for two hours and someone would phone around trying to find you your holiday.*

Agustín: How did you get started in financial services or fintech?

Barry: So I was a trader, I traded derivatives for different banks and proprietary firms. I did that for 15 years and I saw this opportunity to help, particularly, smaller companies to manage their currency. Basically, I've taken all my know-how from the trading markets, from algorithmic trading, over-the-counter trading derivatives; and that's the basis for our product. We simplified all that down into a really easy to use platform that's delivered by an API [application programming interface]. You can think of it as a software as a service, SaaS, product. It's a little bit like that, so think of it like hedging as a service. HaaS is Hedging-as-a-Service is one way of seeing what we do, but HaaP is better, we are the world's first and only fully service Hedging-as-a-Platform B2B2C [business to business to customer] offering. I would like to take credit for inventing the terms HaaS and HaaP. It is

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very much on the SaaS model where it's an on-demand hedging product for businesses that don't have big treasury teams, the expertise, and the know-how, to trade these instruments. That's basically the background for the idea.

Agustín: As an entrepreneur, did you start another business before Assure Hedge?

Barry: Yes, it was an algorithmic trading company. We had automated trading systems on all the markets around the world and we had quite a lot of success with the company and a lot of that technology was moved over to Assure Hedge, to basically help smaller businesses instead of pure profit trading strategies for proprietary profit. We believe at Assure Hedge that no business, however small, should be denied access to hedging and risk management products simply because of their size. This is about the democratization of currency hedging and our vision is to open up hedging for everybody through technology.

Agustín: Did you ever work for a big financial services institution?

Barry: I've always been self-employed, that's the thing. I was a self-employed derivatives trader since 2003, so I've worked in some banks and some small companies, but I've been a self-employed trader since then. I built out teams of traders in Singapore and Gibraltar, did some partnerships with some big banks, starting my own business along the way.

Agustín: Was it just in your personality to be self-employed?

Barry: Yes, I mean, my wife works at Citibank; she laughs at the thought of me trying to get a job there now. She said I'd probably last about two weeks before they'd fire me and throw me out the door, because typically an entrepreneur wants to get things done immediately and I don't like waiting around. If there's an idea there that makes sense I like to see it, I like to make it happen fast and that doesn't work in a typical larger company, that just doesn't happen. You could be waiting six months to get approval from people, and I think that would drive me absolutely crazy to miss opportunities because things don't move fast enough. I like the fact that our team can turn around a new product here in as little as a week. We've built a whole API architecture for hedging and so we managed to build a product called brexitprotection.com, that uses all of our technology and regulation and we managed to build that in about a week, and that would be absolutely impossible to do anywhere else. It's a full product targeting people exposed to the value of the British Pound due to Brexit (Great Britain coming out of the EU) and that would be impossible to do in a typical corporation. It would take a long, long time. It may never even happen, because there are too many people that would be trying to find problems along the way. That's just an example of why I love what I do, we can turn around a good idea and turn it into a real product in a very fast timeframe.

Agustín: That's a very good reason to be an entrepreneur. Looking at Assure Hedge in detail, you gave me some pointers on how you got started, but for somebody that doesn't know what the company does, what's the elevator pitch for Assure Hedge?

Barry: Number one: the current products for hedging are not modern. So hedging and risk management for currency have not modernized like other industries. There's a lot of phone-based stuff, it's kind of like travel agents were years ago when you wanted to book a holiday, you'd have to walk into an office for two hours and someone would phone around trying to find you your holiday. That's what hedging is like today, because you've got to phone banks and there are lots of different middlemen, it's really inefficient. What we've done is cut out all the middlemen through technology and through the fact that we are regulated in this area, as well as a tech company. We have become the Expedia or the Travelocity, in that sense, in that a customer can log on to one website now or one product, which is ours, and then they can scan the entire market in seconds for the best price for hedging and the most suitable solution. We can execute and trade that for them, in real time, which cannot be done anywhere in the world at the moment.

Agustín: Sounds like a really good idea, when you say "this area" you mean Europe?

Barry: Yes, we are regulated in Europe at the moment, so we are regulated for the 31 countries in the European Economic Area [EEA], but we do have plans to look at the US and Asia as well in the near future.

Agustín: I guess it's particularly relevant after the Brexit announcement and how the currency has been fluctuating. You must have clients in the UK and countries that deal with the UK.

Barry: Absolutely! It is important to understand that our route to market now is evolving. We initially launched direct to market, so we would be a direct customer-facing business, so we deal with a typical manufacturing company, maybe in the UK that is exporting to New Zealand or wherever, and we are able to hedge their risks for them directly. But what we've found is that it's far more effective working with partners that already have lots of these types of customers on their books, for example, we're doing deals now with FX brokers in the UK. The FX broker in the UK will change currency for thousands of businesses, but they generally don't have the ability to risk manage or hedge for those same customers. What we do is we step in with an API or a white label offering and then that broker can immediately add a whole new product line onto their platform for the customers and we sit behind that broker and power all of that pricing and trading for the derivatives instruments, for the customers. We fit in the background, that's a big change in direction that we've undertaken, we have now moved to be completely focused on partners and don't deal with direct SME customers; we will only deal with partners. So it is a business-to-business-to-consumer play now, where we build the tools and technologies for the FX brokers and, to an extent, big, big blue chips; and also partners like banks eventually, once we grow a bit more, we will be able to deal with banks and that's where it really gets interesting.

Agustín: That operating model sounds like the right way to go. But how did you come to that conclusion? You started a B2C and now you're B2B2C. When did you realize that the right way to go was B2B2C?

Barry: From Day One this was the way we wanted to go, but in order to build your technology and sell it to big, big partners like large FX brokers, you have to already be in the market transacting yourself, to prove to them that this is working. It's regulated; the customers are using it to iron out any issues that invariably come up. In a way, we made that decision consciously, that we would go and get direct customer business first and that's what we've done. Our competence is not in that though, we are not in the business of selling direct to businesses. The cost, the customer acquisition costs are extremely high; it's a totally different value proposition than what we have. There are other companies out there that are better at marketing and better at selling and better at onboarding customers than we are; we're better on the technology side, on the regulation side, on the product innovation. It made sense to me, the whole way along that we would always end up being an infrastructure provider; providing product to companies that need it but don't have it.

Agustín: I'm curious about your operational side. You said that you're replacing interaction with bankers, telephone calls. So who supplied you with the currency? Do you have your own currency, or you must go to suppliers?

Barry: Yes, we do, we have suppliers. This is the beauty of the business model, that we deliberately got financially regulated by the UK Financial Conduct Authority (FCA) as a MiFID firm, and passported around out to the EEA, which means that we can create these instruments. Our model is that we create the instruments as principal, but we efficiently net the risk off to partners. If you could think about it like when you buy your car insurance, you sometimes will buy it off a broker. I don't know what example I can have in the UK, but there are brokers that don't actually underwrite the policy, they go off to AXA then or AIG, but you're dealing with somebody who sits in front of them. In a way it's like that, we're sort of a reinsurer in a way, we don't hold the risk; to innovate we must create the instruments as principal, otherwise we would have to use the antiquated systems that are already there, with all the big banks, and we won't bring any value to the customer. So what we do is, we sell the risk to the customer in an official way and then we immediately will offset that risk in the marketplace. So we have connectivity with all of the major providers of these instruments. The moment we sell the product to somebody, we offset the risk at a lower cost somewhere else. That's our business model; that's how we make money.

Agustín: When you say you have connectivity with all of the suppliers, is it something that was already there, or have you connected to their API, or did you have to make this happen?

Barry: Yes, the challenge was immense for us to connect because there is very little in the way of APIs for options and forwards out there. I'm not saying there are no solutions, but it's taken us a long time to find a number of key partners that can actually do this. That's why I'm not at liberty to talk about the names of those entities, because we had to search through hundreds of them to find two or three entities. I've been working in this stuff for 15 years, so this is where we have a big advantage over some of our competitors, shall we say, who don't necessarily come from trading backgrounds. They stay away from these products because they're so difficult to navigate through. Spot FX is not easy, but its relatively straightforward to connect to real time spot prices and real time execution. But when you talk about more complex derivatives, that's a more difficult area to navigate for someone from a tech background.

Agustín: It looks like from the moment you set up your strategy to the moment that you executed it, it's all gone well. Were there any things that you would have changed in the way you started the company and how you grow?

Barry: No, it definitely didn't go all perfectly, let me assure you of that. One big lesson I learned along the way is how important it is to spend a lot of time at the start on customer discovery. We all think we know the answer when we start a business and we believe in it passionately, but nobody has ever got it perfectly right. I was told this at the start by a lot of people, but I didn't listen enough. I think most people in startups neglect the job of going out on a scientific basis—and I would say it is a two- to three-month project—of properly going out speaking to at least a hundred potential customers with a proper survey to test your assumptions. I think that is the single most valuable thing anyone can do becauseit's very likely your assumptions are not totally right and it's the lowest cost way of refining your strategy and your product early on before you've invested in the technology and in a sense you've committed to the product then. That would be the one thing I definitely should have done more, in terms of learning more about the pain points of the customer; that sort of stuff which took us a long time to figure out. The product would have been designed slightly differently from the start if we'd known about certain things from talking to more customers than we did.

Agustín: What do you think entrepreneurs need basically, focus groups or research?

Barry: It's a mixture of all of that, I would definitely say. Focus groups can be expensive, there are definitely shortcuts there, low costs things you can do like by picking up the phone and talking to people. People will speak to you, we found, if you connect with them on LinkedIn and you can find potential customers. If you are upfront and explain to them what you are doing, they will speak to you. They will give you ten, fifteen minutes of their time, most of the time, if you ask for their opinions and promise them you're not trying to sell them anything. That's one of the most important things for anybody starting a business, because you've just got to get validation from the target customers right from the start and you can learn so much. Even in a handful of conversations you can learn so much about what the customer wants. It took us slightly longer to do that than we otherwise would have liked.

Agustín: How have you gone about funding?

Barry: I am not going to talk about specifics, but I can talk about how I went about it. We initially got support from Enterprise Ireland, and a government agency called the National Digital Research Centre, NDRC. They're both state investment bodies that help fund and promote Irish startup companies. We have raised a total of 3.8 million euro to date. Our most recent funding round of 1.62 million euro closed in July 2019. We intend to raise substantial Series A funding in 2020 to aggressively scale the business. We worked closely with the FCA regulatory sandbox in 2016 and were one of the first ever firms selected to participate. This experience dramatically helped secure investment.

Agustín: That's really good, so it was useful to work with them?

Barry: Yes, very, very useful. Both of them added things in different ways. The NDRC was an accelerator program. It's one of the best accelerator programs in the world, in terms of its performance, and that was really a useful program that I did with them.

Enterprise Ireland is considered one of the largest and most successful venture capitalists in the world; even though they're state backed, they have invested in more early stage companies than almost any other group in the world. A lot of people don't know that about Enterprise Ireland, they're really an excellent investor. They have a network of offices all over the world. They brought us out to Singapore in November 2018 on a trade mission and introduced us to a load of banks and companies all over Singapore and Bangkok, they really are very supportive.

We also have some very significant angel investors as well that completed that funding round, including Robert Smith, who was the Chief Technology Officer of a company called GETCO. They were one of the biggest high frequency trading firms in the world, so he'd be a prominent well-known investor. He also ran Knight Capital Europe's European operations, so he'd show up everywhere. He's fantastically helpful in terms of the technology, as well as in being an investor; he's been helpful in terms of designing and building out our platform, because he's built fantastic stuff with GETCO that made literally billions in profits, so we're lucky to have him. We also have an investor, Richard Hayes; he's an extremely accomplished entrepreneur. He's had a number of successful companies including Global Shares, which recently got multi million in investment from Motive Partners, and he also had a company called IFG Group, which was publicly listed on the LSE [London Stock Exchange].

Agustín: Very interesting. Have you got a board to supervise the growth of the company and how well you're doing?

Barry: Yes, we have a formal board as well as some informal advisors. On the board is myself, Richard, and Robert, and Paul Cran, our secretary. Paul used to run a private bank and was the CFO of the Maxol Oil Group. That's the board, but we also have a number of advisors.

Agustín: Where do you see Assure Hedge going in the future? You mentioned you can build products really fast. Where do you see the growth coming from in the future?

Barry: We're moving more and more toward becoming an API company, a regulated supplier of derivative product, through an API delivery service. We are moving toward rebranding ourselves as a Hedging as a Service platform (HaaS), so that any corporate treasury department, FX broker, or fintech platform can take our API and build hedging solutions for themselves or their customers on top of our platform. We want to be the main supplier of hedging products in the world. So it's a little bit similar to The Currency Cloud (TCC), you know them?

Agustín: Yes, of course.

Barry: It's a similar model to The Currency Cloud, except we're focused on hedging, exclusively.

Agustín: Are there other firms doing this for hedging?

Barry: Yes, it's a very wide-open space, so there are lots of different companies doing different things. There are lots of examples I can give you, but as far as we're concerned, we've decided to pursue a particular area here, which is removing the friction for pricing and execution, of over-the-counter forwards and options. There's a lot of friction there. Nobody else, as far as we have seen, has come in and done this. We do have some competitors which are typically large banks. There are some large banks that have the ability to do what we do, but they are reluctant to share that with anyone else. They want to keep it for their own customers and that's a great advantage for us. Because we're not a bank, we don't have to worry about keeping things for our own customers. Because we can target everybody, we can target all the banks at the same time, whereas individual banks when they develop some edge or some niche that helps their customers, they don't like to devalue that by making it available to other banks' customers. This is a great benefit to the fact that we're not a bank with existing customers.

Agustín: One final question. Do you see hedging to be a product that would ever become available to retail customers?

Barry: Absolutely yes; and we already have priced and sold an FX option on as little as $10,000 dollars of risk, which is the first in the world. You will literally not find another example in the entire world where this has ever happened before with respect to a bespoke OTC [over-the-counter] FX option. It was my proudest achievement to date. We want to help everybody; we want to help the small guys as much as we want to help the big guys. A part of our future plan is to be able to offer microhedging, so this means that we can provide on-demand hedging for any amount, even if it's five hundred euros, even if it's two hundred euros—you see what I mean. It's possible, because it's a complete digitized product. We're about to move to a much greater level of regulation, which will mean that we can centralize the risk and manage the risk as a portfolio of risk. That means that, because we're a total digital product, we could offer hedging to people who—say you're a Polish person working in the UK and you want to hedge five hundred pounds against the złoty—you could do it with us. If you're an online retailer and you want to hedge the payments you receive in foreign currencies, however small they are, you can do that with us, because eventually we will integrate with payment systems globally. So we can move into microhedging, which nobody has ever done before. That gets very, very interesting, very fast, because I can see us processing tens of millions of smaller hedges.

Agustín: Yes, I was thinking of holidays, lots of people go to Europe and there's always fluctuations in the exchange rate for America.

Barry: Yes, we could work with a travel agent when they say, if you're in the UK and you buy a holiday to Disneyworld with your family, you now have dollar risk because you haven't paid the full amount for the holiday yet. You've only paid a deposit, so the travel agent could turn around and sell you currency protection for, you know, 1 or 2% of the total cost of the holiday. You know when you buy your TV and they're trying to sell you service insurance on your TV, and all that? It could be the same in that way, or other use cases, if you've got a mortgage payment in a foreign currency, if you're a corporation and you send your workers abroad, you can hedge their salary on a localized basis, things like that. I can see there being thousands of applications for this.

Chapter 56 Dr. Christopher Oster

Company name: CLARK Germany GmbH

Location: Berlin, Frankfurt, and Püttlingen (Germany)

CLARK is an insurance platform providing transparent, independent, and best price-value insurance consultancy and coverage. It has created a beautiful app with an insurance robo-advisor that allows managing different insurance products through a dashboard inside of their mobile app or desktop version.

Roles: Dr. Christopher Oster, Cofounder and CEO

> *I had the idea for CLARK when I was looking for a simple, transparent, and digital solution to manage my own insurance policies.*

Agustín: How did you get started in entrepreneurship and how did your experience at Boston Consulting Group help?

Christopher: I began my professional career in 2006 as a consultant for BCG. During this time, I had the opportunity to gain insights into many different areas of strategic business development on a global scale. The tasks in consultancy firms are very diverse and it is essential to learn quickly and understand key drivers and the reason behind different teams and functions. Furthermore, at BCG I mainly advised financial institutions and retail companies, in areas such as restructuring, reorganization, and strategy development. These industries are facing considerable competition from newcomers to the market: startups as well as big tech companies. This experience gave me an early understanding of the mechanisms behind successful digital businesses.

Agustín: How did the idea of CLARK come about?

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Christopher: To put a good idea successfully into action, two things are necessary: First, your idea has to offer some economic potential. Your product should meet a certain need or needs of a big customer base. Second, you have to be convinced of your own idea in order to convince others as well. At CLARK, these two prerequisites were present: I had the idea for CLARK when I was looking for a simple, transparent, and digital solution to manage my own insurance policies. I realized that I am overinsured in certain areas, whereas others were not covered at all. Insurance is still managed mainly by paperwork. A digital solution, where all contracts can be stored to have a full overview, seemed more convenient to me; however, I couldn't find anything like that in the market. At the same time, the insurance market offered huge potential for new solutions due to its size and low level of digitization.

Agustín: And it still does! How did you go about setting up the initial team and getting the initial funding?

Christopher: Family and personal networks were the driving forces for how the founding team met. It is important for a startup to find people that complement each other in the various skills that are necessary for the implementation of an idea. At CLARK, the founding team complements each other perfectly.

Capital from seed investors and the founder team in the early stages laid the foundation for future development of the product.

Agustín: How would you describe the vision of CLARK?

Christopher: For many people, insurance is a lifelong pain. The process of buying and managing insurance is frustrating, complex, and not transparent, the products are hard to understand, and there are around 500 insurance companies to choose from (in Germany alone). Comparability of different prices—zero! Furthermore, insurance companies and brokers have an extremely negative image. A European survey revealed that brokers are one of the least trusted professionals. In fact, two out of three consumers are not satisfied with their insurance experience today. As a result, many people do not actively take care of their insurance situation. However, they know that being insured and fully covered is important and something they really should take care of. So, on top of bad experience and frustration comes a guilty conscience for not being in full control of their insurance situation.

We want to change the way people think about insurance. Our aim is to provide a product that makes insurance simple and easy. Therefore, we developed an application running with a robo-advisor that analyzes a customer's insurance situation and offers them the most suitable insurance. The robo-advisor uses algorithms and automatically proposes optimization opportunities. On request, insurance experts are available to assist customers with specific questions. The robo-advisor compares products from more than 160 insurance companies to find the best product for each individual customer. CLARK's customers can manage their insurance contracts digitally via mobile app or website, free of charge.

In short, we improve the insurance situation for our clients: whether that means enabling them to save money, be fully insured within changing personal living conditions, or simply processing a damage case.

Agustín: What's been your biggest success with CLARK so far?

Christopher: Three years ago we had 500 customers, and as of January 2019 we have 150,000—and this is just the beginning. It's hard to pin down our rapid growth in the past three years on a single milestone. It is more the accumulation of little steps. In the beginning, we invested a huge part of our time, resources, and energy into the development of our consulting technology. Now our strategy has paid off, and the combination of automated advising via algorithms and personal counseling is what makes us unique. It enables us to offer efficient counseling with maximum scalability.

Agustín: How do you deal with product innovation? What have you got in your pipeline?

Christopher: Product innovation is the only way to success. We are constantly working on automating processes for even greater scalability. When we started, the robo-advisor was the first step. Machine learning currently offers the most potential to automate manual processes. We are testing how we can simplify and automate the digitization of insurance contracts even further.

Agustín: How would you describe the fintech scene in Germany (startups network, access to funds and talent, government support)?

Christopher: The German startup scene has evolved greatly in the past few years. Still, we are far from having a German Silicon Valley with easy access to capital, open exchange, and wide international recognition. The fintech scene in Germany is still characterized by a mass of small players and only a few big ones. About 95 percent of the fintechs stay at the very early stage and are swallowed by bigger players sooner or later. In other countries, such as the US and China, startups get easier access to funding.

Also, when it comes to talent hiring, fintechs, insurtechs, and startups need to think international. Although being at the epicenter of the financial services industry in Frankfurt, finding talent with a digital focus is a challenge. Out of this necessity, we have made it a virtue: employees from almost 30 nations are working at CLARK.

Agustín: How do you see the insurtech industry developing over the next five years? What are the key technology enablers?

Christopher: The insurance industry is confronting a radical shift in the age of automation. It is a huge market: there are 69 million potential policyholders in Germany alone, with currently around 435 million contracts—a huge amount of paperwork that can be simplified and accelerated. Deep tech applications such as Big Data, machine learning, and artificial intelligence will automate processes, making them more efficient and optimizing operational costs. This will also improve overall accuracy, customer experience, and maximize the return on allocated capital. The customer will benefit from tailored offers and seamless customer experience.

Agustín: That has been very insightful, congratulations on the journey so far, thanks for your time and all the best.

Chapter 57 Talal Bayaa

Company name: Bayzat

Location: Dubai, United Arab Emirates (UAE)

Bayzat is a technology company that provides insurance and HR solutions in the UAE. Customers can compare, buy, and use health insurance. It has understood the difficulties that SMEs (small and medium-sized enterprises) are facing in the UAE, and have provided a solution around HR that helps companies carry out administrative tasks all on one platform. Bayzat also provides SMEs a platform to automate their payrolls at no cost, which saves them time and money.

Roles: Talal Bayaa, Cofounder and CEO

Never underestimate how difficult it is to get people aligned with a shared vision.

Agustín: How did you get started in fintech?

Talal: I was born in California and when I was six years old my family moved to the [Persian] Gulf region, so I spent my childhood moving around different countries, and I went back to California for university in 2004. I studied bioengineering and graduated in 2008, which was an interesting time to be entering the workforce. Funnily enough, I got a job in investment banking in the UAE in September 2008; it was maybe two weeks before the Lehman Brothers collapse. I did private equity for two years and then decided to start Bayzat.

Initially, Bayzat was a consumer platform for financial services. We had the idea to be sort of like a mint.com in the US, so people could integrate their financial services onto one platform. The first iteration of our product was really just a comparison site for banking and insurance products. Through that, we were able to learn more about the pain points that traditional financial services

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players were facing. The first thing that really stood out to us was that distribution was a very big challenge for traditional players because, at the end of the day, they were selling something that's highly commoditized. The second thing we realized is that they didn't really have a means or a way to engage their customers on an ongoing basis, so it was difficult for them to provide ongoing value to the customer, and their retention rates reflected that. We also noticed that in the insurance sector, they actually had very little data about the lives they were insuring. As we looked at medical insurance specifically, we saw that they were all using the same data points to underwrite health insurance. By "they," I am talking about some of the largest screening insurance companies in the world.

Once we saw those three gaps that traditional players were facing, we decided to initiate a change and solve these problems through innovative technology. We are on a mission to make accessible a world-class employee experience for all companies in the UAE by providing an HR platform that can automate administrative tasks such as payroll processing, employee record management, time-off requests, and easy access to their health insurance policy for employers and employees alike. All this at no cost! We actually don't charge anything for the platform, and we are able to monetize them once they are on the platform through fintech solutions.

Agustín: So you have a platform that is cloud-based and you are allowed to do payroll, or is it just benefits?

Talal: We have payroll as well. Again, that is a highly commoditized service so we're actually introducing free payroll for all our customers.

Agustín: When you say highly commoditized—if you think of a company such as Gusto that does this—what is the difference between the situation in UAE and in the US, where this product is being sold profitably?

Talal: Yes, so the product is being sold in the US, but if you look at the cost at which Gusto is offering it, that's why it's been able to scale up because Gusto offers their platform at a very low cost. I think they also realize that it is a highly commoditized service. The way we look at horizontal SaaS [software as a service] solutions for SMEs is that, in two years' time, the standard solutions will be free. When you have a strong downward trend where most small businesses can get a lot of these solutions for a few dollars a month already, then it's not a stretch to say that it's going to be free in a few years' time. We've just made that leap to free, from Day One, so I wouldn't say that it's a different approach to someone like Gusto.

Agustín: You mentioned how you're offering products to companies and I can see the big names that you have, such as Subway. How did you go about starting the company, fundraising, and resourcing? I'd be interested to know how that was done.

Talal: We weren't really thinking about building a big company at the time. We were simply aiming to solve a problem for our customers and once you start to solve a problem, you sometimes realize that you're actually not solving the root cause, you're just addressing the symptoms. We wanted to find the best people to help us solve these problems but to hire more people, we needed more money. When you need more money, you start fundraising and before you know it, you have started a company. I think that's actually the reality and it just happens as a matter of circumstance. For us, it was really about seeing the gaps in the traditional financial services space and obviously, at the time, I knew that I wouldn't be able to solve this alone. So, we hired three engineers, bootstrapped for a couple of months, and then we identified a lot of different problems we had to solve to get to where we wanted to be, and we went out and just started talking to angel investors. At the time, when we started, there wasn't really a big venture investing scheme or ecosystem in the UAE, so we had to resort to just angel investors. So that was us talking to friends, family, strangers—anyone that was willing to talk to us—and collecting anywhere from five thousand to a hundred thousand dollars from each of these angels and that became our first round. As we grew, the number of venture firms in the Middle East also grew. Since we were one of the first fintech companies in the region, we were able to find a great venture capital firm to invest in Bayzat—and the rest is history. We have been growing and scaling ever since.

Agustín: What did the original team look like?

Talal: It was me and my cofounder; a friend from my high school days in Dubai. A similar history to mine, American by nationality, born overseas, and came to the UAE and grew up here. Actually what happened is, because there was no venture investment scene, he and I hired three engineers, kept our full-time jobs, and eventually, I joined Bayzat full-time and he kept his job so that he could keep funding us financially. Eventually, as we raised more venture money, he joined the company full-time as well.

Agustín: That's a very innovative way to go about the initial phase. What was the initial problem you wanted to solve?

Talal: The first problem was looking at health insurance and realizing that it was not really a real-time experience. We said, "Hey! People should be able to see prices in real-time," and then we realized that not only could you not see prices in real-time, but you also couldn't even buy in real-time. Then we realized that the value chain was extremely messy and fragmented and there was a lack in the IT infrastructure being used by insurance companies, third-party administrators, intermediaries, and so on. Then we realized that even if we could provide the real-time experience for group health insurance, 70% of SMEs were not using any technology to manage their employee data. So even if we did deliver a real-time experience, they wouldn't feel like it was real-time, because all their data are sitting in hard copies or Excel spreadsheets. That's why we decided to start with an HR solution that could solve the pain points of our customers first.

Agustín: In terms of your geographical reach, where do you operate?

Talal: We're only in the UAE at the moment. The UAE is quite a big market for what we do because it's actually mandated by law that all companies buy private health insurance for their employees. From that perspective, we are able to leverage the fact that it's a highly commoditized product because what happens is that as a country mandates employee benefits, the authorities in charge usually start setting a lot of regulations around it, including pricing, benefit structures, underwriting requirements, et cetera. If something is highly commoditized, it creates a value gap for the customer. We're coming in to fill in that value gap by giving our customers a better experience, along with more value, at the same cost and, hopefully in the long run, even lower cost.

Agustín: Many people think that the whole region is a bit underdeveloped in terms of fintech or even IT. How would you describe it in your own words?

Talal: The region is underdeveloped in specific areas, I would say. It's a fair statement, but if you look at fintech, it's not really far behind other countries. It's not like the US and Europe are advanced in fintech. From that perspective, I would say it's actually almost on par with those countries. In terms of technology, in general, I think you have to segment it into buckets. Obviously, if you think about SaaS solutions, it's probably one of the hardest areas in tech because the penetration rate of SaaS solutions is quite low. If you go deeper into HR SaaS solutions, it's among the lowest, and then, if you break it down to SMEs, it's even lower. In the UAE itself, 70% of SMEs are not using any technology for their HR needs. We've looked at other markets that we want to expand to, and we've seen that 70% holds true in those markets as well.

Agustín: That's a really good insight. I have been looking at your history and it looks like you've grown from those original two or three people to way over a hundred people. I'm curious how you did that and how your road has changed.

Talal: We did it through pure hard work. Hiring people is definitely a big challenge and it takes a lot of energy to recruit people, onboard them, and get them excited and aligned to the vision we have as a whole. My role has changed significantly. Today we're at one hundred sixty people. I think my challenges have changed significantly. I think one of the main transitions and evolutions one has to make at this scale is not to underestimate how difficult it is to get everybody aligned with a shared vision. I feel like I'm always communicating about the vision and where we're going as a company, but the reality is that most leaders communicate their vision by a factor of ten. Even though I feel like I'm talking about it all the time, I'm talking about it probably ten times less than I should be. In terms of a day-to-day role, I am not doing much of the nitty-gritty work that I used to, but at the same time, I still get involved with teams. Our culture and teamwork is based on trust. We look to empower people, but at the same time, make sure that we have the right KPI's and metrics in place so that I can actually measure that everyone is heading in the right direction.

Agustín: In terms of your recruiting, do you hire engineers all in the region or do you offshore any of the work?

Talal: We do both. Most of our engineering team sits in Turkey. Our CTO [chief technology officer] is in Turkey managing that office there, which is comprised of sixteen engineers right now. We also have some engineers based in Dubai as well, but it's been challenging finding engineers here. We also have remote team members, mostly based out of Poland.

Agustín: That sounds like a really good way of solving the resource scarcity around your region. I'm wondering where do you see yourself going next, in terms of development? Is it around improving the insurance business process? Where do you see yourself growing in terms of your product offering?

Talal: I'll go back to the three pain points I mentioned earlier. So, one was distribution; two was ongoing values; and three was data management. So, from that perspective, the HR platform has allowed us to scale quickly. We're providing our customers with ongoing value and engaging employees with a better experience. We're gathering incredible amounts of data, especially around life-changing moments on which traditional financial services are built. We then use this data to design better products that bring value to employers as well as employees.

Agustín: Sounds like a very good approach. I'm wondering for you, personally, how has it been, going on this journey as an entrepreneur?

Talal: I'm not a very sentimental guy, unfortunately for my wife. I don't sit back and reflect that often, but I think it's really exciting. In the first two and a half years what drives you is the fear of failure; you want to make sure you're not going to fail. Then, as you get traction and build a great team to work alongside, you are excited about creating opportunities and experiences that give people a better way of doing things. That's been a nice change, that experience. I think you can't really ask for more. We've been able to raise money; we have a great shareholder base; we were lucky enough to discover the opportunity in insurance and insurtech in 2015—which was really before insurtech became a really hot sector. We got lucky with the timing there, so it's been a great journey. Obviously, it's been a lot of hard work, working all the time, but that's because hopefully there's a reward at the end of it; and at the same time it's way more enjoyable than having a full-time job at a multi-national company.

Agustín: Yes, I completely agree with that. I really enjoyed talking to you.

Chapter 58 Gustaf Agartson

Company name: BIMA

Location: Stockholm, Sweden

BIMA is the leading mobile-led insurance and health provider in emerging markets. BIMA uses mobile technology to disrupt the global insurance industry, fuel financial inclusion, and improve access to quality healthcare. BIMA has developed great technology, partnerships, and a novel distribution model, using mobile phones, to bring insurance and healthcare products to people who have never had access to them before.

Roles: Gustaf Agartson, Founder and CEO

> *The combination of people and technology that will deliver success when building a fintech business in emerging markets.*

Agustín: How did your telco [telecommunications company] experience help you start BIMA?

Gustaf: The telco experience of our early team members has been crucial since our business model to a large extent has been built around partnerships with telcos. All telcos around the world are continuously being approached by a broad range of companies that want to partner with them, leading to strong competition for their attention. In order to close a deal with them you need to understand how they think, understand their strategy and be able to articulate how you can help them achieve their goals.

Agustín: When did you feel you had a breakthrough with the business?

Gustaf: The first BIMA market that we launched was in Ghana and, after the initial pilot phase, we set a target to reach 100,000 paying subscribers as well

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as to sign a partnership agreement with a large mobile operator in Asia in just six months. When this target was achieved, I really felt that we had established something to build a great business on.

Agustín: How easy did you find it to get investment for your project?

Gustaf: The Swedish investment company Kinnevik is a founding shareholder of BIMA and has supported our expansion from the start. I have, therefore, been very lucky when it comes to early commitment from an investor with a long-term investment horizon and ability to financially back the business. BIMA now has a fairly broad shareholder base including a number of mobile operators as well as one strategic insurance investor, Allianz. Getting access to additional funding always requires a lot of work, but I believe we have also benefited from the gradually increasing interest in fintech business in emerging markets over the past years.

Agustín: How was the process of growing BIMA into a company with a substantial headcount?

Gustaf: Growing the team is the only way to grow the business. At BIMA we are convinced that it is the combination of people and technology that will deliver success when building a fintech business in emerging markets. It is very challenging to educate a market about insurance and secure great customer education without allowing for the possibility for customers to speak to a real person. We invest a lot in education through people and we have more than 3,000 employees across our markets. Building this large team has been challenging but thanks to some excellent people that joined BIMA early on, we have managed to create a great culture, which, combined with a replicable business model, has enabled us to scale rapidly. Culture, combined with a very strict recruitment process, where only high-quality people can join, is absolutely key.

Agustín: What mistakes did you make when starting?

Gustaf: I have made many mistakes since BIMA was launched and I am convinced I will continue to make more mistakes in the future, I believe that is just the reality of building innovative disruptive business models across multiple markets. Therefore, I consider it crucial to have support from strong shareholders with a long-term view of the investment. This will enable you to launch new ideas without jeopardizing the future of the business every time you try something that does not work out, and you will be able to balance the focus on short-term initiatives and the long-term strategy. Another key insight is the importance of closing down initiatives fast when you see signs they don't work. It is easy to commit to a pilot project so much that it becomes your “baby” and as a result it becomes a difficult decision to close it down fast enough.

I would also like to highlight the importance of building the team you need for the next phase of the company’s journey. In order to grow in a sustainable way, you need to invest up front in the team that you need to take the company to the next level.

Agustín: Where is the insurtech industry going?

Gustaf: I believe the winners in the insurtech industry will be the companies that provide products and services that engage customers and deliver continuous value to customers. One major challenge for the insurance industry is the lack of loyalty of customers. Many customers don’t get any value back from the products they buy unless something bad happens to them. For a long time, this has been accepted as the reality and something that insurance companies can’t change. I am convinced this perception will change going forward. I believe companies like BIMA will prove that by combining insurance with, for example, health-related services for customers, it is possible to become a part of a customer’s everyday life and continuously engage customers in order to deliver value for them.

Agustín: Which are the key technologies that will enable disruption?

Gustaf: I believe disruption will come from technologies that will enable customers to remotely access health care. When you combine this with other insurance products, you have something very powerful.

Agustín: What is the fintech industry like in Sweden and the Nordics?

Gustaf: BIMA is a Swedish company, but we are focused on emerging markets, therefore I have limited experience in working with the fintech industry in Sweden. My view is, however, that while we have seen a lot of innovation from Sweden when it comes to payments and loans/credit I believe we will see several really successful insurance startups take off. I believe there is room for a lot of innovation in the Swedish insurance industry and that young talented people will find great opportunities to deliver new exciting disruptive things.

Agustín: Thanks for your time Gustaf. It is very refreshing to see companies like yours, which are introducing real change to the insurance sector.

Part 7: **Data and Analytics Fintechs**

Companies in this section
Xignite
Kasisto
Ayasdi
Machinalis
Token.io
Mosaic Smart Data
Moneytree

The use of analytics in financial services has grown exponentially, as these tools can help create a safer and more efficient environment.

Some companies have decided to utilize machine learning to solve different problems in financial services, for example anti-money laundering. Analyzing unstructured data on millions of transactions can reduce the number of analysts needed and improve detection quality of suspicious transactions. I spoke to the founders of Ayasdi, a company that is doing this very well.

Of course, there are many other uses for machine learning. I had a very interesting conversation with the founders of Machinalis, who explained how machine learning teams are set up and how they managed to improve the customer experience—including predicting user behavior, optimizing KPIs [key performance indicators], and offering recommendations by applying data science. Another interesting usage of Artificial Intelligence is Kasisto. I discussed with its founder Zor Gorelov how they built a conversational AI platform specific for the finance industry.

Application programming interfaces [APIs] have acquired paramount importance in many industries, including financial services, especially with the rise of open banking. Several companies are enabling the extended use of data. I interviewed Stephane Dubois from Xignite, who has been creating APIs before the term even existed, and serve the data needs of the most well-known fintechs in the US offering financial data through its cloud offering. I spoke to Jonathan Epstein from Japanese Moneytree, which has shown how to create a market by pioneering data aggregation. Token.io has taken advantage of the opportunities that open banking presents and offers an API that can integrate to more than four thousand banks. Finally, I discussed how data can be used in wealth management with Matthew Hodgson, founder of Mosaic Smart data.

This is probably one of the sectors that still has the potential for enormous growth.

Chapter 59 Stephane Dubois

Company name: Xignite

Location: Auburn, California, United States

Xignite provides cloud-based financial market data distribution solutions to fintech companies and financial services providers. Xignite has been named one of "the ten coolest brands in banking" by Bank Innovation. They have been enabled the most successful fintechs providing them with APIs to access first quality market data at a reasonable price.

Roles: Stephane Dubois, Founder and CEO

> *When approaching investors, demonstrate you have sold something, and that you have uncovered a pain point.*

Agustín: How did you get started in financial technology, and how did you decide to start Xignite?

Stephane: In the early '90s, I worked for Oracle, which is a big enterprise software company known mostly for their database products surrounded by software, including Java. I joined Advent Software in '95 and they were doing portfolio management software. I got into the fintech world then and I left Advent five years later to start Xignite, initially to create a wealth management software solution, which was a natural extension of what Advent did. I wasn't so successful doing this. I spent some of my money trying to build something, and didn't get much traction doing so. It was a little early for wealth management software at the time. After a couple years spinning my wheels, I got into what we do today, which is financial market data. We needed market data to power our wealth management solution. We needed data to demonstrate the solution but all the financial data

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that was available was coming from legacy systems like Thomson Reuters, and Bloomberg and it was very complex, very cumbersome, very expensive. So we had the idea of, “Let’s create an API,” which was a very novel concept at the time. We created our first API [Application Programming Interface] by scraping the web. It was just for demo purposes and we put that API on one of the first API directories available back then. Most of the API’s available at that time were extremely simple, free, and just for demo purpose. Quickly some people came to us and said, “If you make this a real product, we’d be interested in buying it.” So we did a very early pivot and when I say we, I’m a little excessive because it was just me at the time in the company, and we pivoted into market data. We found a legitimate data source, and we created an API. It was not an API that helped some other product—you subscribed to the API, and so you’d buy it. I think ours was the first commercial API where the API was the product you bought.

Agustín: Were you calling it API at the time?

Stephane: No, we called it a “web service.” But the terminology of using API, which is an extremely generic term and it existed before, was not used yet. Then the term API started taking over, and by API it meant REST [Representational State Transfer] API, because you can have an API that’s not a REST API. Slowly web services became APIs, and API starting meaning REST API. We had a commercial paying REST API for market data back in 2003. It’s actually quite visible on the wayback machine, you know, the internet archives, so you can see that we had it back then as a commercial product. That’s a little bit of the story of Xignite, with a typical case that we ran into pain and we pivoted to address that pain, and from that initial API we ended up building a whole platform and really tried to revolutionize some of the industry we fell into.

Agustín: Can I ask about those initial moments? You mentioned that you started with your own money?

Stephane: Yes, I did invest some of my own money. Early on, it was post first internet bubble. If you remember from 1995 to 2000 there was a first internet bubble, so I’d made a little bit of money. I invested some of my money in this but, ultimately, I raised capital. Initially it was just me in the company. I had a friend who helped at first, but he left very early. It was essentially me for five years, not paying myself and depleting my finances. I did raise a round of institutional capital in May 2006. I raised $2.2 million from two Silicon Valley VCs. You’re talking about 2006, at the time the concept of angel investors, seed investment, crowd funding—all the things that people do today to fund a business—were not quite as readily available. Angel investing was not really a thing quite yet. It was straight to institutional money. I raised $2.2 million as the only employee of the company, but I had a product, I had clients, I was generating, if I remember correctly, $300K in annual revenue and I was almost breaking even, just as a single guy. My cost structure was quite low, I didn't pay myself too much either. So I was able to raise to $2.2 million at the time. I don't think it's possible to do this anymore, and I think anybody would first go toward friends and family, or some seed investing, some crowdfunding, something else to fund it. I was able to finance it myself for a period of time in order to build the product. I wrote all the code for the first version, although I'm not a tech guy, but I could.

Agustín: So you did six years on your own?

Stephane: Yes, I did. Six years on my own. For the first year, I had a friend who used to work with me and had quit his job. He was the tech guy. He came work with me, but after a year he had to go back to Southern California, and so I was left on my own. I had paid some engineers to do the thing for a little bit and eventually I was running out of money, so I decided to write some code. I wrote a heck of a lot of code in the time that I mention here, but it worked out okay. I think the recommendation for aspiring entrepreneurs when approaching investors is always about having sold something. You've got to have something, and you've got to have uncovered a pain point. You've got to have addressed that pain, and you have to have sold something, and it has to be perceived as a large market opportunity. I think if you can do that, you're probably not going to have much problem finding money. It is probably a lot easier these days than it was back then.

Agustín: Was it 2006 when you started recruiting people for Xignite?

Stephane: Yes, 2006. I started recruiting some folks. We used our $2.2 million pretty well. We tried to raise another round, it was in the fall of 2008, which is probably the worst possible time in history to try to raise money in financial services. I remember having set up a week of meetings with VCs in New York. I arrive in New York on Monday, I had eight meetings lined up, you know, morning, afternoon, morning, afternoon, for the rest of the week; and that Monday, that was September 15, 2008, Lehman Brothers went bankrupt. So nobody was interested in investing in fintech. I mean, not even close. In 2008, you were in financial services, nobody wanted to touch you. I had to go back to my existing investors to get some additional money, which I did get. It was not really a B round, it was just a piling more on the A round. It took until 2011 for me to raise a B round. I ended up raising $5.5 million from my A, I raised a B at $10.7 million, and I raised a C round in 2016 for $20 and a half million. These were the three rounds. Every round we had increased the value of the company, we had grown, we had extended our markets. We were very, very early doing what we're doing. What you have to do when you're starting to raise money is not to run out of money. It would have been very easy for us to run out of money. We almost did. In 2008, nobody wanted to give you money, so it would have been easy to run out. But the main job of an entrepreneur is to make sure that you don't run out. We could probably have had started this business five years later and been okay, because there wasn't really anybody else doing what we were doing, but if you start early it gives you an advantage because you build the technology and we were able to build barriers around us from a competitive standpoint. But it also creates more pressure to make sure that you don't run out of money.

Agustín: Would you do anything different?

Stephane: I think I would have started later, probably. I think if I might have done something differently, it's start a little later, because I think it took more time for the industry to ramp up. What happened is that it took until 2013 for the fintech wave to really crank up and that really fueled the business. It started at the end of 2013. Although the good thing, because we started early, we had actually sold to pretty much every top fintech company. All the robo-advisors: Betterment, Wealthfront, Robinhood, SoFi—everybody used us because we were the type of technology they liked. These were startups, they didn't want to spend time dealing with legacy technology, they had bought into the concept of APIs—for them it was a natural thing—so they all converged in our direction. So starting in 2013, we had already signed up the early fintech companies and we continued doing that, so we saw huge growth from that. And I did my first API ten years *before* that <laughs>. I think I could have shaved off five years and been just the same. I had an offer for capital as early as 2005, but I denied it because I thought it was a little early and it turned out to be still too early. But yes, I think potentially I would do it slightly differently starting it a little later.

Agustín: That's a really good insight. I've seen that your company has been awarded as one of the coolest brands. How do you get that?

Stephane: We got that really by the fact that we had enabled, I would say, a lot of fintech, because why did fintech occur? What was this big fintech wave? The fintech wave I'd say started in 2013—it was much less noticeable before that. Since we were selling shovels to the fintech gold diggers, we saw the fintech wave coming before others did. We called it the "fintech revolution." We might even have been the first ones tweeting that back then. It was made possible by the crisis of 2008 which left the innovation field pretty much empty in financial services. Nobody in the banking world innovated, they all focused on regulation. This left the field open to Silicon Valley, New York, Silicon Roundabout in the UK, or whatever, to start innovating because we are a fintech company ourselves, but we are a little bit like the man behind the curtain. We don't have a banking application, we don't have a wealth management application, we don't have a payment application, but we have APIs that power all of those and, yes, we did power most of them. By doing that, we played our role in enabling innovation because those firms were able to get access to the data they needed very easily and quickly and focus on actually transforming the financial services themselves, creating a better user experience, creating more efficient ways to do things. Had they been dragged down by the cost and the complexity of the legacy technology around market data, they wouldn't have been able to innovate as much. I remember a key moment was when Andy Rachleff, who was the founder of Wealthfront—and Wealthfront was the first robo-advisor—said that his business had been enabled by three things. One was ETFs, exchange-traded funds, which made it possible to manage portfolios efficiently. Then he talked about trading APIs and market data APIs. So the fact that those technologies were available, not just our technology, but ours combined with a few others, made it possible to innovate for those firms and I think that's why we ended up being one of the coolest brands in banking, even though we are behind the curtain if you will.

Agustín: I'm wondering about your competition. I would have thought that some of your clients are your competition like Yodlee, for example, but it's actually one of your customers, so who is your competition?

Stephane: Our competition is the traditional market data providers: Thomson Reuters; Bloomberg; Interactive Data which is now part of ICE [Intercontinental Exchange]. These are mostly our competitors. There are some newer players in the field, but very few, and very few have scaled over time. The reason is that the data business is a little tricky. In order to service customers, especially the bigger customers, you need *a lot* of data. Therefore, in order to grow, you need to get a reasonable amount of data coverage. To get data coverage you need to source it from exchanges like NASDAQ, the London Stock Exchange, and others. You need to pay the vendors who own the data if you're going to redistribute it, and doing so is expensive. You need to pay every exchange for the right to distribute their data. You might need to pay others for important data as well, for example the CUSIP [Committee on Uniform Securities Identification Procedures] license. You're either going to have to share revenue or commit to revenue levels with various vendors. It's extremely expensive to acquire large data sets that are going to be sufficient to compete aggressively with the big players. Without capital it would have been really, really hard and I think that's mainly why data companies stay very small, because they can't really expand their data set organically, you need access to capital to do that. So it's been very hard for anybody coming in to try to do what we were doing as a startup, due to those costs. It's a huge barrier to entry. Even for us to go and compete on the scope of data with somebody like Thomson Reuter, who has been around for a hundred and fifty years and has been able to integrate many, many data sets and has a much larger scale on which to annuitize their cost, is challenging. It's not just about writing better software—it's about writing better software; you do software better, you know it's just code. In this case you've got to integrate and source a lot of different data sets and that's quite expensive.

Agustín: I'm wondering in terms of the future and what it holds? Is it possible for small firms to compete with the big firms such as Thomson Reuters?

Stephane: Yes, it is possible. I think there are a couple avenues to do that. Either you go and find new data that those firms don't have, and that's a strategy that some firms could take, and many do that. They get what's called "alternative data." They get data sets that are not common. The challenge with new data sets is people aren't necessarily ready to buy, because it's new—I don't know it exists, right? So why should I get it? And so you have to create a market for it and that can be challenging. That's a possible avenue. The approach we use is to focus on what we call the data distribution. If you look at the financial market data industry, it's about a thirty-billion-dollar market. It's been dominated by Bloomberg and Thomson Reuters. But it's a lot of legacy technology, it's terminals that nobody else wants any more—it's too expensive. It's a lot of legacy feeds and technology, a lot of on-premise technology that banks have to spend huge amounts of money to manage and all that has to go. All of this is moving to the cloud. Everybody consumes the same data, from the same vendors; every bank deploys the same databases and the same feeds for everyone. You could put this data in the public cloud and benefit from massive economies of scale to help fintechs and banks extract value from the data much more efficiently. That's what we've been doing. And we have doing this for more than 10 years. We opened our first AWS [Amazon Work Space] account back in 2007, only months after Amazon launched it. And we released our first pure cloud product in 2008. What we're about is not as much the data, but the efficient use of the data by it being in the cloud. That is happening, and the large competitors are not as well positioned to do that, because what they have is the data. They don't have the technology. They are still dabbling in the cloud 13 years after it was first launched. Most banks consume data from everyone. They are not going to get data from a single firm. They need to get data from Bloomberg, they need to get it from Thomson Reuters, from ICE, from many exchanges. It's not like you can go to one place for your data. What you need is a platform that allows you to integrate all your data and do that in the cloud and that's what we're focused on. The vision, five years from now, ten years from now, is that all market data is going to be in the cloud just like all the infrastructure of those institutions is going to be in the cloud. We are trying to be the platform that distributes, integrates this data, with all the systems that firms are going to be using. That's quite a different play from what others have been doing. But it's happening. It's an irreversible process. Every bank is now doing this. It took them 10 years to figure out that they should do it, but now they realize that due to the cost pressures, due to the regulatory pressure, due to the innovation pressure, that they are faced with, that they have to do it. They have no other choice.

Agustín: Your business model is around facilitating these platforms where banks will be able to provide their own feeds of information?

Stephane: Exactly. We actually have a couple of aims with our solution. We can provide you data with APIs, but we can give you a platform on which you can put your own data. So it's doesn't matter. It can be data that comes from our sources, or your sources, that will help you make it efficient in the cloud.

Agustín: Obviously banks will be worried about having a lot of their data in the cloud. How do you deal with security?

Stephane: It's not really a huge issue for market data. The security issues are around employee data, PCI [Payment Card Industry] data, employee holdings information. It's a much bigger issue for those than market data. It's always been an excuse about the cloud, but that's actually an excuse. This data doesn't even belong to them, it belongs to the exchange, to the vendors. In some ways it's public data, it's not really private, personal data. So it's not really an issue and now I would say the resistance that we used to hear from banks around security has mostly gone away. You still have to check the boxes like any other vendor, but it's not like, "Oh, we cannot do this because of security issues." They'll ask the questions like they do every time, but it's no longer a resistance item.

Agustín: Let me ask you one final question. You've been able to grow for a lot of years in a row. I'm wondering how does that happen from a sales perspective, but also from the cost side, from the internal operations? How do you manage that growth?

Stephane: Yes, well, for us it's a double challenge if we don't. We also have the huge data cost as I mentioned before. If we were a software company, we'd be a vast, very, very profitable business, but since we have the huge data costs, we have to be more careful. You have to be very focused on customers and I think what I mean by this is that you have to be able to sell things *before* you build them. Around financial technology there's always the temptation to build the next cool thing, only to realize that, well, that's not necessarily what people want. Something we've done consistently is to sell things before we would create them. I use this little story to demonstrate what I'm talking about. We acquired all our clients through the Internet, which was different from existing competitors who had expensive sales forces, which meant that we got customers through search-engine optimizations or pay-per-click advertising. Whenever we wanted to build a new API, for example, we were thinking, "Well, we should only build it if we are able to get customers for it," and we knew that the way we got customers is through the Internet. So before we built a solution, we would create a mock up of that solution and we would essentially buy traffic for it. By buy traffic, I mean we'd have pay-per-click advertising to drive traffic to our website. We'd buy advertising to get people there and the basis was, if we do that and we don't get anybody interested, then we shouldn't build the product. But if we do that and a lot of people come and say, "Can I buy this product?" which we don't have <laughs>. If a lot of people say, "I want to buy this product," and we get enough, we can build it. If you do that, if you sell it before you build it, then you are less likely to run out of money, because you're not spending your time building something people don't care about. That's a bit how we have been able to stay focused on what people wanted without running out of money, without building things that don't make an impact on the business. I always advise new entrepreneurs to sell their product before they build it. The initial idea I had about the business turned out not to be what people wanted. It was like them saying, "Hey, you should build that API." For the next API, it was clients saying, "You should build a next one." It's not like we had any bright ideas that changed the world, it's that we listen and channeled what we heard into something that people wanted.

Agustín: That's an amazing tip, and easy to execute nowadays with Facebook and Google ads. Many thanks for all those insights.

Chapter 60 Zor Gorelov

Company name: Kasisto

Location: New York, United States

Kasisto is a conversational AI platform for the financial services industry with the most advanced and comprehensive production deployments of virtual assistants and chatbots for the leading banks around the world. Kasisto has developed KAI, a leading Conversational AI platform that helps banks service, engage, and acquire customers using human-like conversations. It's story, as well as the journey of Zor, its founder, is fascinating and shows great innovation and use of patents.

Roles: Zor Gorelov, Cofounder and CEO

> *We constantly encourage our people to stay above the competition and continue to do work that translates into actionable innovation.*

Agustín: Your company has won some nice awards and you're doing cool stuff around AI. Then, when I looked at your profile, I saw that you're a serial entrepreneur, so I thought it would be a great choice to learn about your story.

Zor: At Kasisto, we have created an AI-based virtual assistant platform that is quite effective at answering a range of customer questions. The product's name is KAI—we have KAI for consumer banking and KAI for business banking. Leading banks around the world, including J.P. Morgan Chase in the US, DBS Bank in Singapore, TD Bank in Canada, and Standard Chartered Bank in Hong Kong use KAI to humanize digital conversations with their customers. It can be used for small, medium-sized, and large financial services organizations. KAI comes with pre-trained and prebuilt capabilities, it's fast to launch, it's easy to deploy, and easy to customize. We are not one of those AI companies that essentially says, "Let me get in and find out what you need, and we'll build something for you." For

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example, our KAI Business Banking solution is built specifically for treasurers and CFOs of businesses who are using large banks to manage their finance functions. It provides easy and natural access to information about cash positions and transactions, with the idea to simplify the way they interact while helping to reduce servicing costs.

Agustín: When I was looking at your profile, I was interested to see how you decided to move from Microsoft to entrepreneurship.

Zor: I worked with Microsoft, beginning or mid-nineties or so and really had a fantastic experience there. I worked in helping the Microsoft customer financial services industry to adopt Windows NT technology. This was at a time when Windows NT was getting created by Dave Cutler and the team, and this—well at the time and I'm sure it's still true—there was an incredible level of talent at Microsoft. The smartest people over my career that I have met were at Microsoft in those days, and it was really a pleasure to be there. With that said, I decided to move on because I felt that the Internet was a huge opportunity and I always had an entrepreneurial gene in me. I decided to start my first software company, called BuzzCompany.com. We built Internet messaging and collaboration software for companies likes Nokia, Ford, Intel. Basically, it was a set of tools for building corporate intranets. Instant messaging, message boards, chat, blogging, content publishing tools—that's what our product was. That company was acquired in, I think in the early 2000's, by a public company called Multex.

Agustín: Then when you transitioned you stayed in the company for a bit didn't you?

Zor: Yes, I stayed at Multex to help with the integration. The CEO of the company had a very innovative idea, to build collaboration infrastructure for the sell side and the buy side, basically creating a tool that is similar to what Bloomberg messaging did. I don't know how familiar you are with the industry, but then Elliot Spitzer came in and there were all kinds of analyst scandals that in turn made communication between the sales side and buy side more difficult, not easier. People started building Chinese walls between research departments and all, so the market did not quite materialize the way he envisioned.

Agustín: At that point you decided to go back again into entrepreneurship with SpeechCycle?

Zor: Yes. I worked on early implementations of speech systems and I always had interest in speech recognition technology. I worked for Bell Labs in the early 1990s on some of the earlier speech recognition projects. I continued my interest in speech recognition and decided to build phone-based virtual assistants that were designed for the telecommunications market. SpeechCycle was founded in 2001, and we had clients such as Cablevision, Charter, Cox Communications, Time Warner Cable, which is now known as Spectrum, as well as Telstra in Australia. We were automating hundreds of millions of calls, with speech-based virtual assistants for these companies. Anything from, "Why is my internet so slow?" to "I can't receive emails." We provided very sophisticated intelligent systems that engaged users with conversation using speech recognition technology and helped them solve very complex issues with their cable TV, with Internet, with phone service, all while helping companies to save millions of dollars.

Agustín: Then did this company get acquired by Synchronoss?

Zor: Yes, the company was acquired by Synchronoss Technologies, which is a public company, which at the time—I think they still are—in New Jersey. They have very strong infrastructure software that they sell to telcos [telecommunications companies] around the world. It was a perfect match.

Agustín: Were you in a position where you wanted to try something new or how did the decision come about to exit?

Zor: Yes. Just like with Multex, I stayed on for a while and helped out with integration. I'm not a big company person, I'm an entrepreneur. I decided to move on, and was approached by Stanford Research Institute after I left in 2013. I don't know if you are familiar with SRI, it's one of the largest R&D labs in the world, probably top five. A lot of innovation was created at SRI over the years. The computer mouse was invented at SRI, the Internet was invented at SRI, HDTV was invented at SRI. Nuance Communications, which is the largest speech recognition organization in the world, was created at SRI in the nineties. Then of course, famously, Siri was created at SRI and was sold to Apple. So very strong tradition in state of the art, artificial intelligence technology at SRI, been doing it since '70's. After SRI sold Siri, they created a new platform that was designed to be conversational. SRI has a very strong venture and licensing program. What they do is they incubate and nurture new businesses; when something interesting is created in their lab, they have a very structured process to evaluate the potential of the idea. They evaluate the ideas in-house first, incubate it, and develop it, then they show them to their large network of venture capitalists to decide what ventures to launch. Kasisto was created through this process and was designed as a next-generation virtual assistant, that provides human-like conversations specifically for the financial services industry.

Agustín: Were you working with SRI or were you using their patents to create Kasisto?

Zor: I was recruited to be the CEO of one of their ventures and at the time I was an EIR, entrepreneur-in-residence, at SRI. I looked at and created new technology. I obviously knew a lot about speech and natural language. I went from New York to Silicon Valley, spent some time with them and I really liked what they were doing, so I decided to accept their offer and become the CEO of this new venture. That is how Kasisto was born and incubated at SRI in Menlo Park. Ultimately, we moved to New York City, because that's where the banks are. SRI contributed its entire AI portfolio to the venture and then became a shareholder in the company.

Agustín: Sounds very similar to what you did at SpeechCycle.

Zor: Yes, except at SpeechCycle we did mostly voice-based, or speech recognition-based virtual assistants. Later, at SpeechCycle we built something called SmartCare which provided a smartphone-based self-service and that was built from the ground up to support conversational experiences on mobile devices, on messaging platforms, and IoTs [Internet of Things].

Agustín: You've exited already from a couple of companies. Do you see the same thing happening with Kasisto or where would you like it to go?

Zor: I don't know. We are building a big business at Kasisto. Right now, our focus is on growing the business and we're not thinking about the exit. We have a long growth path to go, we have amazing customers and we have amazing employees. It's probably the best team that I've ever worked with, in terms of the level of talent that we have in the company. We are working with financial firms like DBS, Standard Chartered Bank, TD, JPMC, Emirates NBD-Liv, and Mastercard. I don't know if I can predict where this is going to go, but I do know that we're building KAI and really changing the way our customers interact with their customers. Consumers, investors, and business customers of banks, are able to define their own customer journeys. It's no longer go to my app, click here for this, click for that. Now they are putting a text box or a microphone in front of their customer and need it to understand and respond to what they want. Very much like the experience customers are getting from the tech giants in Silicon Alley and Silicon Valley. Virtual assistants are becoming a must-have in today's world and consumers will interact with them in a way that they prefer.

Agustín: Do you see Kasisto doing other things or is it mostly specializing in virtual assistants?

Zor: Right now we're focused on virtual assistants and financial services. Ultimately, we believe that communication between consumers, enterprises, and businesses can be improved across the board. While we focus on finance, we are also thinking about and working on other verticals as well.

Agustín: In terms of finding funding for your ventures, how do you approach that? You've done it successfully in three opportunities.

Zor: Yes, Kasisto raised I think, all together, twenty-nine million dollars. Our most recent round, a little less than a year ago, was our B round for seventeen million dollars, and it was led by Oak HC/FT, a venture firm in New York City, that specializes in fintech and healthcare. Other investors include Propel Venture Partners, Two Sigma, Commerce Ventures, and PFNYC [Partnership for New York City]. They are all really great investors, with a very strong focus in AI.

Agustín: How difficult has it been for you to go through the rounds? Many founders find it a big headache to achieve their funding, especially in the earlier stages.

Zor: I've been doing it for many years and can tell you that it's never easy to raise money. I have a network of investors who I go to. It's not easy, but we're getting it done. It's really not about me, it's about the business. It's about our customers, about our employees, if we grow the business, and make progress. Our funding and company are sound and the basic premise behind conversational AI is becoming mainstream. For example, Bank of America launched Erica here in the US and within three months they acquired 3.6 million customers. I think there is an adopted view from many of our customers that conversational AI is here to stay and will eventually become the main way consumers interact with companies. There are many factors to consider when you raise money. First and foremost, it's about the business and its customers and the market that you're in.

Agustín: In terms of keeping up with the competition, how do you invest in the future of your product and your technology?

Zor: Well, we constantly invest in the leading AI technologies and are continuing to improve and build. I think that's the only way we can survive. AI is a space that has a lot of players, from the tech giants to startups. It's on a continuously evolving pace and we've been fortunate enough to have really talented people in our organization, and a very talented CTO, who joined us from IBM Watson's team. We have very strong engineers which is important, some would say vital, to the success of a startup. One of our top core values is around our ability to innovate and not to be afraid to make mistakes and try things out. We constantly encourage our people to stay above the competition and continue to do work that translates into actionable innovation. We don't do pure research—we're not Bell Labs or AT&T Labs—but our focus, our innovation focus is quite actionable, it's designed to support the specific needs of our customers, even the needs that they may not know about today. We're trying, listening, projecting, and building ahead of the curve. It shows because conversational AI is a growing space with many players and there are only a few companies that can point to large-scale deployments that are available/accessible to millions of users. With thousands upon thousands of different intents in banking, AI provides a deep and granular level of understanding. We have been fortunate enough to be ready and able to work and grow with our customers.

Agustín: In terms of expansion, how would you recommend other businesses expand? You mention that you decided to focus on one technology and on one vertical as well, like financial services. If you wanted to expand, let's say regionally or into other industries, what's the best way to do that?

Zor: Well first of all, we are a global company. Our main office is in New York. We have offices, with engineers and products teams in Singapore and an office in Mountain View, California—in Silicon Valley. We are currently operating in three different regions and KAI is available in seven different countries and in four different languages. I think strategically as the company grows and expands, geographically, it's really important to stay on and to have a clear vision for the company and clear strategy that employees understand and then they can work with customers and help grow the business. I am an 'employee first' kind of a CEO. I believe in doing the right thing for employees because I know if I do that, then my employees will do the right thing for the customers. We're spending a lot of time listening to our employees, grooming them, training them, it's very important for us to make sure that we do the right thing. Everyone is a shareholder in the company, and everybody is rolling in the same direction.

Agustín: Just one last question. I'm wondering from your early days with entrepreneurship, can you remember a failure or something that other people can learn from your experience with starting a startup?

Zor: They are many of them, and I remember them all. In fact, after we exited SpeechCycle, I brought the management team together, we sat down, and we had a full-day post-mortem to discuss lessons learned and our experience. I think that, Kasisto is an embodiment of all these lessons that I've learned while building my software companies over the years. The focus on employees is one of the big lessons. When we're looking at hiring people, we look to hire Type A people from a talent perspective, but also Type A people from a human values and character perspective. I think building cohesive teams that like to work with each other, that collaborate, give credit where due, that continue to learn and do better is super, super, important. It all starts and ends with people; it's not just their talent. Hiring someone that is a genius but doesn't have the right characteristic and doesn't fit with the company culture, can have a very, very, painful and negative impact on startups as they start to grow. When you have twenty-thousand employees it probably doesn't matter that much, it might impact one team or two, but when you're a startup you work much closer with everyone in the organization and just one person can throw the whole company off. Finding the right people with the right skills and talent are important but equally important is character.

Agustín: Thank you very much for those answers and for your time.

Chapter 61 Gunnar Carlsson and Gurjeet Singh

Company name: Ayasdi AYASDI

Location: Menlo Park, California, United States

Ayasdi is an advanced analytics company that offers a machine intelligence platform and intelligent applications to solve big data and complex data analytics challenges and to automate formerly manual processes using their own unique data. It has created a unique machine learning platform that has been effective at dealing with multiple problems for several industries, incorporating intelligent segmentation, an advanced alert system, and an advanced transaction monitoring tool.

Roles: Gunnar Carlsson, Cofounder and President; Gurjeet Singh, Cofounder and CEO


In the future there's human and machine cooperation and collaboration, so that the machines do the things that humans can't do, or can't do very well, leaving the humans free to do the things that they really can do well.

Agustín: How did you get into the tech world and into entrepreneurship?

Gunnar: From my end, I was an academic; I'm retired from the math department of Stanford and had been developing methods that eventually led to the technology. At a certain point, Gurjeet joined the project. He had been looking around at various options and came by. He struck me as an extremely able and incredibly bright and energetic person. He joined the project at Stanford and about a year or two into that project, we hit upon some general scientific ideas behind technology that we thought should be developed and should be taken perhaps outside the academy. We did that and he finished up—he was a graduate student first and then a post-doctoral fellow. When we started the company, he took on

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the task of figuring out how to be entrepreneurial and how to do business, taking classes in that at Stanford. Then we started developing the ideas behind the product. Actually, it was a fairly long process, figuring out what we were going to do. Initially, we did a lot of scientific work at Stanford. We thought we might do scientific work in the company. Over time, we realized that we needed to find more focus and so we moved into the fintech vertical. Gurjeet, do you want to add to that?

Gurjeet: Yeah, I think, my journey was slightly different. I grew up as an engineer and I felt like I didn't know enough math. So I was looking to learn math. I found a post by Gunnar, on the Stanford internal forum, where he was advertising for a branch of math where we could potentially unify many different things that we typically do in machine learning. That was super interesting to me. I learned a lot from Gunnar, I stood in his office and asked endless questions. When we were done with the class, he asked us to commercialize our technology, and that's how we came to start Ayasdi. From my experience, I hated the idea of working for other people, I always wanted to start something—so this was a great opportunity. Then, to be honest, we kind of lucked into financial services. From a logical perspective, it made sense to work in financial services just because the market is quick and it's large and so that was super exciting. But then we spoke to industry people and we understood their problems and it turned out that our technology was very good at solving them.

Agustín: Stanford is well known for having loads of successful entrepreneurs creating huge companies. How did you get started with the funding and with setting up the structure of a company?

Gurjeet: I think even though Stanford is very well known for entrepreneurship, I think we have the dubious honor of being the only company to start from the math department at Stanford. To be honest, we didn't really have too much knowledge and too much backing. In fact, when we set up the company, we ended up using the wrong law firm. It turned out a lot of our founding documents were not in proper order and we had to go fix them later on at great expense. But nonetheless, I think that in terms of getting the company off the ground, we obviously had DARPA [Defense Advanced Research Projects Agency] funding, who had initially given us a grant to start the company. So we had some level of financing right off the bat. Then when I started taking classes at Stanford, one of the teaching assistants teaching us was Ann Miura-Ko, who is now a very famous venture capitalist, and for a class assignment we had to come up with an idea for a company and we were working on a company already, so that was our class project. After spending some time in the class, I actually found her outside of the classroom with a check in her hand saying, "Hey, here's a check and you should build a company on this thing." That's basically how we got financed and from there on, we've been growing and we're very lucky to have a very good set of investors and a very good set of early employees as well.

Agustín: You mentioned that math wasn't your big field. Is that why you took more of the executive role? How did you divide the roles?

Gurjeet: I think, two things there. First of all, by the time we started the company, I had finished my graduate work with Gunnar. I still don't know too much math, but I think I know more than enough to be self-sufficient in machine learning. Then second, on the roles, Gunnar was still teaching at Stanford and our cofounder, Harlan Sexton, had no interest in managing. I was kind of the only one who could be the CEO. I like to joke that I drew the short straw.

Agustín: Can you explain what Ayasdi does? What do you offer for the readers?

Gurjeet: We realized two important things. The first thing was that in the machine learning community, supervised machine learning gets a lot of attention, has lots of open source packages, and generally has a great ecosystem. But unsupervised machine learning is an unmet need in the market, where it's very, very valuable, but almost nobody uses it and almost nobody realizes how to use it effectively. That was one of our major realizations. The second thing we realized was that the people in large enterprises who are the best to learn from data, were people that had no expertise. We realized that for machine learning to provide benefit, it must be used by these people, but they are not technical. So, we concluded, that we needed to build specific business applications that solve specific tasks. That's what we have done. We have internally replicated a platform on which we can stand up and use a business application that fundamentally relies on unsupervised machine learning and our end users are nontechnical business people, who benefit from these business applications that internally use this super-advanced machine learning.

Agustín: Getting back to basics, when you differentiate between supervised and unsupervised machine learning, could you explain that a bit more?

Gurjeet: Supervised machine learning is predictive machine learning. Where you train the machine learning algorithm with input data and expected output. The machine learning algorithm is supposed to learn how, given the input data, it can predict the expected output on new unseen data sets. That requires large, clean, labeled data sets. Unsupervised machine learning does not require labeled data sets. So unsupervised machine learning can be utilized on large, complex data sets, that are not labeled. The reason why that's important is because the vast majority of data in large enterprises is not labeled and labeling is often a very expensive process. So that's why unsupervised machine learning can address a very wide variety of problems, because it doesn't rely on large labeled data sets.

Agustín: Would you mind providing an example of what Ayasdi can do with the data of a bank?

Gurjeet: One of our largest applications in banking and financial services is used in the compliance function in banks for money laundering reduction. To give you the context for the problem, if you're a large bank, the scale of J.P. Morgan or HSBC or Santander, then you typically employ anywhere from five to ten thousand investigators, who investigate transactions that might look suspicious. But then, 98% of those investigations actually end up not being suspicious; they end up being okay. About 2% of them actually end up being suspicious and are filed with the regulators. From a bank's perspective, 98% of the work of five to ten thousand people, they very well might not have done and still achieved the same risks to the bank. This is an area where we have developed an application that relies on all transactions, even ones that are not investigated, from an unsupervised perspective. It aims to lower the number of investigations that a bank has to undertake, while guaranteeing that nothing that was suspicious in the past, stops being suspicious. Does that make sense?

Agustín: So you are providing certain inputs and you are predicting an output of the cases that are suspicious. So isn't that supervised machine learning?

Gurjeet: Yes, a very good point. It sounds like supervised machine learning, but let's give you a quick example. Imagine that a bank has a million transactions, out of those million, they typically investigate a hundred thousand and two thousand are actually suspicious. In this case, nine hundred thousand transactions are never even investigated. They are unlabeled because they kind of just go through the system. Our application utilizes all of those million transactions to reduce the number of investigations, such that eventually a higher percentage of the investigated transactions actually end up being suspicious. That's where the unsupervised machine learning helps, it uses nine times more data, that is not labeled, and that's what drives the efficiency.

Agustín: You raised quite a lot of funding, more than $100 million. I'm just wondering how difficult has it been for you to do that?

Gurjeet: It has been challenging. You know, it's not easy to raise this amount of money and also deliver financial results, but at the same time, it's very gratifying and the fact that we have been able to grow the company nicely, has been very valuable.

Agustín: If you had to provide some advice to people that want to set up their own fintech, what advice would you give in terms of going about funding and choosing your investors?

Gurjeet: The thing about investors that I would say is very important is that the relationship is a long-term relationship; it's kind of like a marriage. More important than the money are the people who you raise the money from. Because any time you're doing any business, whether it's a startup or an established company, there are always ups and downs, and so it's really important that you find investors who are true partners and want to build the company with you, as opposed to people that are looking for a short-term gain. I think that probably the most important thing is to not necessarily choose the best money, but to choose the best people.

Agustín: Ayasdi has been named one of the most innovative companies. How do you approach innovation being such an important part of what you do?

Gurjeet: I think, obviously given our academic background, it's in our ethos to keep finding new things, keep exploring new frontiers, and bringing it into our product. But I think that's just kind of the DNA of the company, the founders reflect it, and the people we hire reflect it.

Gunnar: In academia, one studies a lot of problems for their own interest. Sometimes that's useful, but often it leads to not very useful and valuable ends. In terms of our innovation, the requirement is that all the innovation has to be such that it leads to something fairly concrete and valuable in the near term. That's more pressure, but it's good pressure, because it makes the work much more focused and more worthwhile in the end. I would also argue, even that on the scientific side, it really leads to better clients as well when you're doing the research in a focused way. From my leaving academia, that's been a big change and one that I really welcome.

Agustín: That sounds like a very good differentiation. So now that you're on the other side, you're burning cash that investors are interested in converting into returns. How do you choose which project you work on for your R&D?

Gunnar: Some of it is very near term. We see a problem that customers have and we need to develop something around that. So, for example, this money laundering project has focused our attention on things around anomaly detection, as Gurjeet was referring to. That kind of unsupervised analysis, where you're looking not for things that specify some particular profile that you already know about, but that maybe is different from what you've got, but is different in a *systematic* way. I think that sort of illustrates how we would choose it. There are other things that are obviously of importance in the AI world—things like deep learning and so on—and we'll also proceed on those things; but I think fundamentally it's problems posed by customers and posed by us needing to sell and convince customers, that lead us into the right innovative directions.

Agustín: In terms of setting up your system, you mentioned that this is meant for business users, but I wonder how much input does this require from your engineer and your technical people?

Gurjeet: Quite a lot, it's basically, imagine if you were buying sales forces via an application. Sales forces, engineers, spend a lot of time building the application, but then when you deploy it at a customer, you configure it a little, you configure your data fields and so on, and then you can start. Once it's configured you can start using it. Similarly here, our anti-money laundering application for example, it does something very fixed, but our engineers tweaked it, so we created an application. When a customer buys it, we integrate their design to it, but then on an ongoing basis it just works by itself. It doesn't require any ongoing data science.

Agustín: In terms of the market, who would you consider to be your biggest competitor?

Gurjeet: Since we created these very specific applications, we have very specific competitors. For example, in anti-money laundering, we compete with the likes of Mantas and Norkom and Actimize. They don't do quite the same thing, but we compete for the same budget. Similarly, in health care every year, every vendor claims to have some predictive capabilities and some machine learning capabilities. Again, we don't compete with them directly, but we compete for the same budget. I think in every application that we've created, we have some very specific competitors; we always do get asked questions about Ballantine and Watson, that's a constant thing that happens, but we don't specifically compete with them either, because they both seem to be platforms that are wholly configured by services for whatever task they use.

Agustín: It seems like it is very application-specific. Where do you see machine learning going in the future, let's say in five years, how is it going to be developed in the industry?

Gurjeet: I'll give you the commercial answer, and then I think Gunnar can talk about for the research. I think commercially, we are still in the very infancy of machine learning adoption in enterprises. Where data scientists and enterprises are still doing what academia did fifteen years ago. They have better tools, but they aren't really doing anything fundamentally new. I think the adoption of machine learning and enterprises is still at the very beginning. That's very exciting because that means that, commercially speaking, the market is going to keep becoming bigger, just because there is so much to do with it. The second thing that I will note is that enterprises today are still struggling with managing their data. I think that's still a big value. I think that's a place that will keep getting better and it will keep getting enhanced as well. These are the two things I'd say—first, machine learning is still in it's infancy in the commercial world; and second, data management still has a long way to go for machine learning to become truly effective.

Gunnar: Let me add a couple of things here. So, just in general, where artificial intelligence is going. One of the things that you see is, people complain about machine learning and artificial intelligence as being black box somehow, that it's not understandable. So one thing that I think is going to happen is that over time non-understandability won't work with regulators and physicians and so forth. I think where we're headed with artificial intelligence is a place where you are going to have actually guided or interactive intelligence. In other words, there's human and machine cooperation and collaboration, so that the machines do the things that humans can't do, or can't do very well, leaving the humans free to do the things that they really can do well. That requires that the machine learning things, get beyond simple outputs, like just a simple predictor or binary classifier, and give the outputs that are more human readable and that convey more information.

Agustín: Sounds like you guys are enjoying yourselves. As a personal question, how has it been for you to change from an academic environment into a business environment?

Gunnar: I really like it. I'll just tell you a story of a friend of mine who left Harvard to go to Texas, many years ago. Then everybody at Harvard asked him, "How could you possibly leave Harvard? Why are you going down to Texas?" He said, "Well look, Harvard's a great place to be, it's really nice and easy, but if I stay here I know what the rest of my life is going to be like." He didn't like that, and that's the same thing for me. It's been a huge learning experience, I'm continuing to learn new things every day, and I'm really glad to be doing that. I think that I'm doing that in a much better way than I would if I had just stayed in the academy.

Agustín: What about you Gurjeet?

Gurjeet: I've obviously spent a little bit of time in academia but I don't think I'm an academic myself. I love what I am doing. As you remarked when you open the doors, somebody has to like doing sales and business and such. Personally, I've come to love it. I really enjoy the business side of things and yes, I think the academic path is probably no longer open to me as a career option.

Agustín: As a final question, there's constantly in the news that it is a challenge to find people for artificial intelligence development. How difficult is it to find people that get it and how difficult is it to train people in this area?

Gurjeet: It's very difficult all around. You have to have something unique to attract the best people. In our case as an example, we have a small handful of machine learning experts at our company. They are so good that they are able to attract good people to join us. I think honestly, if you are a large company and you want to attract machine learning talent, you just have to pay more. I think it's quite simple. They have to pay more than they're used to paying and I think they will be able to hire the people.

Agustín: What's the profile of a machine learning expert? Is it a university graduate, PhD graduate, what are we talking about here?

Gurjeet: It really, really depends. For example, when we hire a machine learning expert, we are talking about somebody who typically has a PhD, although it's not a requirement. The thing that they have to be good at being able to read academic research and be able to turn it into production quality material. That is the most important thing.

Chapter 62 Walter Alini, Daniel Moisset, Javier Mansilla, Juan Chacon

Company name: Machinalis

Location: Córdoba, Argentina

Machinalis combines the know-how to handle software projects from the beginning with deep technical expertise in areas of data science. Machinalis provides computer science and engineering solutions to funded startups who need a team to rebuild their products. A pioneer in machine learning in Latin America, the story of Machinalis is inspiring—showing how people coming from a university background can succeed in business. With more than ten years in business, and solutions around customer experience, procurement, and data management, they were acquired by Latin American titan Mercado Libre.

Roles: Walter Alini, Daniel Moisset, Javier Mansilla, Juan Chacon, Founders

> *We are in a moment where artificial intelligence and machine learning solve some aspects that a few years before only existed in science fiction books.*

Agustín: I appreciate being able to gather the four of you to talk about your experiences. Would you please tell me how the idea began? How did you start Machinalis and how did things evolve?

Daniel: Machinalis started as a spinoff from a previous business (called Except) which I had with another two partners. In 2008 we were a web development company. We used to do software consulting, mostly in the U.S., and that year, because of the financial crisis, many of our projects stopped and our partners split up. We decided to close the company because of that. At that time, Javier was our partner already, for his contributions and the participation he had in that previous company. With him, and with Walter, who at that time was an employee, and with one more person, we decided to create Machinalis. We

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continued with some clients we still had, and also with some interesting projects. In this new context, we located ourselves on FaMAF [Facultad de Matemática, Astronomía, Física y Computación], which housed the mathematics, astronomy, physics, and computer science faculty at the University of Cordoba, where Walter and I were teachers. Next to us was the artificial intelligence department, and we started to cooperate on some projects. Then we incorporated Juan as our consultant, and he became our leader, and today he's our CEO. We started in early 2009, and in 2010 or 2011, we were already looking at projects related to artificial intelligence, and we thought of it as an important area and we decided to focus on it.

Agustín: Would you tell me about the profiles of each one of the founders?

Daniel: It's a mixture. Thought we were all managers in the previous company, all the founders have a technological education and background. That's also why Juan joined, because he has a different profile and he makes different contributions.

Juan: My profile complements the rest of the founders and partners. I'm a business administrator and I did my MBA 15 years ago. I've been working with the technology industry since 2002 or 2003. When we were creating the startup, we first did a consulting job to build the business plan, and with this plan, we tried to find the organic development of the company. They—the other founders—reached out to me to create the initial design of the organization that we wished to build, and with the help of Marcos Spontón, we developed the organizational groundwork in the commercial area, in projects and our object concerning quality, which allowed us to support the company growth.

Javier: In summary, we were four technological partners and then Marcos Spontón joined the team. He has a profile in social sciences and a bachelor's degree in political science. Eventually he became a partner, and later on, with Juan, the team possessed a range of different skills.

Agustín: So, when more people started to join, how did you get funds? And how did you all participate?

Walter: The four original founders and partners, started with an equal participation, and honestly the software development industry doesn't require a big investment to start. In fact, after we closed Except, we were able to provide services right away just with a computer at home. All along, since the beginning of Machinalis, we must have been quite odd, because we never had to try to get funds outside besides the support from private banking. We started with a small or medium contribution from each partner, and then, in time, we decided to reinvest most of our earnings in the business. That's how we funded the next steps we took until the day the company was sold. This was simply the result of growing the enterprise and hiring adjusted to a close profile in keeping with our technological, financial, and economic needs.

Daniel: Our level of funding had a lot to do with the decision we made of working with a service-based business model. Services allow you to have an economic repayment from almost the very first day. More recently, we started to consider getting involved with product development, because working only with services may slow down the speed of growth. So working as a service company has its pros and its cons, but we never had a product in the market.

Agustín: Can you tell me about the service Machinalis offers? And how find your clients?

Javier: As a team, we've evolved a lot. With the profile of the partners, there was a lot of interest in being really professional with the technical side, and because of the market demand, we started doing services in custom web development and custom apps. We always enjoyed doing complex things, and we emphasized the statement, "If something is difficult, leave it to us." Actually, that's part of the brand identity that we've tried to create. Later, we started to link with university researchers and to explore potential demand in the market. We began to focus on the technical part and provide services for the things that were hard and unusual. We discovered then that the services surrounding AI were a very interesting topic and a challenging aspect for our team to cover that demand in the market.

I think the first clients we had, for that matter, were here in Córdoba. Automatic translation systems and systems for selecting images and increasing sales, et cetera. Our clients were big companies with offices here in Córdoba. We looked at our focus and we stopped doing web platform solutions. We started to offer more services related to artificial intelligence, and automatic learning in particular, a sub-segment of artificial intelligence. During this evolution, the day we started to define ourselves as a machine learning company, we noticed that we were very different from most of our competitors, because most of them were inside consultants doing machine learning, but without the complexity of understanding the problem and putting it in productive and industrial systems that solve problems in the actual field.

Daniel: Mostly since the beginning, we were ahead in creating something we call 'delivery solutions.' There are a lot of people who know about machine learning and AI in science, but there's way more to it. On one hand, the analysis, consulting and getting closer to the client's product, understanding the necessities, and then identifying the problem that you have to solve with machine learning. That's something that a lot of people didn't know how to do even though they knew a lot about the science and the math behind machine learning. Later, once you solve the scientific part, the trick is in knowing how to take that product to action and scale. That is something that made us different, and that's the fact that we covered everything in an all-inclusive service.

Javier: For a services company, it's super hard to reject projects because they didn't lead to the place we wanted. First, on horizontal terms, because we needed the technology to fit what our team knew and that made us want to keep learning more, and then, on vertical terms, we wanted to keep growing toward the fintech world and e-commerce. That's the maturation process. We started taking projects that we could accomplish with our technical capacity, and then, in the last few years we had so much visibility that we could reject the projects that didn't fit us, that didn't take us to where we want to be. We could afford not to accept them.

Juan: Another thing that I think is important, that Javier mentioned, is that we put together the academic and scientific aspects with a market perspective. In 2010, it was a huge challenge. In theorical terms we knew this as the Sabato triangle [a model concerned with linkages between science, industry, and government]; maybe today a lot of people make it an aspiration and I appreciate the vision of the founding partners at that moment, of looking at the strength of the academic part from a market development perspective. I think that's very important.

Agustín: How many people do you need to make a proper machine learning solution?

Daniel: It depends a little bit on what we have already told you. Depending on the result that you want, you ask people what they need. If you want basic insights from someone looking at your data to provide answers to questions for you, like, for example, what characteristic is the most valuable to my clients, or how do I predict, using my data, what are the most valuable clients I have? That's something that only a data scientist can do. Now looking at the universe of all your data, understanding your business, and giving you interesting questions that you can get answers to, that is something that only a person can do, but with a different profile. So now you need two people. If it's something you permanently want to do, having that information and making integrated automatic decisions with existent systems based on that information, now you need a bigger team. Normally we're working with teams of between five and 10 people, depending on the scale of the problem. Sometimes we've had clients with very specific problems that we need to solve for a very specific instance, and there may be one or two people looking at it and they just can't do it.

Javier: To cover this kind of problem, since it's quite a new discipline, we did it in a very holistic way. In our way of seeing the problem, we have a team with these different dimensions because we understand that the solution is exposed in a real system that needs way more than just technology.

Agustín: Until the moment of the acquisition, you only offered a bespoke service to every client. Isn't there a chance of having a machine learning product that you can commercialize to other clients?

Walter: One of the first recommendations that we got when we started with Machinalis was, "have a clear focus, if you're going to be a service-based company, dedicate yourselves to services only; if you're going to be a product company, dedicate yourselves to the product." As time passed, we saw a lot of opportunities to open new companies or new spinoffs for Machinalis, for some things, or even to transform into a company that doesn't offer services but products. We considered that going ahead with a company that offers services isn't the same as going ahead with a company that makes products, because of the diversity in projects that we had, our experience, tools, and the capacity of our team came from that. On top of everything, we were convinced that our value came from thinking more in our clients' business than in our own business, and that in the long term, the client was going to benefit our company, so we never decided to turn into a company that made products. We began to explore ways for our service to scale, so the business wasn't proportional to the amount of people in the team. That's something we've improved and achieved during the last few years. Machinalis started as a company that got paid per hour worked. Before the acquisition it was a company with 95 to 100 percent of its clients not based on a structure of payment per hour, but on a structure of delivery value and price per value provided by the business. In this sense, we think that it was a good decision that we never became a company of products. Maybe it would have been a good decision to make a spinoff or open a company sharing the know-how and the knowledge with a particular segment, but we never made that decision.

Agustín: How did the acquisition by Mercado Libre happen?

Juan: Growing a startup of the nature of Machinalis, focused on a niche market as specific as artificial intelligence, we realized how important the machine learning topic was in the market. In my role, I had the chance to be in the United States for the last 3 years, almost twice a year, in Silicon Valley, in San

Francisco, and every time I had to introduce Machinalis in organizations like Facebook or Google, it did nothing but to confirm that we were on the right track. As a result of this, in 2014 and almost by the end of 2015, we were called by Mercado Libre to explore some possibilities on working together, in projects that, by then, Mercado Libre hadn't been able to solve on the inside, with their technology team, or on the outside, with other providers on a global scale, whether it was with services or products. We had a positive first experience, with a project that lasted three years and six months, mostly the first phase of exploring a machine-learning project. We had good synergy with the technology team in Mercado Libre and from that moment we had a great relationship with Daniel Rabinovich, who is the CTO (Chief Technology Officer) of Mercado Libre, and with Daniel Gándara, who is the director when it comes to development in Cordoba. So, by the end of 2015, we had first approached Mercado Libre in an honest and sincere conversation, they told us they were thinking of acquiring some kind of company similar to ours. By then, even though we believed it was something positive, we thought we weren't mature enough to talk about that, so we just kept a provider-client relationship, because it was good enough for both parties. I believe the e-commerce in particular, as a vertical and as a sector, started to need more and more of machine learning, and in that sense, the conversations about a potential acquisition became more intense and more formal in the middle of 2017. We started to analyze not only the hardest variables of due diligence, but also the cultural aspects of both organizations. Since we were a labor intensive company, we wanted to make sure that we were able to keep the fundamentals, beyond any kind of acquisition, or the values that we had as an organization, regardless of any kind of exit or acquisition we made. So our priority was making the best exit, and we helped Mercado Libre make the best acquisition. We embarked on the formality of due diligence, which took us about 12 or 13 months.

Agustín: What did Mercado Libre buy in purchasing you?

Walter: First, it's buying a way of working, a team that knows how to work together and how to incorporate new knowledge to improve and that has a trajectory showing that it contributes with a value that is hard to create. So, in a way, they're buying delivery capacity of a team that has shown that it can work well. That's first.

Javier: The first step to the longest stairs is a set of processes already tested, and the current team, plus the processes, the renovating capacity; it's a well-positioned brand in the local environment. Knowing in general about machine learning, and in particular the link with the academy, and with communities of developers. We were talking before about products, and even though in terms of market share we never had products that had such things, we did work with tools that made the development cycle shorter, and some initiatives of work optimization; these are all pieces that make development easier.

Juan: For an organization like Machinalis, talent management is really important. Machinalis received an award in 2017 by CESSI, which is the board of trade of software and computer services in Argentina, precisely because that talent management has a bunch of values that make Machinalis a healthy organization, and its priority is people in providing useful solutions. This tells you a lot about our journey in this sense, as a unique characteristic in the organizations within our territory.

Daniel: There's something important in two aspects, which Mercado Libre bought affecting its way of doing things. It's not just the people who have a lot of knowledge and know how to do things in a certain way, it's the way we work as a team, the processes and the practices that lead us to solve problems. Because of it, at this time, Mercado Libre didn't just happen to get our people to be employees in different areas, but we've kept working as a team and we're starting to take many of these ways of doing things and shaping the rest of the company. So it's not just 60 people that know how to do certain things, it's having a multiplier effect for the rest of the company.

Agustín: Mercado Libre's plan is that you keep working as an independent entity that keeps providing services for many clients, or is it that you focus on Mercado Libre's platform only?

Daniel: It's a 100 percent focus on Mercado Libre's platform and, in that sense, we've closed the processes that we had with other clients. So the whole team is working for different areas, all of them in the different product lines of Mercado Libre.

Agustín: When you buy a company of services like yours, in general you buy people's experience, so I'm wondering what commitment you have on staying inside Mercado Libre?

Walter: As in any contract, we have commitments. Our view is that since we're motivated by projects and challenges inside Mercado Libre, in practice any limitation became irrelevant. Our work philosophy is focusing on what we enjoy, on the challenges, and Mercado Libre is full of both. So, we haven't even thought about the contract, but there are of course some commitments we have to achieve.

Agustín: One last question, how do you see the evolution of the market of machine learning and artificial intelligence over the next five years?

Daniel: It's still growing; it's in the process of finding the areas and ways to solve problems. In other industries, there is already some agreement on what you should and should not do, and what is the sequence of steps to do so. The problem with machine learning is that, even though it is a technology, it's a different focus and you have to learn new things. The industry is learning how to do them, both providers and the ones who do it internally. The know-how is evolving like this. There's going to be a lot of demand for people who know how to innovate in the way of doing things and not only finding new algorithms—which is something that is already happening and is growing a lot with the hardware industry, that is also accompanying and making possible things that weren't before. So it's something that is developing in the market and it's changing, pretty much. It's a dynamic aspect of business today and it has a big demand. One thing that makes it complicated is getting people educated in this aspect, because not enough people are learning it as fast as the industry requires it.

Walter: In the beginning, there was a fear that this would be a bubble; it kept showing some results that were surprising on a global scale, and I think we're in a moment where artificial intelligence and machine learning solve some aspects that a few years before only existed in science fiction books. I believe it has big potential and that the main challenges in the industry today have to do more with moral and ethical aspects, and with introspective analysis on the ways that the algorithms in machine learning and artificial intelligence do things. Those are the main challenges for the future. I think we must start to socialize, democratize, or analyze introspectively the results of our algorithms of artificial intelligence, so they don't only focus on the result, but they also help us add some consciousness to our context, our environment and the way we want to make decisions so they try to make them in the right way.

Juan: I can add something. In term of artificial intelligence, from the moment when Google defines itself as an artificial intelligence company, it stops being science fiction and becomes reality itself. On the other hand, for mature sectors like fintech, for example, banking, operating in any market, assumes it as part of the digital transformation and evolution of its own business, from intensively using aspects of machine learning. If we see it from the concept of market only, numbers speak for themselves. In the combination of capital and work, artificial intelligence has a positive impact on every sector, making them have extraordinary growth. So, from this perspective, I think the future must take on developments in artificial intelligence in all these economic sectors.

Javier: Something to add is that in the next years, when it comes to techniques and algorithms, everything is becoming a wildcard. A part of the challenge consists of accessing and protecting information. Maybe more than the algorithms, the most value from artificial intelligence is collecting data, sharing it, clearing it. So, along with the ethic variables, I think these are the most important aspects that we should pay attention to for the next five to ten years.

Chapter 63 Steve Kirsch and Marten Nelson

Company name: Token

Location: San Francisco, California

Token's universal open banking platform, TokenOS, allows banks and third parties to interact in a digital global financial services ecosystem. TokenOS provides one API to access all banks, with the tools to deliver best-in-class data access and payments use cases, and better open banking propositions. It makes open banking easy for direct payments and data aggregation. It has connected data from over four thousand banks and helps banks, PSPs (payment service providers), merchants, and developers build solutions faster.

Roles: Steve Kirsch, Cofounder and CEO; Marten Nelson, Cofounder and CMO

> *We differentiate by developing value added, functionality features in payments rather than data.*

Agustín: How did you guys get started in entrepreneurship and in fintech? Steve, I'm guessing that your first project wasn't fintech, it was technology.

Steve: Yes. I graduated from MIT, went to work for about nine months to get some business experience, and then started my first company after that.

Agustín: How many months?

Steve: About nine months or so.

Agustín: Nine months, okay.

Marten: Plenty!

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Steve: I was going to just go out of college and start my own company, but people said you should get some business experience first. So I worked for nine months at a real company, to understand what it was like. Then I started my first company, and that was to make optical mice, computer mice. That company was fairly successful. It was the first one to make commercial optical mice for the PC and some higher end workstations.

Agustín: You are the inventor of the mouse?

Steve: I am one of the inventors of the optical mouse. There is a guy at Xerox PARC, Dick Lyon, who invented another version of the optical mouse. Then, of course, there have been other variants since that, but we were the first two.

Agustín: I'm curious about MIT and the impact it had on your career and this little stint you had in employment. How did that go, or did that help at all?

Steve: It's hard to say, it's just an accumulation of experiences. I learned a bunch of things at MIT, and learned some things working at a company. You try to put it all together and take what you've learned and put it into practice. So it's something that's pretty common. Most people might take a little bit longer to do that and I had invented the optical mouse when I was at MIT, so I was kind of itching to get it commercialized. I'd licensed it to a company to commercialize it and they ended up just paying me minimum royalties and not pursuing it. So I had an incentive to go and do this. It was a great learning experience.

Agustín: Tell me a bit of your story before Token.

Steve: I went from startup to startup. After that company, I had six before doing Token, in all different areas. The only common thread was that they were solving a problem that bugged me.

Agustín: Okay. So, what kind of problems bug you?

Steve: Being able to create nice documents, for example, that led to FrameMaker. There was an anti-spam company, Abaca, because I was getting too much spam. There was a company OneID, which did digital identity because I thought usernames and passwords were old-fashioned. I did Token, because I thought that the banking system should catch up with the rest of the world in terms of what's going on in cryptocurrencies. You should be able to move money instantly and securely.

Agustín: Then you would define yourself as a serial entrepreneur. Some of the people that I interview, they create a company, they grow it big, and they stay as an institutional CEO; but you seem to jump from company to company, and it's not because they are a failure.

Steve: Typically something happens to the company. I started Infoseek because things were hard to find. Infoseek got acquired by Disney and they said, "Okay we want to run it our way," so they pushed aside the existing management. You know, so okay, alright—what's next? For Frame Technology it got acquired by Adobe Systems. So great, good, what's next?

Agustín: Got it. Okay that's a good introduction. Marten on to you.

Marten: I didn't start as an entrepreneur as early. I went Fortunate 500 or Fortune 1, basically. I worked for Lotus development, that was then acquired by IBM; I was in the IBM sphere for a number of years. That led me to Silicon Valley, so I had an opportunity to move to the US for a year, and this was in the mid-90s. I didn't know much about startups or that environment at all, as I had been working in Germany up until then. This whole new world appeared to me, coming to Silicon Valley. Netscape was started and all these cool companies. I decided pretty soon after I arrived in the US that I wanted to be part of this startup community—it seemed like a lot of fun. Of course, it helped that it was booming at the time, so you know anything that's booming and on the way up you want to be part of, right? I jumped ship and looked at doing my own thing. I ended up joining an early startup in the email security space in the late 90s. Since then, I have been part of startups; whether I founded them myself or partly founded them or worked as an early employee. For me, what drives me to do this is, well, not so much like Steve looking for obvious big problems to solve, but I love the opportunities, the businesses opportunities.

Steve: The challenge.

Marten: Lots of them. I'm looking for different challenges than Steve; I'm more interested in the commercial challenges. As long as that commercial problem and challenge is there, I'll go at it. I love the ups and downs. There is not a startup that has all ups, and the downs are challenges that need to be addressed and I think that's what makes me tick.

Agustín: How did you guys meet? Starting Token?

Marten: As Steve said, he was thinking about how to solve the spam problem and I had been working on that for a while. We met when he was hiring, I think at Propel, at the time. I had promised myself not to do any more in anti-spam, because I had been part of defining that industry, so I was like, "No, I don't want to do that anymore." But I figured I should hear Steve out. He was a legend. So I met Steve, and he explained what he was trying to do, and I was like. “I didn’t think of that! That’s a novel approach,” and so I decided to join. That was 15 years ago or something like that.

Marten: It was email spam specifically. It was a project within a company and then we decided to get with others to take it outside and spin it off into a separate entity called Abaca. Then we parted ways and stayed in touch while he was at OneID. One day he called for some user feedback, which evolved into a discussion about cryptocurrency and what have you, and that got me a little intrigued. We talked more and more about it and decided, all right, this sounds like a cool opportunity. Not so much from the technical aspect again, but from, “Wow, this is a huge industry; a huge, huge opportunity to address,” so we decided to join forces on Token.

Agustín: How did the idea come about for Token? Obviously, there is legislation that is changing, PSD2 [Revised Payment Service Directive] in the UK.

Steve: We came in a little bit before that.

Marten: We didn’t know anything about PSD2. <laughs>

Steve: Yes. It may have come out later, but we didn’t know about PSD2. We were just looking at how the banking space and cryptocurrencies were taking off and it seemed like neobanks were taking advantage of that, because of the lack of “know your customer” markets. Banks weren’t touching bitcoin, if you walked into a bank and you said, “I want to start a bitcoin company,” they’d say, “Well, sorry, let me show you the door.” I thought if you can’t bring bitcoin to banks, maybe you can bring technology that is similar to banks, that allows them to capitalize on the advantages of the technology and be able to do things better, faster, easier, cheaper, more transparently, with higher security. That was the vision behind it. We found out about PSD2 after we started the company and we said, “Oh that’s perfect, because the banks are now going to be more or less incentivized to adapt to this open banking technology and if we can be the supplier of open banking technology we can do it better, faster, cheaper, by having it be off the shelf and selling it to different banks, rather than having each bank re-engineer their own open banking layer.” Banks don’t like startup companies. Banks would look at this problem and say, “Well most of it is internal wiring up of the APIs, the external part of the APIs is easy, so as long as we’re doing 90 percent of the work, we’ll also do the other 10 percent that we don’t need.” Banks don’t like to pay outside vendors, they like to do everything themselves and have the control and not take any external risks, and so forth. So it was challenging to get traction, but we did get traction both selling to banks and selling to developers, but it was harder than we thought it would be.

Marten: As most things are.

Steve: Yes, because if we had known how difficult it was, we wouldn't have done it. So it's really important that we have a vision of what the future looks like and to be a little bit naive about how hard it is to get adoption. Because if you're trying to move the marketplace in a pretty different direction than it's been in the past, and you want to change the direction for the better, you're up against a lot of inertia.

Marten: I would say that some level of—what you might call naiveté—is healthy for innovation.

Steve: I'd say, "This is completely obvious, this is a compelling proposition, right? Because I'm going to save you time, I'm going to save you money, and you're going to get a better customer experience. Who would say no to that?" Well, the answer is—just about everybody.
<Laughter>

Agustín: You think you started too early?

Steve: Well, I think it's debatable whether we should have started even earlier on it and had it up and running at a bank, really early to show, "Hey! Got this up and running right now." Because banks were worried, banks would have to bank on us delivering on the whole promise, because we only had part of it working at the time when we started pitching to banks. So, it's hard to know. It is what it is.

Agustín: So just to put this in a time frame, when did you start with Token?

Marten: Early 2015, I think, so four years ago basically. I think the thought process had started before then, but the company started then.

Steve: Yeah, the company didn't do PSD2 at the very beginning.

Agustín: What is Token's elevator pitch?

Steve: Basically, if you're a bank and you need to comply with open banking requirements, like PSD2, we'll give you an off-the-shelf solution to help you solve that. You have to wire it into your particular banking system—and you can have a system integrator do that—but that's one of the products that we offer. And then, on the other side, if you're a software developer, we'll give you a single API that will allow you to access the APIs at all sorts of different banks.

So we are basically connecting banks with software developers. In order to do that, the package that's sold to software developers is actually completely different from the package that's sold to the banks. Because we have to assume that most banks are not really using our system, so we have the right to the various interfaces and then give the developers a very good user experience. Then if a bank *does* take our software, then it's much easier for us to interface that software because it's our software talking to our software. If I was to draw it out, in the ideal situation a developer talks to Token software, which interfaces to a bunch of banks which might be one of our banks that runs the Token software and talks to the bank. So the bank sort of controls this piece; there is an inter-level layer and so it's Token talking to Token, ideally. This was written for developers and this was written for banks, but in this way, the developers can talk to the banks. If it's a different bank, if it's some other random bank, they can actually have some sort of interface with our software that it's going to talk to that.

Agustín: Which will be the main case.

Steve: Yes that's the case right now.

Marten: And this has certainly evolved over time. We thought, of course, that everyone was going to do this, so that every bank was going to use Token. But little did we know, as Steve said. We needed to find a way of still providing value to the developer, it's a single access point and so we had to aggregate the other bank APIs. Now over time, hopefully, a lot of these banks will start to deploy Token, but that doesn't really matter.

Agustín: So if you've really done an in-house installation of these requirements of PSD2, what would be the advantage of switching to Token?

Steve: Cost, speed, security, digital experience, what else? That's pretty much it.

If you're deciding objectively, then it's a no brainer. If you're deciding because it's the bank's IT department and we want to get that money and we want to get another ten million to do this, then your decision criteria are different.

Marten: If you just look at the cost element of it, big banks spend tens of millions of pounds or euros to become PSD2-compliant.

Steve: And even then, they're not up all the time, there are all sorts of issues—the user experience can in some cases go up to fourteen screens to just approve a transaction. Ludicrous.

Marten: So we know spending tens of millions of pounds or euros, versus a fraction of that, that's what you're basing it on. Like any customization, when you build stuff in-house, costs will run exponentially higher.

Steve: Yes. They're basically replicating what we've done.

Marten: People don't build their own email systems any more, they don't build their own spreadsheets. It's kind of like that. You take a commercial product like Exchange from Microsoft or Gmail or whatever.

Agustín: I guess for me the main challenge that I see is the integration to the core banking systems and that there are really out-of-date systems inside of the banks. Do you help with that integration?

Steve: No, but we partner with system integrators to assist on that.

Marten: And I would argue there aren't that many banks that you would have to wire in to the core banking system. Most already have middleware because they've had to have that for their Internet banking, their mobile banking. It is not as antiquated as—yes, the very core of it maybe—but it's rare that you need to integrate with the core banking, there's typically some middleware that you can tap into.

Agustín: Is that what you find in your customer base? That most have already got an API layer?

Marten: Many of them have some form of API layer, yes. It varies, for sure, the quality of it, but they often have something.

Agustín: In terms of the business model, I'm curious about how the business model evolved from Day One and where you see it evolving?

Steve: Well, it will evolve in time. Currently we charge banks a software fee for the software and the software license fee is for beyond that; and for developers it's transaction fees.

Agustín: You mean if you provide the API to be compliant, it is a license fee; then, for companies that want to consume a volume of queries, it's transaction fees.

Steve: Transaction fee, yes.

Marten: I think one thing that you will see in the future is, not with PSD2, because you are essentially providing this service for free, right? But there will be premium services offered through Token or other platforms and those will be paid through transaction fees. That's a revenue opportunity for banks, so in that scenario I believe you'll see revenue-share models between us and the banks.

Agustín: Banks; and what about developers?

Marten: They will pay. They are the ones accessing, you pay for access.

Agustín: Say I develop a cool app that is using your API, then I suppose that they will charge me and then you will charge them, so that will be the model? What's the idea of sharing revenue with the bank? Is that part of your idea?

Marten: Yes. If it's premium APIs, right?

Agustín: When you say premium API?

Marten: Beyond PSD2.

Agustín: So, when banks are offering data, *that* they can monetize, but it's not required.

Steve: Identity verification, for example.

Agustín: Let's say, for example, I want to open an account in Barclays, and I have an account in Santander, and Santander provides the data that I have on my profile.

Steve: That's an example.

Agustín: Identification is a topic I think is quite important in open banking. How have you worked around security considerations?

Steve: Basically, just using very well-established security paradigms for how you can construct this. For example, the requests are done with digital signatures and when we digitally sign something on a device like a phone, it will be signed with the hardware keys in the phone. So even if you have malware on the phone, it wouldn't be able to generate a signature to authorize a transaction. Contrast that with the standard security that you see everywhere, like Google. Google has, yes, you log in with the user name, password, and then you enter that six-digit code that you get from an authenticator app. When you log in to GitHub, it's the same thing with two factors: user name, password, six-digit code. That security technology is something out of twenty or thirty years ago, to be secure, because that was the "state of the art" then. But we have technology that's way beyond that. The authentication that people use today is like twenty years old and, to compound it, people do things like requiring you to change your password and requiring you to change your password has actually been shown to be less secure than *not* requiring you to change your password. Also, Google will have you re-log in about once every few days, on your own device. That's great if you're a hacker! If you have control of that device, Google now forces you to type in your password. It's like, "Wow, thank you Google! I didn't know his password before, because I just broke into his machine, but thank you very much for his password." And, even better, let's go prompt them for that six-digit code, because I'll use that and then give him an error and then I'll take all his money, or whatever, and banks do the same thing. It's just really ancient technology that's being deployed and it's a shame.

Agustín: What is the solution that you came up with in Token?

Steve: We do things like borrowing some of the things they do in bitcoin. You know a private key; you digitally sign things with a private key—it can't be broken. Bitcoin has never, the bitcoin system has never been breached, in terms of the security of the key. It's only when people get sloppy like putting their key somewhere, for example, where it can be stolen, and then it's a problem. But fundamentally in the system, the system itself has not been compromised. You don't see a mass breach of bitcoin accounts, like you have a mass breach of credit card numbers. Credit cards have been around for fifty years and they've put bandaid after bandaid on them, in the system. So we have a better system for doing payments which involves digitally signed transactions and transactions that are done on product blockchain. It's the next step beyond Visa, Mastercard, and other cards. But there's an existing infrastructure out there. One should not underestimate the difficulty in making inroads against that infrastructure, even though from a technical point of view it's fifty years old. These are the problems that I like to tackle. If I was really smart, I would just start a company like Facebook or Twitter or Instagram, or something that is technically extremely simple.

Agustín: I guess that when you're starting to tackle a problem, you find other problems that might require solving and might even produce a bigger business case than the problem you're working on.

Steve: Right. The problem of visual identity has been around for many years and is still, to this day, not really solved well by anyone—but there's some light at the end of the tunnel, there are some promising approaches like self-sovereign identity (SSI). There is a long way to go to turn that into a practical reality, but it's an advance from user name and password from fifty years ago. But those answers, even though they are technically superior, in a lot of ways they are also quite complex, and you have an existing system that people are familiar with and they think security is asking you for your password every few days; they think security is six digit codes; and so forth. So you are trying to displace the way that people do things now with this new system that people aren't familiar with, and it's actually sort of non-trivial to explain to them how the new system works, but once it's in place it will be far easier to use.

Agustín: Let's move on to funding. How have you dealt with getting funding for Token?

Steve: Talked to a lot of people and . . .

Marten: A lot of people.

Steve: And you pitch a story. A lot of people said, "You are pitching the banks and banks are really slow, I haven't had much success with them. It's a really hard business to do," and other companies will be a little bit more visionary and say, "Yes, there's something there, it's clearly going to happen and someone's going to supply the standard for it, because having a thousand banks and a thousand different APIs is not a pretty picture and it's not sustainable."

Marten: I think it's fair to say that we got our break when we started to talk to European investors who understood the PSD2 regulation. US investors had no clue about that. So our three main investors are all European investors. I think it went pretty fast once we got the first interested investors.

Steve: We've expanded to be much more worldwide since then.

Agustín: So most of your network was US-based and you had to go outside of your circle for funding.

Marten: Exactly.

Agustín: Because people in Europe would understand your idea.

Steve: Yes, because you're tackling a European market and if you're in the US, VCs tend to like companies that talk to the US market.

Marten: They don't understand it; they don't understand legislation; they don't understand the market.

Steve: Yes, and if you don't understand it, you shouldn't invest in it.

Marten: Right <laughs>.

Steve: If you're smart; and we only approach smart people.

Agustín: That's a good point. I'm curious about your headquarters being in the US, when the market is in Europe.

Steve: Well, we started the company before we realized that the market was in Europe, and I wasn't going to go and take my kids out of school, and sell my house that I'd just built, and so forth. So open banking is worldwide, and it just happened to start in Europe. But at the end of the day, it's worldwide, so it really doesn't matter where you are in the world. It's always the wrong place, depending on who you are selling to.

Agustín: Have you had that mistake of trying to sell this in the US?

Steve: No, we never, we weren't that dumb.

Marten: Right, no, we realized that it will take a while for US banks catch on, so while we do have engagements, I would say, with US banks, they tend to be driven out of their European subsidiaries. But maybe lately, maybe the last six months or so, US banks in the US are starting to look at this open banking thing, "What is that? Do we need to be worried about it?" Right now we treat it opportunistically in the US, perhaps in a year or so, we will be more aggressive and directly approach the US banks, we'll see.

Agustín: I have received several requests from Brazil, too.

Marten: Well they have open banking regulation, or it's pending there. So, you have Brazil, there's Mexico, Australia, Japan. We currently only consider expansion into markets that are moving to open banking regulation. Bahrain is another great example, which we think is going to be a great case study for Token.

Agustín: Are you working with companies in Bahrain?

Steve: Yes, we do, and we will showcase within the next few months, probably, a huge project there.

Marten: I don't know the bank, we work with a partner there, we just announced relationships with Almoayed Technologies. It's a local system integrator and they do all the integration work in Bahrain, and we provide the technology.

Agustín: What do you think is the current state of open banking? The year 2018 was meant to be where open banking boomed.

Steve: I think it's still early days. I think it will be a while before it gets adopted. It's being adopted, banks are struggling to comply with it, there are too many APIs out there, it's kind of like the wild, wild west. It's like computers in the very early days when there was Commodore 64 and there was the Amiga whatever. There was just a bunch of different machines and no standardization of operating systems, and whatnot. And today, if you're a developer, you'll probably write to either Windows or Mac, or maybe you'll write to both. Think about what you're doing when you write to the banks. Well if I have to write to a different system for each one, I'm not going to do that. So, it's really, banks that have unique APIs. That's why we have this thing where we write to those, but that's not a very efficient system and it's not very easy to maintain, and it's very expensive to maintain that. It's a really expensive way to do things. It would be like, if I were to come to the UK and all of the plugs were different and I had to bring like a hundred different socket adaptors in order to plug in my computer, right? Because there was no standardization and every building had a different socket. That's what open banking looks like today.

Agustín: In terms of use cases, I'm sure that you're working with some interesting ones. What do you see is actually useful about open banking, and where do you see these applications developing? So, how am I or how is a commercial company going to profit from open banking?

Marten: Well, payments for one. Being able to execute, or initiate payments rather, at a low cost, high speed, and so on. That's a pretty straightforward use case.

Agustín: You're talking of international payments or domestic banking?

Marten: Domestic *and* international, yes. Here in the UK, credit cards rule retail payments. In some other counties, like Germany, there is more use of bank payments, the Nordics have more bank payments and also a lot of debit card usage. The cost of cards and the lack of transparency is something that can be solved with bank payments or open banking payments. So that's one area. The other is, anything that is powered with data—I'm not thinking so much of Personal Finance Management, I think that's pretty basic algorithmic stuff, but for credit applications, lending decisions, risk scoring—those kind of things—there will be a lot of demand for bank account access, and we do see a number of use cases in that area evolving. But, as Steve says, it's still early open banking days and high fragmentation of APIs. Also, most banks don't even have any APIs at all yet, so realistically, I think we're about a year from seeing a plethora of applications and transaction volumes.

Steve: And the simplest are just around identification, "Hey does this guy really have an account there and is this his account number?" Well, if in the US, we can do a direct debit off their account, but we have to know: is this really your account? Have you given us the proper authorization? Open banking enables us to make that verification before we do the direct debit.

Agustín: It looks like there will be loads of cases, but we still don't know exactly which are going to be the big ones. I suppose your business model shows a period where the growth of transactions will be exponential at some point.

Marten: I think you will actually see payments accelerate faster than data access, starting mid this year.

Agustín: The other topic I wanted to touch on with you is the operational aspect of the company. So you are integrating thousands of API's or hundreds of API's from banks. How you do this? Where do you have your people?

Marten: We have a thousand elves up in the North <laughter>. We work with partners and we do some of the aggregation ourselves, so it depends a little bit. We work with partners to access banks before PSD2 APIs are available and when APIs are available, we tend to aggregate them ourselves. It's a sort of mix and match, but the whole point is that for a developer it should be completely transparent as to what methodology is being used and how we do it.

Steve: Yes, so there are various methodologies that we employ. Sometimes we'll reverse engineer the mobile app, other times we'll go into their PSD2 APIs, other times there may be an existing API that we can access.

Marten: It depends on the market; it depends on the bank.

Steve: But we are trying to go up into the PSD2 API system.

Marten: Yes, exactly that's what we want to do. Where they're available, we use them.

Agustín: Is it challenging to update the APIs? Do you need to do constant updates when banks change things?

Steve: Yes, of course. Things will break. That's why hundreds of APIs is just absolutely crazy. But it is actually good for us because now we can sell a product that does that. So, on the one hand . . .

Marten: It creates an opportunity.

Steve: I'm complaining about it, but on the other hand, yes, somebody else has to do the work and if we do the work, then we get the reward.

Marten: But for us, it's a means of getting to the end. We want banks to use our open banking platform and we think that by aggregating we can, over time, get them to convert over.

Agustín: It's getting commoditized? Aggregating APIs will be a low margin business over time.

Steve: Right, because anyone can. It's like who can do it for the least amount of cost.

Marten: Yes, exactly.

Agustín: That's what I wanted to ask you, you were saying that this aggregation is going to be a commodity.

Steve: Yes, so we don't see aggregation as the key, we look at selling the APIs to the banks.

Marten: So they're a short to mid-term solution for us.

Steve: A means to an end.

Agustín: Who do you see as your competition? There are companies that have been doing scraping for a long time, like Yodlee.

Marten: Most of the competitors, whether it's Yodlee or some of the newer players in the UK and western Europe, are still very data-focused. We do both data and payments, probably with more focus on payments, actually. I think that's how we will continue to differentiate—by developing value added functionality and features in payments rather than data. If someone, if one of our competitors say, "Hey, Token. Do you want to buy access to these banks from us?" I'll say, "Sure, if the price is right." It's like we're happier than anyone else, if someone else would do it and we could get it at a reasonable price. I think it's possible that some of our current competitors may, over time, turn into partners for us.

Ideally, we could focus on the higher value, harder to solve problems than just aggregating APIs. In payments I think there are a lot of things that haven't been solved yet, regardless of what the underlying access method is.

Agustín: How are you guys feeling about the future? What of the company do you feel like is having good traction? Are the investors happy?

Marten: As we said earlier, right, it's been slow. However, the last three to six months have been much better. Traction is coming now, it's happening now. We've never had as many inbound requests as we're having right now, so that's a steady increase, so I'm pretty optimistic. But to set expectations, it's not going to happen overnight.

Steve: It will take at least a couple of more days.

Marten: It will take a couple of days, at least. No doubt the opportunity is huge, but you need to weather the slow environment until it truly picks up. But yes, much better today. You'll see announcements from us in the next few weeks that will confirm that for sure.

Steve: A few of the deals will blow everyone's mind.

Chapter 64 Matthew Hodgson

Company name: Mosaic Smart Data

Location: London, United Kingdom

Mosaic Smart Data is a financial technology company that provides real-time data for fixed income, currencies, and commodities. It allows capital markets institutions to extract value from vast quantities of raw data and distils it into meaningful "Smart Data" by delivering timely and actionable insights specific to job functions. The company has won several awards and convinced big banks such as JP Morgan to use its products.

Roles: Matthew Hodgson, Founder and CEO

> *You can't build everything; so focus on where you have a competitive advantage and partner with or outsource where you can get to market faster.*

Agustín: How did you get started in fintech and how can others learn from that?

Matthew: Having a deep understanding of the challenges your clients face, and the environment they are operating in, is critical to building a new product. Before setting up Mosaic Smart Data, I worked in capital markets for some of the world's leading banks. Most of our team have experience in banks. That experience has been critical to our success. We have a deep and practical understanding of our clients' needs.

Mosaic Smart Data came out of my experience working in the fixed income, currencies, and commodities (FICC) markets for Deutsche Bank and Citigroup. My teams and I had no way to answer some fairly fundamental questions about

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our business—questions such as: what can we do to improve the service we deliver to clients? Who are our most profitable clients? What can we do to attract more business from our top tier clients?

We didn't have the data—the single view over all the business we were transacting which would give us those answers.

So Mosaic Smart Data was born. Our goal is to set the standard for fixed income, currencies, and commodities analytics globally. Our mission is to empower financial market professionals with the best data-driven tools to answer their questions in real time and in a visual language they can understand at a glance.

Agustín: Is there any ideal preparation or skillset a prospective or aspiring CEO should focus on?

Matthew: If you are setting up your own company, especially in the enterprise space, I would say, spend some time working for your prospective clients. In any business, but especially in finance, there are always extra pain points and roadblocks that you can only really spot from the inside and it will save you a lot of time and energy if you know them before you build your product.

Starting a company looks easy from the outside but can be enormously challenging. I've focused most particularly on the timing of launching our new software and ensuring 'product-market fit.' This is an iterative process and requires relentless dedication to find the exact pain point your customers feel and then solving for it. That being said, it's really all about timing and launching too early will see you fail as the market isn't ready for you. Going too late and new entrants are already competing away market share and profitability. This is the single most important decision for early-stage companies to consider and this balancing act cannot be sufficiently emphasized.

Agustín: Sounds like two very important lessons. What about team building?

Matthew: It's vital to have the ability to execute. I always say to people who ask me how I've selected the team that there isn't much space in the cockpit of a rocket. Choose fellow travellers who you can rely on given their expertise and who are a pleasure to work with.

Then it's vital to make sure that the product you are launching has a sustainable proposition and is extensible. We're always asked what our roadmap for new features and functions looks like and this drives our thinking around ensuring that we remain relevant to our clients. That said, sometimes it makes sense to take bold risks in anticipation of client demand and this requires deep analysis. For instance, we've developed natural language generation in-house to deliver automated reporting from our platform. We've not been asked for it but it's a natural and logical addition to the platform.

Agustín: Right. What has been your approach to partnering?

Matthew: We're always focused on accessing broad networks, which open up avenues to partner with other complementary businesses, and so I think about that daily. Remember, you can't build everything, so focus on where you have a competitive advantage and partner with or outsource where you can get to market faster.

Agustín: That's a very good point. What is your view on defining the company's business model?

Matthew: I would say, look at your business model and make sure that you stress test it under all scenarios. As entrepreneurs, we're all guilty of positive bias and so this can cloud rigorous analysis of financial outcomes under challenging or negative conditions. We never stop looking at this as the road to profitability isn't straight.

Agustín: What mistakes did you make that you have learned from?

Matthew: Not all of the decisions that I made had a positive outcome. I like to see mistakes as lessons and not errors. Key to that is to ensure that I never go down the same route twice if it wasn't an outcome that I consider to be positive.

Thinking about the journey thus far, there have been many lessons and building a business takes longer and is much more challenging than I envisioned before embarking on the journey.

If I look back over the past four years and critically examine where I think the biggest mistakes were made, I'd have to say that team selection is without doubt one of the most critical and if you get it wrong, the entire endeavor can quickly unravel.

Agustín: Did you hire the wrong people when starting?

Matthew: During the embryonic stage of the build-out, I hired some people who weren't suited to the startup environment and the fast pace and resource-starved daily challenge we were constantly facing.

With those lessons learned, I was able to leverage off that experience to build a team around me of experts in their field who are able to work with me as we scale the company globally.

Agustín: When did you feel you had a breakthrough that pushed the business forward?

Matthew: Entering into the J.P. Morgan In-Residence program was an incredible boost for us. It is an extremely competitive program and only a very small number of young fintech companies are selected for it. There we had an invaluable opportunity to build out Mosaic Smart Data with the collaboration of the world's top FICC bank. We were able to work very closely with the J.P. teams to understand what they needed from us and to test the platform as it was developed. This meant that we could ensure that the platform was designed perfectly to the needs of a modern investment bank and that every detail, from the design to the underlying architecture, was engineered with the end user in mind.

Agustín: That's a great achievement. How difficult has it been to find investment for your business?

Matthew: Mosaic Smart Data has a huge opportunity as data analytics comes to the forefront of financial institutions thinking. As a result, finding opportunities for investment has not been difficult and we've been able to take only that investment which we think provides strategic benefit to the business.

Agustín: Do you see a lot of interest from VCs to invest in analytics firms right now?

Matthew: I believe that Mosaic Smart Data is a company in exactly the right place at the right time. Financial institutions on the buy-side and the sell-side realize that the future of their business is all about extraction of insights from their data. Analytics isn't just something for the quants [quantitative analysts] anymore, it is going to be integral at every level of the institution. We have the only advanced data analytics platform built specifically for the needs of the Fixed Income, Currencies, and Commodities markets, so Mosaic Smart Data is perfectly positioned to provide the underlying data platform and performance analytics that institutions need.

Agustín: How do you see Big Data and artificial intelligence shaping financial services in the next ten years?

Matthew: The new generation of data analytics models are the route to delivering exceptional client-driven services in today's market. The biggest and most forward-looking firms have understood this clearly. They are already engaged in transforming their institutions to deliver better client servicing through model-driven business practices.

This is the future, not just for the capital markets, but for financial services more broadly and it is a transformation which will come rapidly.

Agustín: How can banks benefit from data analytics?

Matthew: Banks that are able to use their transaction data effectively to generate analytical insights will be able to better serve their clients, resulting in them winning more business. This, in turn, means a larger share of the flow, and more data moving through the business. The more data the analytics models have to work from, the more valuable the insights they can deliver. It creates a virtuous cycle of data and improved client service driven by analytics.

As a business model, this approach to analytics has been shown to be extremely effective in the world of consumer technology. As financial institutions recast themselves as technology and data-driven companies, the impact to financial markets will be felt widely.

This approach has a key implication: it creates a strong early mover advantage. Those firms who move into data analytics early will have a significant head start on those who are slow to see the strategic advantages of data-driven decision making.

Agustín: Before we finish, I notice you were born in South Africa. What fintech technologies do you think will help the continent the most in the near future?

Matthew: Africa is a hugely diverse continent economically, but it has some of the fastest growing economies in the world right now. Businesses and consumers are looking for the same things as their counterparts in any other major city around the world. I think the next challenge for African businesses is moving beyond products aimed at local or domestic demands and creating technologies which 'break-out' and become global products and solutions.

There is a lot of incredible talent but African entrepreneurs must start to think more globally and build companies which can scale across the planet. We have the ability, we just need the ambition.

Agustín: Totally agree with that, it will be good to see more initiatives that originate in Africa expanding globally.

Chapter 65 Jonathan Epstein

Company name: Moneytree

Location: Tokyo, Japan

Moneytree is a Japanese financial data aggregation platform providing financial data API services (B2E) and personal finance apps (B2C). Moneytree has been very successful in identifying a gap in the financial data market, attracting customers and transforming its business model as the business environment changes.

Roles: Jonathan Epstein, Chairman

> *With the proliferation of alternate scoring models, but a dearth of reliable data sources, the field of competition is likely to shift to the ability to connect with consumers versus the ability to grade them by risk levels.*

Agustín: You started your career in fast moving consumer goods. How did you get into fintech, and how did Moneytree come to life?

Jonathan: I worked at AIG Japan insurance from 2003 to 2008, and found numerous limitations to their approach. Principally, their only real contact with consumers was when there was a claim (an unhappy event) or a renewal (asking for money). It was clear that they needed a way to maintain better contact with consumers and to understand their financial situation. Since AIG couldn't perform this function directly, a third party service was clearly necessary. That was the central idea that led me to create Moneytree.

Agustín: The business model of Moneytree seems to have changed a couple of times, can you please explain what the original plan was and how this shifted?

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Jonathan: Moneytree's *mission* is to bring people, business and financial institutions closer together, help them find balance and discover new opportunities to grow their collective wealth. This basic vision has remained consistent since the company's foundation. The initial implementation of this vision was as an award-winning consumer app (we won iPhone App of the Year in 2013 and iPad App of the Year in 2014). Once the app gained a strong and trusted presence among consumers, the company increasingly focused on the financial institution side of the equation. The company now makes the bulk of its revenue from financial institutions (banks, insurance companies, wealth managers, stock brokerages, accounting firms, by providing data and analytic tools to help them understand and better serve customers.

Agustín: How has your Harvard MBA helped you progress in your career?

Jonathan: In numerous ways: The ability to connect with other people doing interesting things in other areas, the credibility to speak directly with senior people in various organizations, a wider perspective of experience that comes from having attacked hundreds of business cases, and on and on.

Agustín: What does the future of credit scoring and non-prime lending look like?

Jonathan: As data from a wider variety of sources becomes more and more widely available and as consumers are increasingly incentivized to provide their financial information, the accuracy of credit scores will correspondingly increase. At the same time, however, the ability to provide an accurate score will become more of a commodity. I believe that the field of competition is likely to shift to the ability to connect with consumers versus the ability to grade them by risk levels. Since credit scoring and various analytics capabilities are nascent in the Japanese market, there is a wide range of potential for growth for banks and other financial institutions to better serve their customers. This will most likely take the form of highly tailored products to different segments of the population, including cheaper and easier loans for creditworthy consumers, more targeted and relevant insurance products, and varying levels of service and attention depending on consumer needs.

Agustín: What does the future of banking look like? What are your thoughts on the adoption of open banking?

Jonathan: I'm extremely bullish about the arrival of open banking. Currently, there's a tremendous information asymmetry between consumers and their financial institutions. Banks, insurers, asset managers, and the like have rich informational resources about their customers, but the average customer isn't sufficiently informed or financially savvy to understand how his or her financial picture matches the overall market. Open banking has the potential to bring consumers closer to parity with these institutions by providing the tools for them to aggregate and compare their situations with those of similar consumers and to negotiate more effectively for financial products that are better suited to their needs.

Agustín: What is the Japanese fintech space like?

Jonathan: Japan is dominated by a small number of extremely large but very technologically backward banks, which have resulted from a series of mergers among smaller banks. They play a central role in the economy, yet lack the sophistication or discipline of many Western financial institutions. This development leaves significant gaps—areas where fintech companies can grow to fill both consumer and bank needs. I see it as a tremendously exciting space, particularly given the scale of the Japanese economy (number three in the world after the US and China). The world of Japanese fintech is small, but growing rapidly. The government is, in general, very supportive of the growth of fintechs, since it understands how far behind many of the country's financial institutions tend to be. The support comes in the form of government-sponsored venture capital firms, the support for business forums that cater to fintechs, and other sources of aid.

Part 8: **Support Fintechs**

Companies in this section
Juvo
Trulioo
VUSecurity
Fenergo
Heliocor
Vizolution
EverCompliant
PINTEC

Traditionally, there have been many technology companies that have been specifically built to support financial services institutions to improve their internal operations. There are many up-and-coming startups that I'm happy to share with you.

In the UK, I looked with Bill Safran at Vizolution and how they created a screen-sharing technology for businesses to directly interact with their clients.

In China, I was very impressed by William Wei and how his firm PINTEC supports top fintechs in different verticals offering platforms to their needs.

We all know that financial services is a highly regulated industry, and even moreso since the crisis of 2008 that led to increased requirements at a global level. There is a whole set of regulation technology firms, that even though they might work in a few industries, are focused on using technology to facilitate the delivery of regulatory requirements.

Cybersecurity has been a magnet for investment. As people and businesses transact more and more online, cyber criminals get more specialized in breaching systems and networks. In Argentina, I had a chance to interview Sebastian Stranieri from VUSecurity, who provided a great view of where the industry is going and how we are quickly becoming passwordless. On a similar line, in Israel, I managed to catch up with Raz Abramov from EverCompliant, who has built a transaction laundering prevention system that assists merchants to prevent fraud.

One big area of regtech is around managing enterprise risk. In the UK, the founders of Heliocor have shown me how they build products to onboard, assess, monitor, and manage financial services clients. In Ireland, Niall Twomey from Fenergo has described to me how they have scaled their onboarding platform to create a client lifecycle management system that works with most of the top banks in the world.

Identification and background checks is another hot area. I had a conversation with Stephen Ufford from Trulioo, which offers identity verification services for businesses and organizations worldwide using government and private databases. In the US, I had a chance to talk to Steve Polsky from Juvo, who establish financial identities for the billions of people worldwide who are financially excluded.

I really like these companies as they have added so much value to existing banks, making customer journeys a lot better and bringing costs and prices down as a consequence of the efficiency gains.

Chapter 66 Steve Polsky

Company name: Juvo

Location: San Francisco, California, United States

Juvo establishes financial identities for the billions of people worldwide who are creditworthy, yet financially excluded. Juvo has created alliances with telecommunications companies in emerging countries to process their data in order to create a credit scoring system for populations of underbanked customers. They help these customers enter the financial ladder. They pioneer mobile identity scoring for financial and digital access.

Roles: Steve Polsky, Founder and CEO

> *To me, success is taking an idea that doesn't exist and getting together a small group of people and turning it into something real.*

Agustín: I'm really curious about how you got started with entrepreneurship.

Steve: I think it started sometime between when I was 10 and 13. Early on, it was something that I always wanted to do. It was partially my family—my father and mother—and partially just my personality. I always wanted to start my own company and do my own thing. Even the things I did in high school, like writing software, were preparing me for something I've always wanted to do. Juvo is my fifth startup venture, the first one was four years out of college. After having some experience at a larger company, I ventured off on my own and ever since then it's kind of what I've wanted to do.

Agustín: Sounds really good, you've had some big names in your past. I'm just wondering about mistakes that you've made in the past, things that you've

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managed to do better the next time around. Especially around when you were just getting started, learning to found a company.

Steve: I personally really like the early days of a startup venture, but I have to admit it's often in retrospect. When you are getting going, one of the things that I love is that everything is unknown, it's really ambiguous. To me, success is taking an idea that doesn't exist and getting together a small group of people and turning it into something real. Something that people, customers or consumers, are really using. Building a team and building a company is, to me, the most rewarding thing. But early on, everything is nebulous and undefined, and that's what I like about it. It's also a period of intellectual struggle. You're trying to figure out how to break through and find the right combination of things that are going to make it work. Something that people are going to be interested in. So I don't look at the road to success in terms of mistakes. I have definitely made plenty of mistakes along the way. I always tell the team, don't worry, it's not the mistakes that matter. What matters is how quickly you learn. In many ways, I don't mind when we make lots of little mistakes. Little mistakes make us stronger. They make us better, we learn. The thing early on is to be able to test and understand and see what's happening and adjust. You have to repeatedly do this until you get kind of the recipe that is going to break through and build a company. I would encourage people to make mistakes. Make as many as you can early on, as quickly as you can, just make sure they're small ones.

Agustín: Got it. Can you remember any big mistakes, or have you managed to avoid those?

Steve: With Juvo I would say we've managed to avoid those. In the past, I've made mistakes on the business model. I've made mistakes defining the customers that we're going after. There was a point in time where we had to say we're going to completely change our business. We're going to cut off all of our revenue and go in an entirely new direction. I've had to do that in companies along the way. I've had other companies where the market changed or the whole landscape changed. Big technology shifts came along the way and we had to pivot. I've had companies where there have been economic, macroeconomic things, like a recession where you've got to hunker down and make it through. I think that's a part of the journey. Navigating all those unanticipated challenges.

Agustín: You mentioned business model, I've been hearing a lot of stories of people that started with a cool idea, but weren't very clear about the business model. Can we talk a bit more on Juvo and begin with how the business actually started? Did you come up with the idea or did you land in Juvo?

Steve: How we started Juvo . . . There's a long version, and a quick version, and I'll tell you a bit about both. The long version started twenty years ago, with my first company. I was driving across Venezuela installing our systems and taking my company at that time into Argentina. Taking that company into China. I saw the power of communication and the impact it can have and got really passionate about international business. I think that's stuck with me throughout my whole career. After we had sold Flixster/Rotten Tomatoes to Warner Brothers, I wanted to do something else. The numbers around Juvo were fascinating to me. Four-fifths of the world is on a prepaid mobile phone. People spend a trillion dollars in communication, but they do it in tiny increments. I felt like there was an unbelievable potential, an unbelievable opportunity to reach out to hundreds of millions of people directly on their mobile phones and it could potentially be a leverage point to financial services. That was the seed and I just felt compelled that we had to try it.

Agustín: That's a great story! Would you mind giving a quick summary of the Juvo product?

Steve: I believe that we can help hundreds of millions of people build a financial identity and with that identity move up a path, to a whole set of financial services starting with every day interactions around your prepaid mobile phone. That's a bit of a mouthful, so I'll break it down. The fact that we can use peoples' everyday interactions with their mobile phones as a way to build a credit score, a financial profile of them if you will, can help people move up to other services. We start with something really immediate and in the moment. We make loans for people for a days' worth of mobile service, two days, a weeks' worth of mobile service. Ever increasing amounts that walk consumers up this pathway. We use a graduated system. Starting with the bronze level, up to silver, to gold, to diamond. People graduate as they demonstrate financial responsibility in little ways. We're basically building a credit score in parts of the world where this doesn't exist, and via this, we enable a whole set of additional financial services.

Agustín: Which countries are best to focus on right now?

Steve: We're in twenty-five countries and growing very quickly. Our focus is Latin America and Southeast Asia, although we also are working in Eastern Europe and we have some initial work going on in Africa. It really is a global opportunity. You mentioned you're interested in financial inclusion. This is an opportunity. It is an opportunity that applies all over the world. Even in the United States there are ninety to a hundred million prepaid mobile users and we see this as an opportunity everywhere to make an impact. But as a small and growing company, you have to focus, so we chose Latin America and Southeast Asia.

Agustín: You're a small company and there must be some challenges with being in so many countries at the same time, so how do you manage that?

Steve: Yes, it's a balance. We're trying to grow as quickly as we can, because we see a very, very big opportunity. But we don't want to stumble along the way. You have to pick and choose where you're going. You want to kind of grow progressively. We were building a premise from Juvo from the very beginning and we thought about it from day one. "How do we build a company that's global in nature, that's ready to go anywhere in the world?" That's a big part of the reason for our decision when we initially launched. We launched in ... actually it was going to be Paraguay but it ended up being Guatemala. People thought we were crazy. Our perspective was, "If we want to build a company that is ready to go anywhere and is global in nature, you have to build that into the systems." You have to hire people that agree with that vision and share that mentality.

Agustín: When you are expanding to many countries what is the best way to do it? Do you hire people there? Do you need to set up entities in every country?

Steve: That's a really good question, and one of the things I've spent a lot of time thinking about. How do we, from San Francisco, understand the nuances of local markets? The nice thing from a product perspective is that we found that where we start, regardless of market, is around peoples' usage of their phones. We found that people are more similar than different in terms of how we communicate. It's horizontal in nature. More importantly is we've attracted a really, really diverse team. The people who want to work on this problem, who are excited about the challenges that we're trying to tackle, come from all over the world. There are eighty-five of us, but we represent so many countries, so many languages and so many different perspectives, that it's really given us a unique ability to grow around the world. Look at our Latin America team. They're from all over the region. We have offices in São Paulo, Buenos Aires, and Bogota. I think that gives us the diverse perspective we have needed to succeed.

Agustín: You mentioned Latin America. I'm actually from Argentina. I'm wondering about the challenges. You've run companies in the US in the past and you must know that dealing with the government is very different in Argentina or Latin America in general. How have you found that?

Steve: We work with mobile operators as our main partners, so it's a kind of B2B relationship. It's a deep partnership built over many years. They also are often one of the largest employers, one of the largest companies in all of the markets that we operate. So that's great for us because that helps us with the local nuances and working with local regulatory bodies. We definitely leverage the fact that our partners are a key part of the local economies. Something that I really enjoy about the company is the diversity and challenges of expanding internationally. I always try to encourage people in Silicon Valley to think globally, because there's often the attitude of "Let's work in our local markets and eventually we will expand." I found the world to be pretty welcoming. Not everywhere, and you have to be smart about how you do it, but you can expand internationally. Part of our thesis is that this is a gigantic and underserved opportunity that we are going after and it is global by nature.

Agustín: I was wondering what your opinion is on the M-Pesa (a mobile phone-based money transfer, financing, and microfinancing service). M-Pesa has been proven to work very well in some African countries, actually growing the GDP. How do you see yourself against M-Pesa?

Steve: When I was getting started, I did a lot of reading and a lot of research around different mobile financial services offerings. When I was getting started, in nearly every conversation I would have someone would say the word M-Pesa within the first five minutes. M-Pesa is an amazing thing. In fact Arun Sarin, who was the Chairman of Vodaphone at the time, is an investor in Juvo and we've talked to him about it. I thought M-Pesa is amazing. It's transformative in the region. But it's taken a long time for models like that to grow in other parts of the world. M-Pesa's focus on wallets was a smart one. Wallets are complex ecosystems. You need enough merchants, enough wallets, and the right regulation. You also need dominant market share. A lot of things have to come together to create this ecosystem that has taken off in eastern Africa. Our belief was while that's great, we feel like there's a better starting point in many parts of the world for the company to be building financial identities. That's what we do. We can do it anywhere. We can get started anywhere, move quickly, and can build financial identities for people that are a precursor that incentivizes and drives the use of up-stream financial services. Does that help position the difference? We're often trying to drive the adoption of wallet ecosystems now.

Agustín: Yes, that's very clear to me. You mentioned partnership with local telecom companies. What is the business model of Juvo?

Steve: For our mobile operator customers or partners, we help them build deeper, more loyal relationships with their end subscribers. When we work with the mobile operator, we increase their revenue by 10 to 15% per month. We decrease churn in their customer base often by 50%, so we double the lifetime value of their customer relationships. The world has five billion prepaid SIMs. It's about four fifths, or 78%, of the mobile relationships. By building identities and helping grow understanding of these individuals, we drive long-term, loyal customer relationships. That's our model. We increase the revenue and lifetime value for our partners, and we get compensated for that. That drives our business.

Agustín: Got it, so you get compensated by being able to sell your loans, or is it directly by the number of customers that you are building history on?

Steve: We like to do it by volume. We want incentives to be aligned, so the more value we create for our partners, the more we get paid. It's a scalable model based on interactions and transactions.

Agustín: I understand. Where do you see Juvo in the future? Do you see prepaid SIM cards being here for a long time? How do you see the market evolving?

Steve: I'm even more excited about the company now than when we got started. I think 2019 is a year where a bunch of pieces are going to fall into place. A lot of the world lives in a world of "no." Like, "No, you can't use your phone until you give me cash." "No, you can't have a smartphone if you don't have the money." "No, you can't have access to these financial services unless ... " I think artificially there is a lack of trust for the majority of the world. But it's not that people aren't trustworthy. It's an information problem. We often think of what we're trying to do as creating a world of more "yes." We trust people. We can build them profiles. We can enable people to demonstrate and grow their financial responsibility. Instead of saying "no" all the time, say "yes." "Yes, of course use your phone." "Yes, can I help you get a smart phone?" "Can I get you into a bank account?" "Can we get you a means of digital payment?" The world is changing, I believe a whole new segment of the population is coming online as we speak. They will be part of the economy. They will be transacting like never before. Our goal is to go as fast as we can to reach these hundreds of millions of people and make it happen. Our whole model from the initial interaction, all the way up to financial services and digital payments, is so exciting.

Agustín: Sounds inspiring! One last question. As an accomplished entrepreneur, you've managed to create big companies, and sell them. What turns you on? What wakes you up every day, nowadays?

Steve: You mean in terms of excitement or in terms of worries? It's usually some combination of both.

Agustín: You must enjoy your challenges, but you don't really need to work anymore.

Steve: Juvo is a company that I felt compelled to do. I felt like in some ways, there was no way that I couldn't not do it. I had to. The idea that you can reach out today directly to millions and millions of people and use the cloud to make instantaneous transactions, direct with consumers is amazing. The ability to cut through all the middle layers and see what kind of impact we can have, how can you not do that? It's something I'm excited about every day. We're still building a company and that comes with its own challenges. But working through them and assembling a great team that can grow and scale all over the world is exciting.

Agustín: Sounds really good. I think it's a great idea and you're very brave to be going to all of these countries where you need to deal with a lot of unexpected things. So thank you very much for a lovely insight, it's been really useful.

Chapter 67 Stephen Ufford

Company name: Trulioo

Location: Vancouver, British Columbia, Canada

Trulioo, an online identity verification company, helps organizations build a layer of trust with their customers, automate customer due diligence processes, and seamlessly onboard customers from around the world while preventing fraud, mitigating risk, and meeting cross-border compliance requirements. Trulioo is used by some of the world's largest banks, online marketplaces, social media networks, payment services, and gaming companies, among others, to verify five billion people and 250 million businesses in over 195 countries. They help organizations meet cross-border compliance requirements, expand into overseas markets at a fraction of the time, and reduce friction from the customer onboarding process.

Roles: Stephen Ufford, Founder and CEO

> *We've seen almost every sphere of life transform as a result of networks—our online activities, and increasingly, our offline activities, are all woven together into networks enabled by Big Data and APIs.*

Agustín: Thanks for taking this interview. You have started several consumer-data-focused companies. When did you decide to follow the entrepreneurship path?

Stephen: Outside of my teens, I've never had a regular job; I never went to college; I started my first business venture while I was in high school. I think the reason I gravitated to entrepreneurship was because it gave me an opportunity to solve big problems. Since then, I've founded and sold several businesses. Over time, I realized that the thrill of the startup process—the problem-solving, the risk-taking, seeing an opportunity in every obstacle—is hard to live without. Having tasted that, it's hard not to be an entrepreneur.

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Agustín: Would you mind explaining in simple terms what Trulioo does?

Stephen: Of course. GlobalGateway, our marketplace of identity services, provides organizations with secure access to hundreds of independent and reliable data sources around the world in order to instantly verify the identity of their customers. Not only do organizations streamline their customer due diligence processes, but our solution helps them fulfill both local and cross-border KYC [Know Your Customer] and AML [Anti Money Laundering] requirements, along with mitigating risk, preventing fraud, and accelerating their pace of global expansion.

Agustín: How did you go about creating your leadership team? What roles are key in a fintech company?

Stephen: I'm very open about the fact that I don't have all the answers—who does? I know my strengths and weaknesses, so when it came to growing Trulioo, I was looking to create a leadership team with expertise in areas that I myself don't specialize in. It's important to work alongside leaders who care as much about your mission as you do.

It's crucial that your leadership team inherently understands the problems and pain points of your audience, as well as how technology can help in addressing them.

In terms of key roles, I see each role as being important—whether that's in product, marketing, or customer success. Every single role is critical to your company's success. What's more important than any specific role, however, is empowering every employee to *play* an instrumental role.

Agustín: You've started companies in the past. How difficult has funding been for you? What advice can you provide on funding companies?

Stephen: As an entrepreneur, you will probably get 99 "no's before getting your first "yes." For us, being able to communicate the problem, our mission, and solution was difficult—"identity" is an extremely complicated subject, and people can find it convoluted. How you communicate your vision to investors is of paramount importance—you can't afford to lose them in the jargon. You need to be able to articulate the problem and solution in a simple, uncomplicated way. In my opinion, this is the biggest challenge when it comes to securing funding, especially when the problem that your solution solves is so layered and complex. Being an entrepreneur is hard work, even if you are launching the next unicorn startup. In the end, you must decide what's more important: being rejected, or fixing the problem.

Agustín: How difficult is it to create an operational structure to deal with information coming from so many different countries?

Stephen: That question is central to our mission, it is a problem that we've worked long and hard to solve. Come to think of it, it's really one of the most significant reasons why so many companies use our product. Many of our clients happen to be fast-moving tech companies that are undergoing massive (and rapid) expansion into overseas markets. For these companies, it becomes essential to have an identity verification process that is interoperable—one that can work across different countries, and with diverse identity data sources. The problem here is that different identity data sources are structured differently—the data fields may differ from source to source, the labels might be different.

For example, a Czech address is structured differently compared to a French address—in the Czech Republic, the street number is written after the street name, whereas, in France, it's the other way around. In India, the "last name" is referred to as the "surname," which is at odds with labeling conventions in North America.

These seemingly trivial incongruencies can seriously botch up the identity verification process and halt or delay customer onboarding; the problem becomes particularly dire with a larger company that is onboarding a large number of customers at a rapid pace.

Agustín: That seems like a big headache, especially as things can change from one day to another. How does Trulioo solve this problem?

Stephen: With Trulioo, clients can set up their identity verification process across different regions easily and quickly; irrespective of where they are onboarding customers, they would use, effectively, a common set of data fields, without having to make adjustments for discrepancies in data structure—they would leave it to Trulioo's API (GlobalGateway) to iron out such technical considerations on their behalf.

In fact, one of the world's leading cross-border payroll solutions uses GlobalGateway to verify the identity of payees in 52 countries across different continents, including Chile, Jordan, and Egypt. We've already solved problems around interoperability across a large part of the world. Our focus is now on bringing interoperability to bear upon the rest of the world.

Agustín: In your opinion, why is identity broken currently?

Stephen: Historically, there's only been one way of proving your identity—with physical documentation. This linear approach to identity has severely limited the spread of business enterprise around the world, which, in turn, has confined the availability of vital systems, services, and lifelines to only a small portion of the human population.

Agustín: This is so true. What can technology do to sort out this problem?

Stephen: Today, we live in a deeply hyperconnected world. We've seen almost every sphere of life transform as a result of networks—our online activities, and increasingly, our offline activities, are all woven together into networks enabled by Big Data and APIs.

In times such as this, identity can no longer be isolated; it cannot live outside the network. With the rise of the mobile identity, eKYC, regtech, fintech, and other trends, we have already begun witnessing the reimagination, and, indeed, the recreation of identity as "a network of networks."

Agustín: What is the Canadian fintech scene like, and did you receive any government support?

Stephen: The Canadian fintech scene is nothing short of brilliant. Canada's startup environment is vibrant—one in which it is truly possible to succeed. In the early days, Trulioo was fortunate enough to get grants from the Industrial Research Assistance Program (IRAP) and Scientific Research and Experimental Development Tax Incentive Program (SRED). Canada really is an incredible place to grow a startup.

Also, we are a global solution, helping companies roll out and scale operations around the world, including emerging markets. I think the most rewarding experience of being a Canadian startup is discovering the diversity of talent here. Our employees hail from all corners of the globe—in fact, only a small portion of them were born in Canada. They bring diverse and rich perspectives with them, which make them perhaps the most fitting problem-solvers in the identity verification space.

Agustín: That's very interesting to know. I want to thank you for your time and best of luck growing your identification platform.

Chapter 68 Sebastian Stranieri

Company name: VU Security

Location: Buenos Aires, Argentina

VU Security develops and sells double-factor authentication solutions using hardware in mobile phones as a means of use and distribution. Their framework of technology manages the user's lifecycle throughout the digital transformational process. VU is intuitive for any user to use regardless of their tech savviness. Clients may also set their own thresholds for threat detection and decide how the system responds to each category of alerted activity.

Roles: Sebastian Stranieri, Founder and CEO

> *In two years' time, citizens will stop needing passwords and will rely on secure authentication solutions.*

Agustín: The first question that I always would like to ask people is how did you get started with financial technology? And how did the idea of the VU come about?

Sebastian: I started as a technical account manager at Trend Micro, a Japanese cybersecurity company with operations worldwide. My key job was to secure financial institutions in terms of malware, phishing, email threats, all kind of malware and trojans, and mainly ransomware.

While I was working at Trend Micro, back in 1999, I identified that passwords would become a great problem in the near future. The same was true for mobile phones. If you remember, at that time, 20 years ago, there was no Android, there was no iPhone, but my vision was that everything will move toward mobile phones.

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So that is why I started VU. I thought that I could turn the mobile phone into a key to identify the user in any part of the world. The other thing that I envisioned was that all the people will rely on Internet services to perform all kind of transactions. So the big challenge in the Internet is the use of cash. Time has proven my predictions were right since everything is moving toward digital cash. In fact, nowadays you can find examples like N26, or Wilobank in Argentina, which are banks that were born digital.

Agustín: So, what was your vision?

Sebastian: My proposal was to change the world in terms of security, because most people are afraid of how to handle their digital identity. How can you be safe using mobile banking? How can you be safe using social networking and payments? And the thing is that everything that you thought about security nobody knows in deeper details, and that is a sweet spot. At VU, we build cyber security—more simple, more secure, with less friction.

Agustín: How do you translate IT into something everyone can understand?

Sebastian: Usually cybersecurity firms are geek companies. I am a geek, a tech guy, but I also talk to many people and I'm very down to earth. I ask questions to understand how people perceive what I do so I can hear what they understand, and then I take that information in to reformulate how I tell the story so I can make sure anyone I talk to understands. I also adapt the story based on who I talk to, whether it is the CEO of one of the different banks in Latin America we work with, students or parents at a school, or journalists. I also participate in board meetings and cybersecurity organizations so I can keep myself informed with an updated message all the time.

Agustín: Yes, I know about this technical aspect to cybersecurity and I wanted to know about this aspect of how you make it not techy.

Sebastian: Not techy. It's trying to get your mother, or even your grandmother, involved in cybersecurity.

There are quite simple things that are common to every human being. Almost everyone is born, starts to grow, gets sick, or deals with life problems, gets old, and then dies. It is the process of life. So we try to make a parallelism between that natural process and cybersecurity. You need to enroll to register, you start to use the new bank services, and you start to grow because you have a job and then you have a new type of transactional problem, you may start to have problems because you can be a fraud victim or you can be the victim of identity theft, or maybe you lost your job and cannot pay, then you leave the service or you die.

So we created a cybersecurity solution that can handle the lifecycle of a citizen inside the company. This is too simple to explain. The only process that you need to go through in terms of enrollment is when you have been born is your national ID. When you have your ID, you have your identity. And we built a platform that allows enrollment using the citizen's national ID. And then we used machine learning to understand how the scheme works. We taught the system to analyze which kind of transactions they do. From where? Which devices? How? Which days? Which is the pipeline of transactions made every month? Is it different from December to January or is it the same every week?

Agustín: Do you make your security contextual?

Sebastian: We can use different context elements to create evaluations and give an outcome for a bank. This way, we can proceed without asking anything of the user. We can identify a change in the recurrent charges by you if you are using your computer without entering any password, without doing any type of identification factor. Because we know you have an iPhone C and if you usually use that device with a white file or at home in the center of London, for example.

Agustín: Got it.

Sebastian: That is the kind of technology we develop. For example, a great use case of our technology is the government—with only a photo ID and a selfie (which uses face recognition to verify whether the person is who they say they are) people are enabled to do any transaction in a remote way.

Agustín: Sounds more advanced than most developed countries.

Sebastian: Well, the Argentinian government is integrating our API to give people that permission. Their system has three levels of security: one, two, and three. Our technology will offer a higher level of authentication where you can do any transaction remotely. This technology that has the power to avoid grandmothers and grandfathers from going to a branch. This is a way of improving the citizen's life. All of this supported by previous effort of the Ministerio del Interior that builds the digital DNI.

Agustín: When I look at your client portfolio, I see you have very big brands like VISA, 7Eleven, Globant, and other global brands. Are you looking to expand outside Latin America?

Sebastian: We build relationships with big companies. They accept us based on our reputation and we are now in the stage of expanding beyond the continent. We started operations in Europe, we are starting operations in the US.

When I think of the future I believe this is the most promising use of the VU's technology.

Agustín: Got it. So, if we go back to the early days of VU, you started the company in 2007 and I am wondering what was it like for you to get funding for the company, being a very young, talented man, and also coming from a technology background. You were moving onto a leadership role—CEO of a startup.

Sebastian: When I left my job at Trend Micro, I was the Sales Manager for the South Cone of Latin America. Somebody inside of the company identified that I was a great geek guy but with so much to learn. During the last five years at Trend Micro, I had to learn more about management, about financing and sales management. But you are right. Actually, the first funding of the company that comes from friends and family, I was the biggest fool, because I put all the money, all my savings, into the company. Actually, at the same time that I was funding VU, I got divorced, I moved from one apartment to another smaller one. I needed to sell my car, then go to live with my girlfriend. I spent all my savings in VU at the beginning. I don't know if it makes sense, but there was a worse part of the early days of VU—I got an initial investor in 2007 here in Argentina, where there was no angel system, no investors for an angel system, actually there was no entrepreneurship ecosystem and I encountered one person within all of the country that was a serial entrepreneur. But that serial entrepreneur was a lawyer that put $100 thousand USD in my company with 50-50 capital distribution and the great gift of this relationship that we get a lawyer for free. You get it?

That's all good but imagine who writes all the documents. The lawyer. So that lawyer writes all the company agreements, the shareholders' agreements. So, from one day to another I have no rights inside my company. There was one year trying to exit that partner. We did it in a good way, with a high level of reputation. After resolving that situation with the investor I got some new entrepreneurs to become partners with me at VU who are great people with great human values. To be honest, there were two versions of VU, the version between 2007 and 2012, and the version since 2012—now we are in the different version. Since we got divorced from that initial investor, the company grew more than 200 percent year by year and now we have nearly 90 customers in more than 18 countries. And we recently received a new funding round for $4.3 million USD.

Agustín: Sounds really good. How do you plan to spend those funds?

Sebastian: We are planning to go deeper in our strategy across Latin America and now we are also in the process of looking for a new round for a Series

B. The Series B would be used to strengthen our arrival in Europe and open operations in Spain, Italy, UK, and France.

Agustín: You are a specialist in cybersecurity and I'm really interested in how you see the market. What I personally see is that there are many categories in the field and you cover quite a few of them. But there are many players and I don't see any huge player in the markets. I do see a lot of acquisitions happening. So I just want to know how you see that it will it evolve.

Sebastian: I can give you two types of vision. The vision from the citizen and the vision from the company. The vision of the citizen is for you and me. From the point of view of the citizen, in two years' time there will be no obstacles to operate your services. We are really close to forgetting about passwords and different types of identification factors. Cybersecurity will go into the background. So all the companies that work for you, like Netflix, social networks, banks, financial institutions, or even brokers, will manage the cybersecurity for you.

Agustín: Do you think in two years this will happen?

Sebastian: In no more than two years, you will never notice the cybersecurity, believe me! That is in general terms. The only way in which you will notice cybersecurity is that something you use goes wrong. The next stage of cybersecurity attack will be like the Telefónica attack last year, remember that? They were attacked by a specific ransomware, a type of malware, and the company went off for two or three whole days. That is the type of attack that I predict will start happening more often to citizens. You will lose three days of Netflix but your life won't be affected by that type of service cut. However, companies will be affected. Right now, companies are created within ecosystems. Because the best thing you can have to provide a better and more accurate scoring service or cybersecurity service is more information. And the information comes from the citizen.

Now, for example, Equifax doesn't have all of the information needed to help companies survive a cybersecurity attack. So they start making relationships. The same thing applies to VISA, MasterCard, or American Express. Different types of companies are trying to get a big citizen footprint. VU is trying to build a robust database of information for citizens to create a more accurate way to identify them, and on top of that, to make different kinds of transactions. That is the next evolution in cybersecurity.

Furthermore, there are a lot of companies in cybersecurity. In five to ten years maybe there will be fewer companies. Because we will start to experience a process of merger and acquisition in a bigger way. For instance, LexisNexis, which is over $1000 million USD, has recently acquired Rush.

Agustín: Correct. I am just wondering whether you see VU as a company that might be a target of an acquisition or do you see yourself acquiring another company?

Sebastian: Well, I think VU being acquired is always an option. Our main asset is our people. It is also important to know who is interested in acquiring us, and what is the offer. For me, the most important thing is to see my dream come true. I want to see VU's vision and product worldwide. So if that vision can be accomplished by an acquisition, I am happy to be involved.

In terms of funding, at VU we are currently evaluating to buy three companies to get inside other kinds of services and acquire additional technology that would take a lot of time to develop for us. There are other companies that already have that in place and they have contracts with customers so that is our purpose right now. My other vision for VU for the next three years is to turn the company into a unicorn. I don't like the word "unicorn," but everyone understands what you're talking about when you say "unicorn."

Agustín: What would becoming a unicorn mean to you?

Sebastian: I want to create a one-billion-dollar company because with that amount of money you have more power and freedom over the decisions you make, you can choose the people that work inside the firm and work with you through the years, and you can decide what kinds of problems you can solve.

Right now, in a company like VU, you are running after the customers all the time. It is life or death depending on the business. If you are a billion-dollar company, you start to pull resources from where you really believe and not what makes sense to do.

Agustín: What does it take to have a unicorn valuation?

Sebastian: To be a billion-dollar company, you need to have a hundred million in revenue. A unicorn is in terms of valuation and not sales. That's why I told you the two examples. If you have $100 million in revenue, you are a company worth 1,000 million dollars. So it's more than a unicorn.

Agustín: I have seen a lot of acquisitions in 2018 for up to $650 million. That's quite a lot of acquisitions in the sector right now.

Sebastian: Actually, if you want, I have a few reports that I can share with you about the number of bids. The most important acquisition was LexisNexis acquiring ThreatMetrix, an operation of more than 800 million dollars; there was PayPal's acquisition of Simility, where they just wanted to buy the technology and were not interested in servicing customers.

Agustín: What do you consider to be your biggest asset? Is it the technology that you built or the client portfolio that you have achieved?

Sebastian: First, it's really important that the type of technology is more important than the customers' use of technology. The proof to embrace is when you have many companies that use the same technology to solve the same kind of problem. Right now, we are able to confirm that our technology is a proven technology, that the biggest customers, and also smaller ones, are using it successfully.

I think the most important value of VU is the selective property because we are a private company and we believe that through value is how we solve a problem, not only the technology problem but also the customer experience.

Agustín: Got it. When I got onto the personal space at VU, you received several recognitions from important places like Forbes and MIT, and I was just wondering what makes you a good entrepreneur?

Sebastian: <Laughs> Ah, persistence! Persistence and determination, for sure. I think that those are competencies or values you need to have to accomplish whatever you need in your life. You want to lose weight, you need persistence, determination, and patience. Anybody can tell you that I have a strong will. If we say something, we do it.

Agustín: Sounds really good you are able to do that, and I am wondering how that is in a place like Latin America. How have you found this is expanding through Latin America?

Sebastian: It's a challenge because, as you know, corruption and lies as well as people with no commitment with the truth are really common. I started practicing Buddhism more than 10 years ago and Buddhism is everything about cause and effect. I created VU on that premise! If you make a good thing you will receive a good result. Sometime further in your timeline, you will receive a good thing.

We created the type of company that people love to have working on their problems, because when there is a problem, we are at the same place working to find the solution to it. That is the type of value that I try to inspire in our team members and to our customers that we work for.

Agustín: Thanks a lot for your time and good luck with the next investment round.

Chapter 69 Niall Twomey

Company name: Fenergo

Location: Dublin, Ireland

Description: Fenergo is a provider of client onboarding lifecycle management software for corporate, investment, and private banks. It was founded before the term regtech existed and it has managed to create amazing onboarding solutions for top-tier banks. It has shown a remarkable growth rate and won several awards during that journey.

Roles: Niall Twomey, Cofounder and CTO

> *The biggest issue in 2008, for them, was making sure that they were safe, regulatory compliant, and dealing with the new regulations coming.*

Agustín: How did you got started in financial technology and how did the idea of Fenergo come about?

Niall: Okay, I'll start with a little background. I'm CTO [chief technology officer] of the company. I started off first as a software developer working financial services investment funds in America. Then I thought it would be great to stay in financial services, but kind of step to the other side, in London, where I worked as a consultant across many different financial services institutions when I was working for Accenture. Then I kind of thought, "Well, why not take my knowledge of working directly with customers, creating systems, and work across multiple financial services constituencies as a consultant? Why don't we do that, with Marc Murphy as the founder, and actually build a product?" It was kind of trying to combine my two previous experiences into a product. Marc Murphy is the CEO, and part of the founding team of Fenergo with me. Marc ran a software development company that was creating solutions for

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financial services institutions and he saw repeatable needs. He saw that he was doing very much the same type of systems over and over again, where he thought, "Well actually, this doesn't make sense. There's something here where I can actually take the IP [intellectual property] that we've generated to date, and I can produce something that's repeatable and solves a problem."

Agustín: Which means creating a product?

Niall: Yes, which means creating a product that's a greater value for customers because they don't have to create a similar technology from scratch. They can leverage a community, and it's a better value for us obviously, because we've got a repeatable solution. It's not about the number of hours a day you work for a client, it's the value you bring to the client and then you can charge for that value.

Agustín: Yes, I completely agree. So what happened with the software company? Did it just disappear when you started with this structure?

Niall: No; what we did was, we incubated a product company out of it. The software company was very important. It paid the bills while we were investing in the product to begin with. That software company still lives, but it's a separate entity. We spun it out, which is funny, because it's so much smaller than the original company, but now Fenergo's so much larger than the original company's software division. We incubated it within the existing business, spun it out as a product company because, well, that was a great help in funding the product development. You do need product discipline. As a software services company, you're obviously doing many different solutions. You're doing what the clients are asking you to do, but you need that product discipline. So, at a certain point, we knew we had to separate it to have proper product discipline to make sure it stood up from a revenue, from a profitability, point of view. There were certain things that, if you were chasing two very different worlds—product versus professional services—that they were going to be, let's say, an imbalance or conflict with each other. It's really important to introduce product discipline at the right time. In Europe we very much, especially in Ireland, we like the idea of self-funding. We like the idea of building it, improving it, before we go the next step, rather than necessarily taking on large amounts of money and not being sure that there's value generated. But at a certain point, separating the two and allowing us to have an incredibly strong product focus, was an important discipline we had to introduce to the company.

Agustín: You talked about funding, which I was going to touch on a bit later, but let's talk about it now. You started self-funding the company by using the other business?

Niall: Yes. So, it's incubated within the first business and that business is called Ergo, which is part of our name. That last business was actually the original business and it still exists and it's a very successful business in its own right, but it's a separate business. We went from that, split it out and then, as we grew, we went through funding rounds. We went to investment funds and took on private equity. We went through different funding rounds, as we grew the business. Our last major private funding round in 2015 was Insight Venture Partners, which is a major private equity house.

Agustín: Yes, well I have registered that you have in total more than 80 million in funding, 80 million dollars.

Niall: That private equity round was 80 million dollars, yes.

Agustín: That's quite a lot. What was the rationale?

Niall: In a couple of parts in our journey, we have taken on funding to, as an example, make sure we have a stronger balance sheet, because the stability of the company is vital. I mean, you're signing financial services companies and they want a large balance sheet. We've had expansion in terms of headcount and we've looked at funding to take on expansion in terms of product development. At certain key points we've made decisions, but actually raising the capital base is something that would be better than steadily organically growing by just revenue alone.

Agustín: In terms of mistakes that you made when you started, what's something that other people can learn by looking at your story?

Niall: When we started, we were very much on loan origination. We started in 2008, when the financial crisis hit, but we were looking to solve a problem that was probably there in 2005/2006, but was kind of going away, where becoming successful was all about offering new products, new retail products. But the problem statement when we started the company had shifted. With all the changes in the market, the main success factor was making sure that you get your timing right. Listen to your clients, but also make sure that your product is right for this point in time. Our first set of clients very much would have directed us in a different route, whereas the biggest issues in front of clients are not about having new product offerings. The biggest issue in 2008, for them, was making sure that they were safe, regulatory compliant, dealing with the new regulations coming. That was a message that we, in our initial focus of the product, we hadn't understood, and our first set of clients very much pivoted it to a regulatory compliant space for those first couple of years. When we had listened to our clients, we kind of listened to a message, originally, that was actually out of date by the time we started the company. So, it's really important to listen to your clients, but also make sure that what you're trying to solve is right for this point in time. We pivoted, to have very much a regulatory compliant platform and we built from there. Ironically, our original problem statement, now that the financial crash has eased, has come back. So again, it's about timing, it's come back later on. But our focus changed to a regulatory compliant platform for our first couple of years and that really served us well, based on that pivot.

Agustín: I think people don't know much about what the actual platform that you offer does. Would you mind summarizing it?

Niall: Yes, so I'll summarize it and I might just do it in terms of the phases we've been through, because there's a lot. The very first phase that we, based on that pivot was, we took on regulation. We made sure that we understood how to bring a client into a financial institution. So we worked in different spaces, corporate institutional banking and commercial banking, business banking and moving into retail, but our main focus was corporate institutional banking, historically it's been that. As you are onboarding a client, a large client, a large institution, a large corporation—we make sure we understand what regulation applies to that client, based on who they are, what location they're booking through, and what products they're interested in. We say, "Well, what regulations?" So, FATCA [Foreign Account Tax Compliance Act], Dodd Frank, EMIR [European Market Infrastructure Regulation], MiFID II [Markets in Financial Instruments Directive II]. "What regulations are in scope? What data documents do you need to gather for that regulation? What assessment are you making around the client based on those regulations? How much tax they should be paying, et cetera?" Then we make sure that that information is updated, beyond when you've brought them into your financial institution. We're constantly checking; has there been a data change, has there been a product change, where you need to refresh that information. We've expanded from there, doing anti-money laundering checks. Validating firms, at a KYC [Know Your Customer] risk point of view. We've created the KYC record and we do anti-money laundering checks. We check how risky they are with a KYC; you can see Enhanced Due Diligence on them. So it's really about making sure that before you trade with a client, that you are safe to trade. That they, and you, are in correct regulatory compliance. We've kind of built on that, as part of other phases to helping, as you're bringing clients onboard, making sure it's as fast as possible, it's operationally efficient. Making sure that you are connecting data from all the different parts of the organization so you've got a really, proper rich KYC profiles. We also look at making sure that we can offer to clients the ability to self-serve and ask for products themselves. It's really building from regulation, to making sure that their AML, KYC profile is correct, to helping the onboarding journey for all the products—from a client point of view. In recent years, the focus has shifted from just regulatory compliance to operational efficiency throughout the client lifecycle. That means applying technology to provide customers with the best experience possible through the digitization of all processes relating to a client. So our focus has been on the full client journey throughout the lifecycle through a comprehensive CLM [customer lifecycle management] solution.

Agustín: Thank you for that summary. I wonder how you do this from an operations perspective? Regulation is something that takes a lot of handovers and you need quite a lot of specialized people to do this. How much does Fenergo need people and how much is technology?

Niall: Obviously we are a technology company. We are a technology company, so, in terms of regulatory interpretation, it's two things. We have a regulation team, and also, we bring clients together as a community, to help interpret the regulation. There are software accelerators on regulatory interpretation, but they are just accelerators. At the end of the day, it does take human beings to look at it, make sure there's correct traceability, but the advantage we have is we bring all our clients together. We interpret the regulation with them and then we validate the regulation with them. It's really harnessing the product community from a regulatory interpretation point of view. Once you've interpreted the regulation, it's all technology from there in terms of implementing it, as a set of processes, business rules, data capture, and integration. That's all technology driven. The creation of the policy, it's very much a community-based approach, to create the policy. There are early tech accelerators, but they are kind of early on the maturity curve in terms of interpretation.

Agustín: Okay, and when you say tech accelerator, this is like stuff like artificial intelligence, machine learning, or what?

Niall: Yes, we're looking into that. There is a level of that, but in its very early days. The reality of that is they scan the regulatory documents and they pull out key words, key verbs, and try to put it into a standard structure that all regulations are put into, so it's easier for you to interpret and codify the regulations. We don't do that. We do work with companies that have utilized that type of technology. It might be something in the future we look at, but it's very immature—that technology, of these interpreters, regulations—still very immature in terms of the reality of it.

Agustín : Got it. A bit of an IT question here, in terms of where you store data. Do you store everything in the cloud? Would big institutions not like this?

Niall: Large institutions want options. They want to be able to deploy our software to their own private cloud, to their own data center's hosting that; or they want options of running on a public cloud, Amazon, Azure, et cetera. We, as a software company, while we do have a cloud offering, we have to give choice and with large institutions the choice is still, primarily, private cloud.

Agustín: I think that's going to be the future for big organizations anyway.

Niall: Yes, it's based on the profile of the data. We hold the KYC record and the personal identifiable information, et cetera, there's still a way to go to necessarily giving that away to cloud data centers.

Agustín: I am aware that you have been growing your headcount significantly, how do you manage large amount of people? And how is it distributed? What percentage of people are IT people?

Niall: They're very much technologists. 50 to 60 percent of the company is technologists; we're a technology-based company. We have regional centers. We have Dublin, Madrid, Poland. We have Cape Town, South Africa. We have centers in India, and then we have all our local centers. So New York, Boston, Toronto, London, Singapore, Sydney, Melbourne, Tokyo. We have regional centers; all have got, obviously, different roles. The way we manage it is very much giving people responsibility and delegating authority and making sure that there is no bottleneck in terms of decision making. There are clear rules and responsibilities, they are different, and they are based on a model that we know works in terms of core product development and client engagement.

Agustín: In terms of moving from your little startup to a huge company with several hundred people, did you have to hire a lot of senior talent?

Niall: Yes, we did. We've hired a COO, CFO, and certainly a lot at the VP level, a lot of the VP level wouldn't have been there at the beginning. It's about hiring good people and there's not any magic in that, but it's about hiring of energy as well as experience. Having experience alone doesn't work. It is a startup still. When you are pretty much growing or doubling every year, you need that energy to deal with that.

Agustín: You mentioned that you have several centers, are they developing the product for specific areas at each of these centers?

Niall: It depends on the center. Dublin, Poland, Madrid, Cape Town are in product development. Then other regional centers—Dublin, Poland, et cetera—are also engaging with clients, but also the other regional centers are really about having in-region presence, to work with our clients. They are not product centers, but they deal in client engagement.

Agustín: So you centralized your product development in just a few centers.

Niall: Yes.

Agustín: I wonder how you see regulation technology. You know that regtech has become a term on its own, with a lot of money flowing into this industry. How do you see it developing over the coming years?

Niall: We connect ourselves with more markets than just regtech. That's obviously a core principle. What clients are asking us is, they want to be regulatory safe, and that's important, but they want more than that. In the last year or two, they want operational efficiency. So the business case has got to be more than regulatory compliance. It's the foundation, but you want to have operational efficiency. You want to be able to utilize the data you have; you want to be able to bring customers onboard faster; you want to have better channels to the customers. The way we are evolving, our focus is making sure that your business is regulatory compliant; you are either generating more revenues by being able to offer more products to clients or you are reducing costs by reducing the manual effort to bring a client on board and offer them products. We see technology really changing that customer experience. We also see technology changing internal experience; that is, the system is doing a lot of the, what we call, "maker" type work. Then humans are doing less of the information gathering, but more of the validation and checking, before you onboard the client. They're very much at the review stage and the escalation stage, rather than actually doing the initial grunt work, in terms of getting the application, the client profile to a stage where you can review it.

Agustín: In terms of your expansion, every company looks at growing. I wonder, would you look at smaller clients? You deal with the bigger clients, who are the most complex of all.

Niall: Yes, so, as an example, our cloud offering helps smaller, regional clients. We're always bringing down the cost of executing and running the platform than what it would cost if these clients were running the platform themselves.

The other approach is having strong out-of-the-box solutions that reduce the time to deliver for clients. Tier 1 have a history of wanting to change solutions to make them unique to them, lower Tier 2s and upper Tier 3s are interested in standard best practice and will adapt more to that. We have focused on becoming the industry standard. We are also trying to expand by growing across the different market segments, so very much a big focus on retail, on commercial and business banking.

Agustín: My final question, I want to know a little bit about the ecosystem in Ireland. How is it to do business and fintech in Ireland?

Niall: It's a very technology-oriented culture. We are in Dublin as an example. As I look out of the window, I can see technology firms. I can see Facebook, Google's not too far away. I can see J.P.Morgan; I can see Indeed. It's a very strong technology cluster, not just fintech, across different industries. It's great in terms of talent, it's a small-size city but yet there's proportionately a large amount of tech companies and that makes it easier as well for people to really understand that when you come to Dublin, you've got a long-term career, not just in one company but in many companies and you need that to be an ecosystem.

Agustín: Brexit is a hot topic nowadays. Do you think that might have any impact on you as a company?

Niall: Not particularly. I mean, we deal primarily with global-sized institutions. Whether they deliver a project out of London or they deliver it out of Paris or Frankfurt or Dublin, I'm just looking at delivering a project. I think the uncertainty that Brexit brings is one reason some projects have been stalled—probably with clients, just in general financial institutions—they're probably holding back making decisions that they would have already made if there wasn't for this uncertainty. Once the decision is made in terms of Brexit, they will then in turn make their own decisions, but they are waiting for that Brexit decision to happen. That level of uncertainty has opposed people strategically making certain investments and certain decisions. That kind of pause is the main impact and, for us as a company, for us the way we trade, it really doesn't have a massive impact, because primarily you're just dealing with different locations for the same financial institution.

Chapter 70 Owen Hall and Vikas Tripathi

Company name: Heliocor Limited

Location: London, United Kingdom

Heliocor is a regulatory technology company that is building a global anti-fraud ecosystem. It is a fresh company in the regtech space that has created multiple products out of customer needs and has beaten huge competitors by delivering slicker solutions.

Roles: Owen Hall, CEO; Vikas Tripathi, Managing Director

> *In any young business there are a series of projects, so the first project for us was realizing what the problem was. The second project was coming up with an initial solution to it. The third project was getting the first clients sold on it.*

Agustín: I'd like to get started with understanding how you guys first started in the regtech field and how did you meet?

Owen: The company started off as a services business. We were off to look at a regulation problem for a US investment bank, for their FX [foreign exchange] business. Basically, the requirement was to look at all of the problems in the market and then to help them decide which ones to implement.

We didn't set out to build a product. What happened is the result of this project. We were asked to find a solution to this problem by looking at all the companies and all the products on the market, whether those were with the established players, the up-and-coming new companies or the exchanges trying to do stuff for the industry. And we realized, actually, none of the players fit the requirements. So we had a very uncomfortable meeting with the client. We said, "I know you wanted an answer but there isn't one. We've looked at

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everything and nothing will work." We were all looking at each other going, "This is not a good answer!"

We decided we need to think outside the box and come up with a different way of doing this. And that's exactly what we did.

We thought about the up-and-coming technologies in terms of Big Data; I've been following the Big Data technology applied in my previous company. And I have been looking at it on and off for five years wondering where there was a clear need for an investment bank to use it.

We realized that nothing worked. We explained this to the client, the client said go away and have another go. We went away and had another go, knowing we couldn't stand behind anything we couldn't recommend, and so we decided to create something else instead. And we built the technology around high-speed analytics and Big Data. That's where we started off. Having had the chance to look at all the competitor's products, we realized where the gap in the market was and built something that would meet the requirements of the market.

Agustín: Thanks for that introduction. So you have developed one product for fraud and one for digital identity, right?

Owen: Correct. So we think our business was very much based around happenstance. Trying to solve a problem and finding the outcome in that solution is normally a much better result than what you originally thought.

Our digital identity app started off because we needed to use client risk-scores in some of our mathematics algorithms that we use in our analytics product. When we were delivering this to clients, we realized that actually none of them had a system to get that ongoing client risk number and therefore we felt we needed to build it. We started off building a simple workflow to help customers onboard their clients in a more consistent way and capture that risk score (as opposed to having it jotted down somewhere on some spreadsheet on somebody's laptop or desktop).

As we went through that process, we thought: "Well this is a good way to solve that problem … oh and we can solve this problem as well and this, and this other problem." We ended up building a very sophisticated mobile app that massively accelerates client onboarding.

It improves the quality of the information we get about clients a lot. And then we realized this is a great way of addressing the requirements of GDPR [General Data Protection Regulation, EU law]. As I say, a lot of happenstance drove our business in its early stages and that drove us to focus the app to be more end-user centric or customer-centric as well as client-centric.

We created a digital identity app, which then supports our other technology of analyzing for misbehavior in a bank and hunting down fraud and malfeasance.

So our business has been about solving one problem and then realizing that there is another behind it.

Because we come from a banking background, we actually understand not only the real detail of the problem, but also, we are creative enough to think about how we could be innovative in terms of solving it. So instead of looking at problems in terms of 20th century style, where you throw more people and resources at a problem, we look at it and say, how can we throw technology at the problem to do what technology is good at.

Agustín: That's brilliant. So you started the service business and then you transitioned into a provider of a product, I'm just curious as to how you worked out the capital to invest in your technology? How did that work?

Owen: Well, so Vikas and I both take the same exact approach to all of this. We are fortunate as we have earned reasonably well in our past. We both understood that we couldn't go out and didn't necessarily want to go out and bring in venture capital—the cost of money at the point where you only have an idea is so high that actually we would end up with very little of what we were developing. Both of us took the call that we needed to invest everything we could, everything we could afford, not take salaries and invest everything we generated into building product.

Vikas: On top of that, we started a consulting company that was the chief source of revenue for us and we used that revenue to fund the startup.

Owen: So we created a side business to generate cash and then we poured all of the spare cash into that business, building out our product.

Agustín: So far all of the funding from that you have received is pre-seed?

Vikas: So once we wanted to scale up beyond 5 or 6 or 7 deals, we wanted to scale up faster. We devised a security token offering—using tokenized preference shares—and before that we engaged in the process of an ICO [Initial Coin Offering]. Both put together, we have raised close to 2.5 to 2.7 million dollars in the last six months. These are the first rounds of money that we raised, and so we are now looking to raise more so that we can scale up.

Agustín: Right. You're in London and Barcelona—is that where the developers are, Barcelona?

Vikas: Yes, they are, we've built out of London and Barcelona and had a small presence in New York. Shortly, we want to go to Singapore and Africa because we believe that Africa is one of the key markets in the world, because the position that we serve is very much required. Fraud rates in African countries are so high, that is where the need is [highest] and we believe that we can go a long way to eradicate some of the levels of fraud that exist in those areas.

Agustín: When do you think you had the breakthrough in Heliocor that you think, “Yes, this business will definitely work”?

Vikas: I think it started on the day we had a strong conviction that the product was going to work. It was not that we were doing something out of trial-and-error. Owen had very good experience in supporting things that we tried. The method in our madness, after we realized that we could be a cost effective and comprehensive solution—with most of the solutions in the market only addressing bits and pieces, there were no end-to-end solutions—we talked with our developers and architects about what we could provide and decided that this was the best way to go. We described the market the best we possibly could. And after we moved into machine learning, and AI, and all this stuff, there were so many companies that started following us. But so far we have the home advantage so we are working on this so it stays with us.

Owen: I think another thing was that with apps like this, I come from a very strong sales background and in other companies where we worked we were always the way makers. We therefore knew that we had a great idea, but the challenge was staying alive long enough to generate enough money to get the idea to the minimum viable product, which took about a year. And then to go out and sell it and market it to clients.

We never believed we were not going to succeed. I think if there is one moment you ‘think’ you might not succeed, that is okay, but if you ever believe you are not going to succeed, you should give up and go home.

So it was never a point where we said, “Wow this is too hard. We can’t do this.” Some people in the development team have worked with me for years, the CTO and I have known each other for 17 years. We knew we had good people, we knew we had a great idea, but the challenge was operationalizing it, building it, moving it, and taking it to market. I think that one of the most important things that we have been very strong in is that actually from almost day one, we had a very good set of people at the table. There were not really a lot of other people around the table, but we started with what most people would consider their scale-up dream team, and the people we would like to bring in now when our Series B money is done are some with this skill, this background. We pretty much started with that.

Vikas: And I think to add to what Owen said, we got very strong belief when we got into SPD Bank [Shanghai Pudong Development Bank], the fifth largest Chinese bank and the thirtieth largest bank globally. When Owen was pitching that bank, we were competing with the biggest people in the market, like Bloomberg. And Owen said that we can get this deal and that is what happened. We beat the big boys who were on the bus for 25 years. But a billion-dollar enterprise chose us over them and that is a very strong testimonial. I believe we have arrived and we will go places.

Agustín: That is a great success story. Do you have advice for other startups?

Owen: In any young business there are a series of projects, so the first project for us was realizing what the problem was. The second project was coming up with an initial solution to it. The third project was getting the first clients sold on it. And the next project was getting somebody who would be a cornerstone client. We had one, but actually we needed an organization like SPD to be the big second organization that truly validates that you are going in the right direction.

To win one customer is nice, but it is not really a validation that you've got a product, it's just that you have a solution to their particular problem. To get the second and the third and the fourth is when you realize people can see why you are different and better than the current incumbents or the current existing businesses. And therefore, that leap of faith that we made two-and-a-half years prior was the right leap of faith.

Agustín: So you are working in financial services, which is an interesting market because it is highly regulated, having big banks as clients. It can be difficult for a small company to get into banks. How did you manage to get this deal? Are you finding it harder to get into other big banks?

Owen: Well we actually made a decision. Vikas beat me until I agreed with him. But actually our market should not be the big Tier-1 banks, but should be the Tier-2, Tier-3 banks. Our reason for existing is to provide the best in-class monitoring, full stop. But to do that at a price where a smaller institution can benefit from it.

So we don't have the multi-million pound ticket-price that our competitors have. We realized that where we need to be is providing smaller institutions with the same quality of monitoring that the big institutions would expect to provide and that has given us quite a leg up because we found ourselves able to get to talk to institutions because we got one or two goliaths and we get taken seriously.

But our real reason for being is to go to these small institutions and help them get to where they need to be.

And I am not saying that is an open door, but it is a door that is a lot easier to push through and it is a door that when you get to the other side of it—when people realize what you are offering—there is an awful lot more interest and gratitude for the effort that is being made to help them find a solution that solves a big problem in an affordable way.

Agustín: That's a really good insight, good strategy. Let's move on now to technology. There is a lot of investment and big players that are going into the field of AI, machine learning, and you mentioned Big Data. So being a startup, how many people do you need in order to build a good machine learning, artificial intelligence solution?

Vikas: We have been in the market for four years, we have a fair idea of what has gone in the market, how the market has shifted from rules-based to machine learning and AI, we have a good set of people who have been working with Owen for the last 17 years, so they know what it takes in terms of building a system from scratch.

Now, being aware that none of the present competing companies have a complete product, we continually add new features. As of now, we have 10 to 12 developers in Spain. We are raising money to go global. We are slowly building our development team to expand in further locations. So we believe by 2019 we will have a very robust team of 40 to 60 developers in two to three locations very well grounded to serve 15 geographies. I think that is the plan and we are raising money to achieve that kind of a construct.

Owen: But the other thing I would say to that is if you look at the kernel of most big software products, they are actually created by one or two people almost in a garage at the beginning. Very often, and Vikas and I have watched competitors rise and then disappear, very well-funded competitors over the last four years to have had very deep pockets and often that very deep pocket is actually an inhibitor. If you have millions and millions and millions and a bench strength of 40 or 50 people on a project, you actually go slower than having a team of three or four who are very focused.

One of our competitors (I am not going to name them) produced a US identity app, have gone bust three times, and they have had over 50 million dollars invested in them. Very often if you have too much money, you spend it badly. That was one of my experiences, having worked through the dot-coms, having seen companies start up having being given hundreds of millions of venture capital investment and see them spend it on office space, the most expensive furniture, and dozens and dozens of developers who have no understanding of what they are trying to achieve and spend all of their time in meetings.

It's the reverse of having too little money. It is often better to be small and fast than huge and slow.

Vikas: Too many cooks spoil the soup. Even if we put 10 people to 20 people on the case, it will still take five minutes to make tea and that's just by one person, right? So you need the right people, the right strategy, vision, execution, and you get there.

Owen: And also sometimes when you get some very good older developers they are actually able to look at the new technologies and go, seen it three times before and this is all I can do to it. As opposed to people who claim to be specialists in a particular new language or new model who are doing it effectively for the first time and have very little experience to go with it.

It is not necessarily the person with the biggest bank account who wins and it, in fact, almost never is. And I think that is one of the things that, you know, if you do not believe that, you will never start a business.

Agustín: Certainly, I have seen that through several organizations myself. How do you see your business evolving in the next five years?

Owen: I am not sure I can answer that. We are already in Heliocor 2.0. The stuff we are trying to do with our thought modeling and identity solutions is going beyond regtech.

Vikas: To sum it up in one line for the next five years, we want to be the PayPal of the digital identity space. We want to be the Amazon of the regtech space. We are looking at the market from a very different perspective that none of our competitors have. Because we are based out of London, we have a holistic view of what it takes to be a regtech company because Europe is the epicenter of all regulations that the world follows. Even the US follows Europe most of the time.

We know what it takes to do the right thing the first time.

The next five years will be an exciting time to go from startup to scale-up and we think we will be in 30 to 40 countries with a global roadmap with global delivery centers in various places.

Agustín: Exciting times to come indeed for regulation technology. Look forward to seeing how your next round of funding goes and how you develop the product in the future.

Chapter 71 Bill Safran

Company name: Vizolution

Location: Swansea, Wales

Vizolution offers customer engagement solutions such as screen sharing, self-service portals, and virtual chat to financial services institutions. It is the leading UK provider of innovative visual sales solutions. It enables businesses to better engage their customers remotely through instant, easy screen sharing. Vizolution works with five out of the six top lenders in the UK, has impressive satisfaction scores of around 95%, and has received investment from three of the top UK retail banks.

Roles: Bill Safran, Founder and CEO

> *I believe the challengers to banks are not the "challenger banks" but companies like Amazon, Apple, Google and Alipay.*

Agustín: How did you decide to work in fintech and become an entrepreneur?

Bill: By nature I like to solve problems and am a builder. When I identify a problem I like to ask why it even exists and how best to solve it. In my mind a new business needs to answer the fundamental questions of what problem are you solving: Is there a problem? How much better is your solution than the existing state of the market (your competitive advantage? Is the breadth of that problem a large enough market? Can you maintain a competitive advantage (are there barriers to entry)?

As a builder, I like to build things. I gain great personal satisfaction in looking at the people that I've employed and the organization that I have built.

Agustín: What was it like to work at Trigold and when did you decide to leave?

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Bill: I didn't start Trigold, but was of the early employees. I initially joined as commercial director and was subsequently promoted to CEO. When I took over as CEO, the business had 140 employees, was losing £1millon a month, and its product was not fit for its purpose. We had to reduce the headcount to stem the losses, so we initiated a program of looking at redundancies to reduce the headcount to 40. As you can imagine, this was not the most enjoyable time. We also acquired a smaller company that had better technology than ours and rebadged their product as our own. As a result of these actions, we turned the business around and over the next five years grew the business to be the largest mortgage sourcing system in the market with over 25,000 mortgage brokers and accounting for over 60% of the UK market. In addition, Trigold won a number of awards including Deloitte Fast 50 (2005, 2006), Sunday Times Tech Track 100 (2006, 2007), Real Business Hot 100 (2007), and grew the business to 120 people.

Although I was the CEO, I was only a small shareholder. At a certain point, I wanted to start my own business and that was the point that I left Trigold.

Agustín: How did the idea of Vizolution come about?

Bill: I knew that I wanted to start a new business and I analyzed where the problems were in the market that I knew well. I looked at the intermediary mortgage market and identified the trend that an increasing number of mortgages were going to be sold remotely. The drivers for this was that mortgage customers did not want to literally go down to High Street looking for a mortgage; mortgage brokers wanted to find customers throughout the UK rather than just outside their offices; and 3G technology was enabling this remote interaction to happen. So I examined how I could create a business that enabled this and decided to solve the problem by creating a solution that would duplicate a face-to-face experience remotely. This was the genesis of Vizolution.

Agustín: How hard was it to get funding?

Bill: Initial funding was provided from personal savings. Once we had created our beta version and had a few pilot customers, we went out to the market to raise VC funding. The UK market is very different from the US in that the UK invests in businesses that have already proven their model and are already showing over £1m in revenue. We were lucky to find Notion Capital who was willing to invest at an earlier stage. In subsequent rounds, we brought in the Development Bank of Wales, some high-net-worth investors and then HSBC, Santander, and RBS [Royal Bank of Scotland].

Agustín: How did you convince three of the largest banks in the world to back you?

Bill: The initial bank to invest was HSBC, who invested in 2016, and then Santander and RBS invested in 2018. Each of these banks were major customers of Vizolution and their rationale for investing was that they wanted to improve their KPIs [key performance indicators] (sales, customer satisfaction, costs, compliance) by having input on Vizolution's roadmap. That influence was focused on providing feedback on what the needs are of the financial services market so that we would provide solutions that solve their problems.

Agustín: When do you feel you had a breakthrough with Vizolution?

Bill: I think there were two major breakthroughs. The first was when we received our first revenue from customers. This showed that someone was willing to pay for the solution we provided. The second was when HSBC invested. This showed that we could be a strategic solution to a world-leading bank.

Agustín: How did your MBA from Wharton help you with your career?

Bill: Wharton MBA provided a solid foundation in business and helped mold my thinking processes and analytical skills.

Agustín: How do you see the sales and servicing processes in financial services evolving in the future?

Bill: I believe the challengers to banks are not the 'challenger banks' but the Amazons, Apple, Google, Alipay, and so on. These businesses are showing the art of the possible and are recalibrating customer expectations. The big banks are already responding to this by reengineering their processes and by putting the customer at the center. The large legacy systems that the banks have are hampering the transformation, but technology provided by fintechs will enable this transformation.

Chapter 72 Raz Abramov

Company name: EverCompliant

Location: Tel Aviv, Israel

EverCompliant is a cyber intelligence and risk prevention service provider that illuminates data from all corners of the Internet to empower data-driven decision-making for organizations. It has built an intelligent data gathering system that helps financial institutions assess merchants. EverCompliant uses artificial intelligence and machine learning to assess and categorize hundreds of millions of domains.

Roles: Raz Abramov, Cofounder and VP of Research and Development

> *Once, a bank would have merchants and very limited knowledge of their operations in the online space. We are able to provide them with that visibility and empower them to make more informed decisions.*

Agustín: How did you get started in entrepreneurship and how did EverCompliant come about?

Raz: I have wanted to be an entrepreneur since I was in high school. After I did my military service—in Israel you always do military service—I was about 24 years old. I came out of a technological unit in the army, so I had the know-how and the passion for it and it set me on the course to starting my own business.

I was fortunate enough to find my cofounders, Ron and Noam, and with an idea, we started testing the market. What was the idea? Back then, we had an idea which was a bit different from what we do today. We started working on that and we started approaching the market to see how the market would respond. As we evolved, the idea evolved until we found our product market fit. I enjoy the challenge of starting something new and seeing it evolve into an idea that could develop into a successful business venture.

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Agustín: You mentioned that the army is compulsory in Israel. How did that help you? What did you learn there?

Raz: In the army, you have of course multiple things that you can do. Some go to combat training; some go to be air force pilots. I went to the intelligence units and worked on cyber-related projects throughout my service. My service lasted between the ages of 18 and 21, and I extended it until I was 24. Once I completed my service, I utilized my know-how and contacts to help me get my business off the ground.

Agustín: Let's talk a little bit about EverCompliant and the actual product that you provide.

Raz: EverCompliant works with financial institutions, banks, credit card companies, payment service providers—basically anyone who handles financial transactions with businesses. We provide those institutions' visibility into the e-commerce ecosystem. Today when you think of a small business, you might think of a small mom and pop store on some street. But there are tens of millions of merchants that are active primarily in the online e-commerce world. Before we presented our solution, the visibility of the institutions was often limited to the online world. What we did was, we built an intelligence collection system that takes all online data about merchants, any merchant in the world, and collects, indexes, and aggregates it in our back-end databases. At one time, a bank would have merchants and very limited knowledge of their operations. They would know their credit score, they would know their bank accounts, they know their names, maybe, and addresses, but they wouldn't know what they're doing online. Did they set up a store selling shoes online or did they set up a store selling drugs online? We were able to give them that visibility that they didn't have.

Agustín: Where do you source your data from? Is it directly from the merchant?

Raz: No. We don't assume any merchant cooperation. We collect data from the actual websites themselves. So basically, we scan the entire Internet, very quickly and very efficiently, and all the data that we have comes either from that or from other data sources that we include. We don't need to talk directly to the merchant.

Agustín: When you were starting the business, was it your first venture as an entrepreneur?

Raz: This was my first entrepreneurship. Before that I did freelancing, and worked with many companies large and small helping them get their ideas off the ground technically. But this is my first venture, first company.

Agustín: If you had to start again what would you do differently?

Raz: Obviously many things, simply because you learn a lot along the way and the only way to really know and understand how this world works is to gain some traction in it by taking those lessons and growing from them. But I don't think there is a major thing I would do completely differently.

Agustín: When did you think that EverCompliant would really work? Was there any specific event that said, "Hey, I am confident now we can do this?"

Raz: Actually, I had the same conversation with colleagues the other day. Basically, all along the way I knew that we were going to make it. There was never a doubt in my mind that the company was going to grow and expand and succeed, but there were a lot of events that gave me validation. For example, we had a major aha moment after we signed our first US big bank. It was like, "Okay, they've signed the contract, the deal still went well, everything is booming and great, and let's keep moving forward." But I have to say that in terms of belief in the idea and the success of the company, I never had a doubt.

Agustín: When you're a fintech and you're starting with big clients, such as a bank, what's important when setting up a proof of concept with a big company?

Raz: Since we are a small company, the main challenge when approaching large entities is the fact that you are small. Because a lot of companies have great technology, but not a lot of companies are mature. The main challenge is to prove to them that you can do what you say. Because, again, when you say you have great technology, they pretty much believe you and say, "Okay, that's fine, but show me," but the main challenge is to have a stable operation around that.

Agustín: When you say stable operation what do you actually mean?

Raz: It's about the processes. So you have to have a good legal team because the contracts are very long. You have to have deep pockets because the procurement process can be lengthy, so you have to be able to sustain that. Your product has to be well-packaged and you have to know how to deploy and how to interact with enterprise clients. It's not like you show up at their door and say, "Here take my product." Other challenges are to find great references so you have ammunition in your pocket that you have experience and are reliable. Having recommendations not only helps get new business but also helps in networking within an organization so you establish a real connection with a decision maker.

Agustín: Let's discuss your operation. You have offices in Tel Aviv and in New York.

Raz: We have offices in Tel Aviv, New York, and we have presence in additional locations, such as the US West Coast and China.

Agustín: How do you choose the locations of your offices?

Raz: Tel Aviv is easy because all of our R&D [research and development] and product teams are here and we started the company here, so that's our main base of operation. In terms of the US, you pretty much have to decide between east coast and west coast, and since we dealt with a lot of financial institutions, the finance industry is stronger in New York so we decided on the east coast. As a global company, we felt it necessary to add additional locations so we can better serve our customers.

Agustín: Right, so, the Asian offices, they are development offices?

Raz: No, only Tel Aviv is development, the rest are sales and marketing.

Agustín: Got it, so do you have clients in China?

Raz: We have clients in China. We have clients all over the world, so Asia, Europe, US, and Israel, of course.

Agustín: Has it been a challenge for you to grow into different continents? What's important to do in order to do it well?

Raz: I think the main challenge, let's say for customers from Europe you can operate out of Israel, that's relatively okay. The distance is not that large, but for the US, you really have to have a local operation. The main challenge is setting up a foreign entity. First, it's very expensive, especially in the US, you must dedicate a lot of time and effort to set up a good entity there. By the way, it's a must because US corporations will only work with a US company, so you have to set up an entity. For sales, the same. You must have local people down on the ground, otherwise it's just not effective.

Agustín: Yes, I can understand that for fintech it can be challenging when you're not a lot of people and you need to cover a lot of ground.

Raz: By the way, that's why focus is very important there. If you decide you are going to tackle the US market, fine, do it; but do only that until you get it off the ground because you can't operate everywhere, at the same time, with ten people—it doesn't work.

Agustín: So, for you, when you went to the US was it because you had a client there already or how did you decide you were going for the east coast?

Raz: When we did our market analysis, we found about 50% of the global market is in the US. So it was an easy decision for us because, first of all, in the US, and in New York specifically, the ecosystem is very rich; we had a lot of contacts there, so it was very easy to get started and to pick up the company and to basically start working there. On top of that, we had a lot of relationships with the card brands themselves, so Mastercard and Visa, the global brands, are basically US based, so it was the place to be. We had to go there in order to expand in the US.

Agustín: There's a lot of talk about China and how mobile commerce will grow there with WeChat, with Alipay. Is this in scope for you? Can your product work with mobile payments?

Raz: Because of the nature of our product, we're agnostic to whether it's mobile or web simply because we target the merchant. We know how to monitor, for example, applications that also offer services and sell things. We know the application is part of the online ecosystem. Once we expanded there and we were able to cover both, our product covers the entire online world.

Agustín: I meant that something like Alipay is not the same system as credit cards, yes?

Raz: It's not the same system, but it does require the same information. You basically need to know your merchants. You need to know, for instance, that Alipay let's say decides to onboard a merchant, a business; they have to know what they are doing, what they are selling, who are they selling to, where they operate out of, things like that. Once you provide them that same visibility that you provide the regular credit card information, on both websites, you provide the mobile commerce-based platforms the same information about their mobile apps for businesses.

Agustín: So, talking a little bit about the cyber security space, what I see is that there are a lot of providers looking at different segments of it. What is your view of how EverCompliant will develop in the next years and what's going to happen to the industry?

Raz: You have two trends here which basically coexist. One is the highly specialized companies that try to focus on one aspect, for example, mobile security; they want to focus on honeypots [a decoy computer system for trapping hackers]; they want to focus on penetration detection and prevention. You have these highly specialized companies that rise and then either they get bought or they start to expand to different offerings, but they start from one solution, which is highly focused. We started building, that's the difference, the second one. Basically, we built a data platform, so we have a lot of data and we harness it for different business purposes. Right now, we harness it to detect online information, online risks for merchants, but tomorrow we can harness it for other businesses and industries. It really depends on how you build your company and your technology stack, in terms of how you develop.

Agustín: Right, so is your plan for EverCompliant to expand into different use cases for the data?

Raz: Yes. So, expand to different industries, to expand to different use cases. Basically, harness our data the same, pretty much the same data that we have right now by the way, just different use cases and different markets.

Agustín: So data is key for the activity and the service that you provide. I'm just wondering how difficult it is it to get that data? Is it expensive to get the data that you have?

Raz: It's not expensive. We don't spend monetary resources, we just build a lot of technology around data collection and analysis because we have to know, for example, what industry you operate in. So we built a big stack of machine learning-based models in order to allow us to understand what you do. So, what are you selling and who you are selling to and things like that. Analysis is far deeper, by the way, and every data item that you try to collect you have to build an entire data collection with technology around it. As you expand your technology stack, and right now we have a huge, huge technology stack around basically every issue, you collect more and more of the data and that's how you grow your database.

Agustín: Sounds like the future to me, growing your intelligence day by day with the help of humans.

Raz: Exactly.

Agustín: In terms of funding, you mentioned that there are these fees for EverCompliant, was it easy to get the initial funding?

Raz: It's never easy, but once you have a great idea and team you can get the funding. The money's available, it's out there, you just have to do your due diligence and work hard and basically go out and get it. If the vision is there, the money is available, people want to invest in startups; you just have to show them what you are doing and what your vision is and how you plan to execute and if you do it well, you will get the funding.

Agustín: Finally, I wanted to ask you a little bit about Israel. I haven't come across so many fintech companies, but I know that Israel is very big in entrepreneurship. I was wondering, what's your view on Israel, do you get support, and do you get other companies that are like you, building something in financial services?

Raz: First of all, Israel has a lot of fintech companies per capita, I'd say. Today we have great companies here like Riskalyze, we have many comrades operating in that space, but that is only a part of the overall ecosystem that we have in Israel. We have thousands of thousands of companies, small and big, because of the army and the industry and the entire ecosystem. It basically supports and encourages entrepreneurship and gives great opportunities to young, ambitious people to get their dreams to come true. Now you have a lot of overseas businesses coming in particularly wanting to invest money in those industries and that's how they can still grow and expand. I think that over time it created a great environment to start a business in.

Chapter 73 William Wei

Company name: PINTEC – 品钛

Locations: Beijing, Singapore

PINTEC is a leading fintech solutions provider that aims to leverage technology to advance financial services and level the playing field. It has positioned itself in different fintech segments offering great systems to support varied processes such as lending and wealth management. They have created strong alliances and have gone public on Nasdaq.

Roles: William Wei, Founder and CEO

Fintech changes people's daily life more radically in China than in the west.

Agustín: How did you get started in fintech?

William: In the 2010s, I was doing a business school program in China Europe International Business School (CEIBS). I met Allen Dong and Xiaomei Peng in the program and decided to build a startup company. In July 2012, we founded Jimu Holdings Limited (the predecessor of PINTEC) and started doing nontraditional financial services, with a peer-to-peer lending business being one of them ("Jimu business").

Beginning in 2015, Jimu started to diversify its business by offering various lending and wealth management solutions to business partners, financial partners, and end users. We launched Dumiao, our lending solutions platform, in June 2015 and commenced its wealth management business by launching the Hongdian platform in September 2015 and the Polaris platform in June 2016.

Agustín: That's really interesting! Was PINTEC founded as a spinoff of Jimu?

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William: In 2016, to focus on developing an independent technology platform that enables financial services as its core competency, we initiated a restructuring and reorganization of Jimu by separating the PINTEC business and Jimu business and making them separate legal entities. Since September 2016, PINTEC and Jimu have been operating substantially independently of each other. PINTEC became more committed to providing solutions to enterprise-grade clients, while Jimu continued to serve end users.

PINTEC wishes to become a financial technology enabler that provides fintech solutions for business partners and financial institutions. That notion inspired us to come to the idea of the company name "PINTEC"—PIN represents pins on a semiconductor processor, which act as a connector.

Agustín: How did you go about putting together your management team?

William: Jing Zhou, the president of PINTEC, was one of the earliest to join our management team. In 2014, Jimu had been in operation for about two years, and we had a clearer vision of what we wanted to do with the company—which was to leverage our advantages with technology and data analysis to find and meet untapped needs and improve the efficiency of financial services significantly.

Then a friend recommended Jing to me. At that time, Jing was the Country Credit Head of Standard Chartered Bank based in Shanghai, and she was considering moving from Shanghai to Beijing. Our talks with Jing went fairly well. Jing's career track record had proved that she was capable of managing the business.

Jing joined Jimu in 2015 as the vice president of retail, in charge of Dumiao. Then Jing leveraged her network to invite people to join the company. Jing once recalled that when she was building up the team, she pitched the idea to the core staff of Dumiao in a Starbucks, as there wasn't even a physical office.

We are still in search of top talent to join our management team. When hiring senior leaders, we do not mind creating a role to lure the very talented. As of January 2019, PINTEC had approximately 374 employees.

Agustín: How did you go about funding the business? How did having created and sold another business help?

William: In June 2018, PINTEC announced its first series of equity financing since we became an independent company. PINTEC raised US$103 million in funding led by Mandra Capital and SINA Corporation, which was joined by STI Financial Group, Shunwei Capital Partners, and ZHONG Capital Holding Group, among others. The fundraising deal went quite smoothly, because at that time we were already on IPO trajectory, and most of our investors had known us for a long period of time. So investors saw relatively small uncertainties in the funding round.

Along with the funding deal, we also signed a strategic partnership agreement with Sina, which owns Sina Weibo, one of the biggest social media platforms in China. The partnership deal took us a while to reach consensus. Finally, PINTEC and Sina agreed to jointly tap the tremendous fintech opportunities being created by the expansion of China's consumer economy.

Agustín: How did the decision to go public come about?

William: Following the private round financing, PINTEC finished its public fundraising on Nasdaq in October 2018, in the midst of a volatile market. When determining if/when to go public, the management team pulled out a paper to list all the pros and cons of being a public company. PINTEC is a B2B2C company. We understand that to build trust with business partners takes time and effort. Being a public company is a way to increase public awareness and make our company known to more prospective clients. This was a primary consideration.

We finally decided to go public, because we manage the company for the long-term, and the management team has had the belief that the capital market will reward valuable companies in the long run.

As much as we were excited about the company going public, we were well aware that PINTEC is still very young, and there is much more to be done. So we took a low-profile celebration and did not throw parties on the listing day in our local offices. Sometimes our staff call me the "Chief Calm Officer" of the company.

Agustín: What made you choose the Nasdaq as the stock exchange?

William: Regarding the choice of stock exchange, the reason we chose Nasdaq as the listing market is twofold: (1) Nasdaq is known for being a tech-heavy exchange. At this stage, we see ourselves as a growth-oriented tech startup company, so listing on Nasdaq seems to quite fit into the perception. (2) From a technical perspective, we were pretty satisfied with the package that Nasdaq promised to provide. With the twofold reasons combined, going with Nasdaq seemed a more appropriate option for us.

Agustín: How do you see fintech helping people in the future? How do you see PINTEC's business evolving?

William: Generally speaking, the role that tech plays in people's lives is to provide services more efficiently and effectively, and fintech is no exception. In the retail finance arena, user experience and account safety/riskiness are usually negatively correlated. Fine financial technology has to strike a balance between a better user experience and fewer risks.

I think fintech helps people to get financial services more effectively. Let's take credit card as an example. Generally speaking, when credit card issuers set a credit limit for a customer, it usually is a revolving line over a long period. However, a person's creditworthiness condition changes over time. So a safe way for issuers to proceed is to grant a "discounted" credit line in the first place.

When it comes to fintech, some e-commerce companies partner with a fintech solutions provider like PINTEC, which can help them analyze data and adjust credit lines based on real-time situations, so there will be no need for providing a discounted credit line. In that sense, people can enjoy a credit line on par with his/her real creditworthiness condition. That is just one example of how technology can improve the way people enjoy financial services.

Agustín: Have you considered expanding geographically out of China?

William: As our products and services system become relatively established in China, we begin to tap into other markets outside of China, Southeast Asia for one, where there is a robust infrastructure, high mobile penetration, a large population, but relatively less prevalent fintech applications. When entering a new market, we usually cooperate with local partners, as they know the market and local regulatory requirements very well.

PINTEC has eyes on the under-exploited market, and our local partners look for proven experiences. Apart from technology and experience, what we can provide to our partners is confidence that we have achieved measurable accomplishments in China so that we understand what is workable, what is not, where the challenges lie, and how to conquer them.

We announced the acquisition of InfraRisk in March this year, a leading supplier of credit risk-related software and services in Australia, which has over 10 years of experience in providing services for financial institutions in Australia, New Zealand, the United Kingdom, Ireland, Spain, Asia and the Middle East.

In May 2019, PINTEC unveiled our new international headquarters (IHQ) in Singapore, where we have already established two JVs: Pivot with FWD, and Avatec with UOB. We see Singapore as a gateway to Southeast Asia and the globe. The IHQ will facilitate the development of the company's fintech services worldwide. We plan to build up a research and development center in Singapore to enhance products and services.

Agustín: How do you compare Chinese developments in fintech to those in the west?

William: From my observation, I see fintech changing people's daily life more radically in China than in the west. In China, people with no account to deposit their money are putting the money in Alipay or WeChat; and from nowhere to borrow or invest money to doing it with apps on their mobile phones. In the west, the developments and changes are more progressive and moderate because of the long-existing vast financial infrastructure, but in China, all these changes happen too fast.

I think this can be partially attributed to: (1) A relatively friendly regulatory environment, which does not put too many restrictions in place, allowing innovations to happen; and (2) the fact that over the past decade of booming e-commerce, Chinese people are very accustomed to doing almost everything online with mobile devices, including shopping, entertainment, and, in the financial services field, the trend extends to lending and investing.

Another side effect is that tons of traditional and alternative data have been accumulated during the past decade from the world's largest population where the data owner (that is, an end user) grants a third party access to their data for analysis, which constitutes the basis for Big Data analysis in China's enormous and growing marketplace.

Agustín: China is definitely a fascinating place to be doing business and fintech nowadays. Congratulations on your successes and thanks for the interview.

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