PODCAST TRANSCRIPTION SESSION NO. 91: JEFF STEWART

Welcome to the Lend Academy Podcast. Episode No. 91. This is your host, Peter Renton, Founder of Lend Academy.

(music)

Peter Renton: Today on the show, we have a fascinating guest. Jeff Stewart is the Chairman and Founder of Lenddo. Now Lenddo have been around for quite some time, in fact, Jeff has spoken at every LendIt conference that we've had in the US anyway since we began and his company is really breaking new ground. They are focused on the underserved borrowers in undeveloped or developing countries and they are now in 20 countries around the world and they basically have developed technology that allows them to analyze very large datasets and allows them to be able to make a credit decision based on these very large datasets.

We also talk about the different countries that they're in, differences between them; we talk about identity verification which is a very important piece and we also talk about what they're working on for the future. It was a fascinating interview, I hope you enjoy the show!

Welcome to the podcast, Jeff.

Jeff Stewart: Thank you for having me.

Peter: So I want to get started just by giving the listeners a little bit of background about yourself, in particular, what you did before you started Lenddo.

Jeff: Sure, so I'm probably best described as a serial entrepreneur. I had started my first company back the 90s. It was an internet technology company and I was pretty early to realize that the internet was going to change most businesses and most industries and had some success with a company that was essentially...developed a methodology for deploying systems on the internet.

We sold that and started another company that did internet-based outsourced business processes around printing; started another company that was in the carbon offset space. I started a behavioral assessment company and probably most relevant to the founding of Lenddo, started a company back in the mid 2000s that was using artificial intelligence to analyze data as it showed up on the internet for hedge funds.

That had two attributes that were important. One is we needed people to build datasets to train our algorithms or training sets and that was a labor intensive effort so we actually set up operations in the Philippines and that's where I met my business partner for Lenddo, Richard Eldridge. He ran a 400 person business process outsourcing firm over there and we co-employed people. In doing that, we got familiar with having employees in emerging markets and got exposed to the problems that they had in accessing credit.

Years later, after dozens of times of them asking for loans we realized that this was a big problem, not just with people who Richard and I co-employed, but actually with hundreds and millions of people moving into the middle class.

The second reason that experience was relevant is we were able to really push the limits of the technology back then. It was sort of pre-cloud, machine learning and we got very comfortable with the tools and techniques around machine learning. So with that experience in working with big datasets and with that experience of working in the emerging markets, we started digging into the idea that perhaps we could predict who would repay a loan based on their digital footprint.

The first thing we did...we knew that having great algorithms is only possible if you have great datasets. So back in 2010, we approached a series of banks and we said we wanted to pay them to make loans, to make bad loans and then we wanted to pair that data up with the borrowers' mobile social footprint and there were no takers. (Peter laughs) We couldn't find banks that had any interest in making bad loans even if we were giving them the money to do that.

So we actually set up three lending companies, one in the Philippines, one in Mexico, one in Colombia and we issued thousands and thousands of loans and while simultaneously using an infrastructure we developed, with the permission of that consumer, analyze and digest their digital footprint. After several years of doing that we got to the point where we could consistently predict the recovery rate for different cohorts, for different segments of the population and we were able to use that to either launch lending operations or to make existing lending operations much more profitable.

Peter: Okay, wow, so there's a lot there to unpack. So I guess you sold your other company that was the sort of hedge fund provider and then you got to start Lenddo, is that how or were you doing them simultaneously?

Jeff: Well, it's never that simple, we actually, in between there, launched…some other companies…one of the companies we launched was in the behavioral assessment space so we were actually analyzing candidates and matching them with sales organizations. That got us familiar with the predictive power of behavioral assessment which I think was also important in the Lenddo history. So like many of the other things we worked on, it wasn't a linear path straight to Lenddo, but once we issued that first loan back in March 2011, it became all consuming. As your listeners know, the credit market is massive and we realized that if we were successful that this would become a standard for how credit is administered.

Peter: Right.

Jeff: And we believe that at Lenddo, five years from now if you're issuing credit to a micro business or a consumer and you're not using our platform, not using our algorithms, you're going to be at a substantial disadvantage versus the financial institutions that do use it.

Peter: Right, so then you started up in 2011, so you started in the Philippines first or you did Mexico, Colombia and the Philippines all at the same time?

Jeff: No, Philippines was first, then we did Colombia, then we did Mexico.

Peter: I'm just curious about why did you go so quickly into multiple countries?

Jeff: Well, we wanted to make sure that the technology we were developing had applicability globally so we thought it was important to have customers in different parts of the world. And then also when you build software it's very easy to architect it and not take into account different cultures, different languages. We wanted to make sure that our architecture scaled across different jurisdictions, across different regulatory environments, across different cultures so it was important to us to get that exposure early on. We were pleasantly surprised that the core algorithms were really more about the way humans behave not about how a specific culture behaves.

Peter: Right, right. I'm sure that was a relief in many ways because that way you can scale globally then.

Jeff: Exactly.

Peter: So for those people who don't know...you've obviously explained it a little bit there what you do, why don't you just give the listeners a little bit of the elevator pitch on exactly what Lenddo does today?

Jeff: Sure, Lenddo has developed technology that allows consumers to use their digital footprint to prove their identity and to prove their credit worthiness. We license this technology to financial service providers so that they can better serve their customers in the form of issuing credit to people that they otherwise would not have the comfort to issue credit, price that credit or size that credit appropriately or just generally achieve efficiencies that were not possible in a non-algorithmically driven underwriting process.

Peter: So do you still do your own loans or is it all about the technology licensing now?

Jeff: It is all about the technology licensing.

Peter: Okay, so that was just really a proof of concept in a way I take it.

Jeff: Absolutely, it was the fastest path to get the data needed to build the algorithms because the data that's needed...it's not just the outcomes from the loans which can take years to gather because you need to wait for people to repay these loans. So we needed years of data, but the other component is you need the digital behavior, the digital footprint and there are financial institutions all over the world who have been making loans and have recorded whether or not they got paid back.

Unfortunately, what they haven't been doing is simultaneously collecting the entire digital footprint from the smart phone, from the social network so we actually paired that data up so that we could build our algorithms. In doing that what we also found was our algorithms were also able to predict: is this person who they say they are? So there's an identity verification component to the algorithms which can be stripped out and used separately as a separate use case and then there's an element of the algorithms that predict the likelihood of repayment.

Peter: So that's what I want to dig into just for a little bit here, the data that you use and how...you said it a couple of times, a digital footprint, how do you define that and can you expand on it. Give us a real concrete example of someone in the Philippines who has a mobile

phone, it might be a pay-as-you-go mobile phone or whatever, what data are you collecting that makes it...that really helps you ascertain whether or not this person is a good credit risk.

Jeff: Sure, so first I'd point out is it's not so much the data as the way we've developed techniques to turn that data into features that can then be used by risk managers and by data scientists. So it's the feature creation which is where a lot of the complexity occurs, but the raw data itself, we're looking for three types of data.

One is data that gives insight into behavior, which could be how many apps do you install on your phone, what time do you start using the phone in the morning, how do you browse, how do you type or really anything that might…how long are your messages that you send, what time of day do you send messages, really anything that can give insight into the consistency and the habits and the character and the behavior of a person.

The second category, and this is where I think we've done some of the most advanced science on the planet, is around the social activity. You know, what communities are you a part of, how does the community treat you, how do you interact with it, who do you interact with, do you have many friends, do you have a few friends, what's your Dunbar universe look like, what does your loose connections look like and understanding that we found consistently provides significant signal in an underwriting environment.

And the third is transactional, you know, really anything that gives insight into financial activity which in emerging markets tends to be rather thin, but you can use things like geospatial data, SMS receipts, e-mail receipts. There are ways to get…pop-up information, there are ways to get some insight into financial activity which is also a good universe of data for creating features around that.

Peter: So the social data piece, is that really as simple...you said you have very sophisticated technology here, but are you looking at Facebook or other social networks and looking at how that person actually interacts and whether the other people that they interact with, they might interact with a few deadbeats and that's a signal…they might interact with a few very successful people and that's a different signal. Is that what you mean?

Jeff: From the very beginning we designed our system with the idea that micro finance used the community to understand who's a good risk. Professor Yunus with Grameen Bank, he actually got a Nobel Prize for engaging the community in the underwriting process. So our theory, which we've now proven out, was that the way the community treats the individual and specifically who they're connected to would be predictive. I guess to some degree we're influenced by my mother who used to say...you will be judged by the company you keep.

What we've mathematically proven is that the Framingham studies and other research in this area in epidemiology proves out true also when it comes to financial health. So what I mean by that is there's a series of studies that proved that your community activity can be used to predict things like propensity to smoke, likelihood for obesity, sexual promiscuity, likelihood to vote, all of these things...likelihood to quit smoking, all could be predicted by looking at your friends and your friends' friends and we have proven that this technique also works or can be used for extending credit to people who otherwise would not have good options to get access to credit.

Peter: Okay, so I'm curious about a couple of things there like you obviously operate globally and we'll get into that in a little bit, but some of the things...you talk to regulators in the US and they get a little bit nervous when they hear some of the things you just talked about there. How do you approach the US market and do...I mean, I guess, do you approach every market in a different way because you've got to fit in with, I imagine, the different regulatory regimes around the world and some are obviously a lot looser than others and I would say the US is probably pretty strict on how to use data. So two questions, how do you approach different countries and what specifically...how do you approach the US?

Jeff: You bring up an important point. First, about the US market, we have very good access to credit in the US so the regulators, I think, correctly look at any innovations skeptically for adverse impact. What we've found as we work with regulators throughout the world and we do, we're very proactive in engaging them, is that the US with a default situation is…there's pretty good access to credit, is an anomaly and most of the world the regulators embrace us as an organization who has found a path to reduce risk in the system and get credit and administer credit.

So in some countries we've actually had the Central Bank walk us in to the different banks and recommend that this is something they should look into. But in all countries we make sure that the features we're using hold up to the scrutiny of the local regulators and also to the financial institutions' risk managers. They need to be able to be defended and compliant and we have the ability to add or subtract features in an algorithm or in an underwriting process, depending on what's needed in that environment.

Peter: So the core technology…I see some of the countries on your website here like Kenya, Jordan, India, Brazil, Peru and Thailand, I mean, these are all very different countries with very different cultures. What you're saying is that the core of your technology, it can translate across any culture, is that what you're saying?

Jeff: Absolutely, absolutely, you know the elements of our approach are founded in computational anthropology. It's really about how the human brain is wired so it definitely spans cultures. It's an interesting quote out of one of the Steve Jobs books where he was pointing out that 26-year-olds in Palo Alto had more in common with 26-year-olds in Turkey and in India than they had with their parents. I think he was really on to something. What we see is the big cultural change is between people who have a smartphone and people who don't.

Peter: Right.

Jeff: Not the first couple of weeks of having a smartphone, but really people behave differently when they have this sort of ambient access to information, ambient connectivity to their friends and community. We've found that the 30-year-old in Colombia who's had a smartphone for two years...they may use Microsoft Live instead of Yahoo, but they're not dissimilar from Indonesia or the Philippines or Nigeria for that matter so we're very excited about the role of technology in empowering people throughout the world.

Our mission is we want to help a billion people get access to financial services and thanks to the hard work that the smartphone manufacturers and the carriers and the application providers and the social network providers have done to lay the foundation, I think we're going be able to achieve it.

Peter: Okay, so I want to talk a little bit about...you said you have two products; you have your credit product and you also have your identity verification product. I mean, how different are they? Obviously, they're not unrelated, but it sounds like you can order the verification piece or you can order the credit piece or I imagine both, of course. What is the difference between the verification product and your credit product?

Jeff: So I would say we have more products and product configurations than those two, but I would say that the score and the verification are certainly some of our most popular products and pretty core to most deployments. The score finds a number between one and a thousand with a thousand being top of the range that correlates to an expected recovery ratio. So it's really designed to understand, based on the character and habits of the individual, what can you expect a portfolio of like-scored loans to…how do you expect them to perform and this is critically important in most of the world because most of the world doesn't have credit scores.

Credit scores are...there's a demographic component that's sometimes used and then there's past repayment behavior. The problem is most people don't have past payment behavior or to the extent that that past repayment behavior exists, it's not with a formal financial institution. A lot of these countries…there may only be 5% or 6% of the population that has financial products from a traditional financial institution. So if you don't have credit, it's very hard to get credit in these types of environments so we've broken that cycle by instead using a different type of behavior and data to figure out the likelihood of repayment.

That score also can be used in conjunction with a credit score so the quality of a credit...there's countries where, yes, there's a credit score, but that credit score...we had one senior bank executive that said...as far as they can tell the local credit score is a random number, they found zero correlation (Peter laughs) or in some cases it's effective but only in some use cases. So the Lenddo score or elements of the Lenddo score can be used in conjunction with the local scoring, a local credit score if there is one available and it is usually used in conjunction with a proprietary score card.

Peter: Okay, so your website says you're in 20 countries, it flashes up on a nice map on your homepage, but I don't see China there. Is there a reason that you're not in the biggest under-banked country on earth?

Jeff: Yeah, we looked at China, in fact we've done a fair amount of business outside of Lenddo in China and at the time made a decision that to do China right, you needed to dedicate a lot of resources and as a small, fast growing company we felt that we are better focusing our energy outside of China and also outside the US. Although in the US, we do have clients who are looking to deploy us, we have had regulatory review and understand the use cases in the US.

We've stayed very focused on places like India, Indonesia, Brazil where our technology is not taking a couple of points off of the profitability of a credit card portfolio but is changing people's lives, substantially changing the friction and cost associated with getting credit, in many cases making credit possible for the very first time and we're really excited about that and have stayed pretty focused on emerging markets, historically.

The other element is we're using algorithms. The more data you have, the better your algorithms. We're moving very, very fast in these countries and that means we're gathering

large amounts of data so our algorithm is getting smarter and smarter everyday, our infrastructure is getting more and more powerful. I think that this approach of focusing on serving the emerging markets is going to make us a world leader in any jurisdiction long term.

Peter: Yeah, it sounds like it. I'm just curious, what countries pay in a more timely fashion than others? Can you give us some sense of like, oh, you know, the average Lenddo score in South Korea is way better than the average one in Indonesia or whatever. Can you give us some sense across geographies or is it really everyone's the same?

Jeff: The score takes into account the country that you're in so they are normalized so that they perform the same globally. That does not mean that the general population has the same distribution in all countries so that's an overly complex answer to a simple question.

Peter: (laughs) Right, okay, okay, fair enough.

Jeff: The answer is I wouldn't want to make generalizations about different countries.

Peter: Yeah, that's fair enough. So then there are obviously others doing similar or at least attempting to do similar things, who do you see as your main competitors today?

Jeff: We've been touting the power of big data and the digital footprint since 2011, and I still think that our biggest competitor is financial institutions moving slowly who are thinking they can do this in-house.

Peter: Right.

Jeff: Banks are under enormous pressure to shore up their balance sheet, to comply with regulation, there's billions of dollars of KYC/AML fines going around and serving an under-banked community is not always in the top priorities. So I think our big challenge is not losing business to a competitor; I think our biggest challenge is waiting them out to the point where they realize this is critically important to them to being relevant. So I think that if we can shorten the delay between when senior management realizes this is important and sort of the mid-level management realizes this is important then I think it's milk and honey going forward.

Peter: Okay, we're just about out of time, but I've got a couple more questions that I'd love to hear the answer to. Can you give us a sense of the scale that you're at today? On your website you talk about 20 countries, 2.4 million applicants achieving greater financial inclusion, I mean, I presume that means 2.4 million people who have got a loan that wouldn't have, but like how many partners do you have globally, how many financial institutions? Can you give us some sense of the scale to your business today?

Jeff: Sure, we have over 60 financial institutions using our technology, we're adding one, two, three a week. I can't think of a week where we didn't add one recently and we are doing hundreds of thousands of loans a month. The size of those loans varies substantially by country and by lender; generally, they're installment loans. When we had our own lending operation, they were 6 and 12-month loans, I haven't looked at the mix in the last couple of weeks, but it's generally longer term loans and it's generally around a months pay although, again, it varies by country and lender.

Peter: Right, okay, so then finally, what are you working on now? Where are you taking this business, I mean, are you just going to try and rule the world and be in every developing country in the world. I mean, where...and not just scale, but what are some of the interesting things you're actually working on today?

Jeff: I think that we are...this technology is amazing and I think that our clients are just scratching the surface of how it can be used and of its power. I'll give you an example, we have proven that we can algorithmically improve collection operations. So when, how, the medium, the message; all these things can be optimized to improve collections so algorithmically data-driven, algorithmically-enhanced, algorithm-driven collections. We know this works, we know how to do it and I think that our clients are just now starting to ask about this.

On the targeting standpoint, the entire digital marketing infrastructure for what we call the adtech industry is really geared around intent. Turns out that intent, intent to get a loan negatively correlates with likelihood to repay so I think that data science will increasingly be brought to the question of who should we be targeting, not because, oh yeah, they'll take out a loan, but because, oh yeah, they'll pay back.

In traditional marketing, if you're selling socks on the internet, you know, if someone doesn't buy your socks, that's wasted marketing. With a loan, you could think you're successful, they take a loan and you just paid to get a customer who's taken your money. It's the worst advertising in the world, is getting a bad borrower so that's also something that can be solved with artificial intelligence. I guess the biggest thing is deep learning. You know, over the last 18 months, the technology with traditional machine learning, a lot of it is based on pattern recognition where you have your good loans and your bad loans...with deep learning, you can use essentially all data to build a model of how people behave and what are the attributes that are most likely to be predictive.

This sort of deep learning, although the core science has been around for over 20 years, it's these advances in deep learning that are driving things like autonomous cars and the voice recognition and things like Siri. It's amazing, amazing advances in the science and I think that as the cost of moving money around the planet drops, there is the potential for people who are using the more advanced techniques or jurisdictions that embrace the more advanced techniques to grab a big piece of the global lending market.

Peter: Fascinating, I tell you what, I could chat another 20 minutes about that, but we are out of time. I really appreciate you coming on the show today, Jeff.

Jeff: My pleasure, thank you.

Peter: Okay, see you.

After an interview like that, I feel very excited about where we're at as an industry and the reality is, we've said it before, but really it became clear to me during this interview is that we are only just getting started. I mean, Lenddo has only been around since 2011, and some of this data that's coming on board now is fresh and new and it's going to be refined over time, but really, the bottom line that I see is the majority of the people of the world are responsible and honest and many of them can not get a loan simply because we don't know that.

What I hear from Jeff is that with enough data, we can know that. So what that means is that the person who's wanting to start a small business who's in Mongolia, who doesn't have really any other way to get credit can suddenly find themselves with access given the technology that Lenddo is bringing to the table. That's exciting to me, that's what I feel like this industry is all about. We are trying to make the world a better place and we are trying to expand access to credit and Lenddo is doing that successfully today.

Speaking of which, just a little plug for LendIt. Jeff will be speaking at LendIt as he does every year and he will be speaking on our financial inclusion track talking about analytics and some of the things we discussed today. It's not too late, LendIt is on March 6th and 7th. If you haven't bought a ticket yet, you can go to LendIt.com. Jeff will be there, I'll be there and most pretty much everybody in the industry is going to be there.

On that note, I will sign off. I very much appreciate you listening and I'll catch you next time. Bye.

(closing music)