LendIt Fintech

Welcome to the Fintech One-on-One Podcast, Episode No. 316. This is your host, Peter Renton, Chairman and Co-Founder of LendIt Fintech.

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Peter Renton: Today on the show, I'm delighted to welcome Shri Santhanam, he is the EVP & GM of Global Analytics and AI Products at Experian. Obviously, he is an AI expert and I wanted to get Shri on because we haven't really delved deeply into AI in a long time and a lot has changed which we get into in some depth in this episode. You know, we talk about what lenders are doing today, what they need to do to be successful, how they're using AI.

We delve pretty deeply into how Experian is really helping some of the things they're doing that is really unique in the field, we talk about how lenders should be using AI and what are the trends that Shri is seeing, both historically and going forward, and he also looks into his crystal ball and provides predictions for five years from now. It was a fascinating interview, hope you enjoy the show.

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Peter: Welcome to the podcast, Shri!

Shri Santhanam: Thank you. Thank you for having me, Peter.

Peter: My pleasure. So, let's get started by giving the listeners a little bit of background about yourself. Can you give us some of the career highlights before you got to Experian?

Shri: I spent a significant portion of my career at Oliver Wyman which is a strategy and operations consulting firm in the financial services space. I started my career with Oliver Wyman right out of school, I was actually getting a PhD at Stanford which I didn't end up finishing, but what really attracted me to consulting was bringing an engineering approach to business problems and that's been the theme of my time at Oliver Wyman.

For the last seven or eight years at Oliver Wyman, I helped build a business called Oliver Wyman Labs where we saw the opportunity in about 2011/2012 to bring Silicon Valley style tech and AI into some of the challenges large banks and financial institutions faced post-crisis. That was a fun journey bringing Python, Big Data to AI tech into that sort of space and spent a bunch of time there.

And then about two years ago, the senior leadership at Experian asked me to come over to play a role leading global analytics in AI, helping drive impact with Experian's data in a simpler way so here I am.

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Peter: Okay, So, before we get into the meat of the discussion, I'd love to kind of get a little bit of background about your experience with AI and analytics, how that journey has gone for you throughout your career.

Shri: For me, even before it was called all of the fancy names that it is now, AI/ML, I've always been attracted to pursuit of data-driven decision making. What attracted me to consulting is what was a group called Retail Value Engineering and the founder of that group was a man named Jacques Cesar who would often describe the work we do as "squeezing blood from the stone" that is sort of data, right.

Actually, the initial work we did was with retailers and in the early 2000's, they had an enormous amount of data largely captive in these huge monolithic systems and I was very attracted to the prospect of putting that data to work and helping their businesses run better, helping improve the lives of consumers and businesses. That, eventually, over the course of the first decade of this century translated into Advanced Analytics, AI and tech being tools in making that sort of mission a reality, like one of the interesting things we did in retail was, for instance, cannibalization analysis.

Retailers, as they traditionally think about.... let's say you're promoting an item of toothpaste, you largely look at the sales of toothpaste, but it has an enormous amount of impact on other items in that week, bringing customers into that store and the impact of a simple thing like promoting Colgate toothpaste is actually profound and AI and analytics can help you understand that and make better sort of choices. So, that was my starting point, I think it eventually grew into my interest in driving financial services post-crisis and helping banks lend better.

Now, historically, banks and lending institutions have mostly used rules or basic logistic regression models to make decisions, but to me, bringing AI and ML to really drive financial inclusion help consumers have better access to credit and sort of lenders make better decisions is an important part of the mission I see.

Peter: Okay. Well, let's get right into it and talk about the lending space. You know, it's been a very interesting last 18 months for all lenders, I would say, and obviously we've seen them move to digital that I think became mandatory pretty much for the entire world. But, I'd love to get sort of what you're seeing at Experian as far as how this transformation is playing out. What are you seeing as far as, you know, the democratization of digital capabilities and that sort of thing.

Shri: It's a great time to be talking about the lending revolution and even before COVID, I would argue that there was a very significant lending revolution underway where if you looked, historically, at how lending happened, it was with sort of pen and paper. Over the last decade and a half, really the notion of digital tools, digital decisioning, analytics and digital underwriting has come into play. Now, COVID has dramatically accelerated that and we're seeing three big things which are different.

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First, when you looked at maybe even three/four years ago, you have the Capital One, some of the large, sophisticated banks really being at the forefront of leading this revolution in bringing either machine learning or digital tools to the entire lending process. Now, it's almost becoming a necessity for the entire spectrum of lenders, large, medium and small, to operate digitally and make some of those decisions.

The second thing we're seeing with the lending revolution right is actually this deep focus on the customer experience. It was okay five/six years ago to wait several days, weeks to approve loans or make decisions on loans for consumers and businesses, now, that expectation has dramatically changed. We're seeing lending institutions willing to make that decision in real-time instead of minutes, hours, that sort of dimension.

Third, fundamentally, sort of product innovation and inclusion. You're seeing the whole fintech space come in and really the operating challenge and the question of fintechs is, can I find an underserved niche of the market which I have unique perspective and how to think about that risk and I can improve them and lend to them. Is it student loans, is it sort of immigrants who've been in this country where our traditional credit and lending methods don't do them in the same way. So, there's a significant shift in how lenders are starting to look at the space and you're seeing those three trends are what we're seeing at Experian.

Peter: Right. And, I'd love to get your take too, because I know you work with both banks and fintech lenders and I think it's a curious time for fintech lenders because they've had sort of the digital space wide open for them, I mean, some of them for longer than a decade and now that gap is closing. What do you think fintech lenders need today to be successful in the environment we're in?

Shri: Fintech lenders, as I see it, are actually disrupting the market in a way which, net of net, really benefits the consumer because if I look at the four pieces of a fintech in this lending space that they're coming in and saying, can I pick a segment of the market where I apply an underwriting sort of lends and I apply a customer experience lends which is very, very different, right. And you're seeing a number of these fintechs like Affirm, Prosper, sort of start to be very successful in that space.

So, I think in order for them to be successful, they need three big things. First is they need to embrace machine learning and advanced underwriting because the core of their business model involves in them being at the forefront of underwriting with a lens that slightly seems different. So, I think embracing machine learning, understanding how that works and that can improve financial inclusion should be part.

I think the second thing that fintechs need to be able to succeed is really disrupt and reinvent the customer experience and decisioning around that. Lots of it is digital, but, essentially,

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interesting product innovation where you can get into the retail customer journey or much closer to the purchase occasion or the use case of all sorts of customers in a way that traditional lending still has friction.

Peter: Interesting. So then, can we just dig into the AI and analytics just for a bit here. What are you seeing as far as lenders, you know, how are they best driving impact from AI.

Shri: If you look at how, let's say, the bulk of the middle market has lent, even four/five years ago, it's been on the back of two simple things. It's been a set of policy rules and it's been some sort of underwriting model. That's how a lot of the lending frameworks have actually sort of worked. And, in the main, the long tail of lenders that mostly use either standard scores which are available off-the-shelf or if they created specific custom models, they will mostly use self-logistic regressions. That was sort of how, historically, things have worked.

Now, it's been a challenge to change any of those things because the costs and the infrastructure required to stand up machine learning models, put them into production, have sort of decisioning rules and optimization tools and more sophisticated have been prohibitive, but that reality is fundamentally changing now So, custom scores, the ability to create optimized decision rules and the ability to do this in a tailored way on data sets which are actually relevant for you as a lender, that reality is changing the costs or are dropping, even as we speak, to do that.

So, that holds to the adoption of a modern sort of lending decisioning structure is a big part of what AI and analytics replace. If you look at models which were logistic regressions now, there are gradient boosted tree models which can start to help outperform those. You have decisioning rules which start to help like significantly outperform and really get better approvals and lower sort of charge offs for lenders.

Peter: Okay. So, I want to switch gears a little bit and talk about what Experian is doing, specifically in the space. Maybe you can start with just talking about how is Experian helping lenders with their client journeys and that sort of thing today.

Shri: So, when I came in two years ago, one of areas we saw as a big opportunity was to help clients with some of the analytics and AI which they use, particularly in the mid-market, for building these models. So, there's credit unions, there's mid-market customers where, historically, what we've done is we've built custom models and projects for them. What we found was the typical time it took to build these custom models were somewhere between five/six months and the deployment of these models, again, was sort of complex and took another three months.

So, for many of our customers in the space, we found that there was a clear need, but the time and the ability to deliver these things, there was a lot of overhead which was involved. So, one

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of the things we've done is we've built a platform to significantly disrupt the space, a platform called, Ascend Intelligent Services, which we believe significantly reduces the time to both build models, create decision rules and really put this into production.

So, the whole build model and produce, we're still in early stages with these products, but we have several tends of successful customers where we've significantly reduced the time for end-to-end build and the cost where we can put these things into production. One example is a public case study we have of a mid-market lender named, Atlas, where we've seen very, very significant cost of results with this sort of work with our platforms.

Peter: Interesting, interesting. So, can you dig a little deeper into that. I mean, I'd love to get sort of a sense, without giving away the secret sauce, but how were you able to make this a much faster process?

Shri: Yeah, great, happy to talk about that. So, if you look at the historical process, there have been probably four main points of friction which has added a lot of time. The first has been around data management and wrangling where we've had to bring a lot of data and manipulate it to create models. The second point of friction has been actually running like computed scale. To typically build a custom model, you need to actually like try 30/40 different sort of models, run sort of many calculations and then sort of decide. The third has been regulatory compliance and documentation.

These models that....the reason it's challenging in financial services is like you have a whole regulatory framework and you have to go against that management. And then, finally, like deployment. Once you've built a model, the traditional approach is to say, great, I've built this, I'll document it, now I'm going to take it and throw it over the fence and have someone sort of code it.

So, we've gone after these four problems in a very significant sort of way. We have some strategic advantages and how we can help our clients because we're building these on our platforms and data. So, I'll take you to these in turn.

So, first, we have a lot of the data for several of our clients so it allows us to proactively source that data, curate it and significantly reduce the time and creating the right sort of training data set. So, if I'm a fintech looking to innovate a new product, like at Experian we can very quickly create a proxy data set and, historically, that has been a manual process now we've added automation.

The second piece is an interesting one which is on the models. In the last year and a half/two years, we've built a technology which is akin to the technology that Google, Facebook, some of the leading tech companies run which really allows us to spend cloud-based compute and run sort of like tens and hundreds of models.

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At a recent client, one of our data scientists was saying, in one day he tried probably like 80 different sort of models and reviewed their results, an exercise which would normally take a data scientist several weeks of work because even though you've open source library, the tedium of creating a model, looking at its results, managing it, managing all of the engineering is complex. So, what we've done is we've abstracted away all of the engineering to allow for the data scientist to really do their job of figuring out what is it that would work.

The third is on documentation and dashboards. We've got products which provide a lot of the standard regulatory documentations sort of framework and a lot of automation around this so it doesn't put a restriction on how many times you try and what you do when standard documentations are collated.

And, finally, seamless deployment which has been like the Holy Grail of all these machine learning and ML ops. What we've built is a mechanism to seamlessly deploy models into production which allows the hope for the whole world to know known as the MLOps Cycle so they can be monitored live, they can be re-trained, they can be managed.

So, those are four of the big things we've worked on with some of the technology people investments we have and our main theme has been productizing the entire theme so we've productized it to make it available to our customers.

Peter: Right. So, I want to dig a little bit on that third point, the regulatory piece, because it's something I've always been curious about. How much of these AI models do you have to sort of throttle back or adapt because there needs to be, you know, you need to be in compliance with all of the FCRA and all things that need to be explainability, you have to explain a credit decision, what is the impact like?

You talked about data sets from Google and Facebook where they are going to have very different regulatory requirements. In some ways, they don't necessarily need to scale back or to change to explain things like you have to do in financial services so what is the impact of having sort of that type of regulatory framework on the models themselves?

Shri: Yeah. It's a great question because it has implications for models that will ultimately be permitted to be put into production and the process by which you build it as well. If you look at an unconstrained world in which you didn't have a regulatory framework, what you would do is you would take the most sophisticated framework you had and the best data you have and you will throw models and you will have like machines maybe explore that sort of state, right, so create and have a gradient booster tree.

The problem is you then run into specific growth constraints like there are certain attributes which you use have to be explainable, they have to be monotonous so you can strain around

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certain attributes, Further, the topic of bias and standards is also becoming an important one. So, if I exaggerate for effect that the traditional process of how a data scientist goes after this is he says, well, I'm going to apply these constraints, build the first model, see if it works and then see if I can play with a bunch of these things and apply the constraints again. And, it's often a real tradeoff between like performance and sort of the regulatory framework and what we can manage.

Now, what we've done with the product is actually we've allowed many of those constraints to be baked into how the data is curated as well as how the model itself is allowed to go and search for solutions. So, it makes the job of a data scientist a lot easier saying, okay, you're allowed to use these attributes, these attributes can only be used in certain ways and then at last, the machine don't say, go, explore this sort of straight space and that's a really important step for a data scientist because, otherwise, it creates a lot of tedious work where you're almost playing like this game of cat and mouse saying, hey, I've got better performance, but have I violated regulatory constraints.

So, there is a tradeoff and I think in the space we'll continue to see more of that sort of tradeoff as our regulations evolve to manage sort of ML and AI, but we also believe that the product and the tech can evolve to address this.

Peter: Right, right, makes sense. So then, obviously, we live in a competitive world and Experian has competitors as well. What are you doing that's different, how are you differentiating yourself from others in the space?

Shri: I think, for us, we believe there is a very significant opportunity in the mid-market and democratizing many of these capabilities which have, historically, been limited to maybe sort of large banks or lending institutions where they can afford this infrastructure. So, we're differentiating ourselves in three ways.

First is we're providing an end-to-end experience across data, analytics and decisioning. Experian has, as you know, some of the most valuable data sets on lending on the planet. We also have a decisioning business which is around providing workflow and software into customers to allow them to make sort of lending decisions, policy rules and we bring sort of analytics. So, one big differentiator we have is we have the ability to really provide, and if I might draw a retail analogy, we have the ability to provide the Shopify equivalent to the mid-market.

But, we say, hey, like if you're a lender and you focus on what you do, you know best which is actually figuring out the right lending niche, figuring out the customers and your targets. We can provide that sort of end-to-end analytics data instead of tech. That's the key differentiator for us.

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I think the second differentiator for us is we're making a specific move to increase access to some of these sort of tools and how we price and what we're doing like really democratization. So, we're leaning forward and growing our base.

And the third differentiator we have is we've got a very, very significant penetration of data with a number of lending institutions. Overnight, like the vast majority of lending institutions in North America, in some form, utilize Experian sort of data and what we want to do is bring a set of accessible products or analytics and AI to all of them. Right now, our penetration rate on that is low single digits, we believe that's a huge opportunity ahead of us if we successfully democratize is to bring it into the long tail of lenders.

Peter: Okay, interesting. So then, you're talking to your clients, what would be, looking at all the different things that AI can do, what is the most important thing that businesses should be using AI for today?

Shri: I think maybe the answer has two parts to that question. The first is like how should they be using AI and what should they be using it for. In terms of the biggest way to get impact, I think a company should be taking a more holistic view of AI to get impact. Historically, there's been a lot of infatuation with one part of AI which is largely sort of AI performance, but when you look at generating impact from AI more holistically, we think there are four components. There is not just AI performance which is, hey, I've built a better model, but AI adoption, AI scalability and AI trust so really to get impact from AI, it isn't sufficient just to have AI performance which is a data scientist saying, I've got sort of a very good proof of concept. You've got to think about can that be embedded in the workflow to allow clients or companies to make better decisions, is it on a sustainable and scalable platform and, ultimately is it trusted by customers. Now, that's fundamentally what we think is the need for AI impact. I think for lenders, in my mind, I think the obvious and in some ways the biggest opportunity is our financial inclusion.

If I look at my business story, when I was sort of growing up in India, I remember my mother was sort of an entrepreneur, like had a number of ideas and things where she could have used capital to invest, but she really didn't have as much access to lending, but if I look at the core of it like the lending credibility or the likelihood of default for someone like her, what she would have done with that sort of capital, I believe it's sort of enormous.

And I believe that's true with a number of segments of the population across North America where with the right lens, with the right sort of framework, I believe it can be a "win win" for lending and for the customer. So, I believe there is a lot of potential in using AI and analytics for financial inclusion.

Peter: Right, right, yeah, for sure. I want to ask about something that.....Dave Girouard, the CEO of Upstart, obviously a pioneer in the AI space in lending, he said that all lending will be done by AI in the future and it seems to me when I talk to lenders, it feels like the.....there's very few

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lenders of any type that are just saying, we're not interested in exploring this, it feels like that conversation has changed in the last couple of years, but I'd love to get your perspective. Will all lending be done by AI and what's it going to take to get there?

Shri: I agree with Dave and I do think that future is almost inevitable. I think the biggest challenge which I believe we will sort of manage and overcome is trust. Under sort of trust there is explainability, there's bias and fairness and really under regulatory framework. I think the narrow reason why you don't have a bunch of folks having adopted sort of AI, you'll hear this often, well, there's regulation and there's structure, but if I look at the spirit of it sort of more broadly, really the overarching theme is trust, right.

I think the regulators as well are….they're sharp, reasonable people making sort of…creating regulatory frameworks and they're actually…having talked to a number of regulators, they're quite thoughtful about this. I think the broader question is around sort of trust and creating the right frameworks to ensure that lending with AI is fair, transparent and trusted above all, but I do believe we will get to that journey in the same way. At some point, I believe it's also inevitable that majority of cars on the road are going to be driverless.

Peter: Right, right, yes, yes. We're not quite there yet. I would argue that the AI for driving a car is much more complex than it is for deciding whether a consumer should get a loan or not, seems to me.

Anyway, we're almost out of time, but a couple of more questions. I want to talk about the trends that you're seeing and predictions for the future, I mean, what are some of the trends that you're seeing today in AI analytics that teams really should be on the lookout for.

Shri: I think one interesting trend which you're hearing some of the experts in the space talk about is the shift to what Andrew Ang, one of the leading thinkers in the space, calls data-centric AI. At the core of it, the concepts are like very simple and if you look at historically the big giggle around AI is like, hey, can I create a neural network or a gradient boost and can I take the same data and can I like get better results and better outcomes. Now, the dialogue is slightly shifting into another very significant point of leverage which is data-centric AI which is actually saying, can I get and create the right sort of training data to really make sort of better decisions and that's opening up an interesting question on like tapping into more of data sources, managing the data and can you really get sort of better performance.

There's a lot of work being done in the AI space on data-centric AI on how to prepare data, manage data, extract data from sources which previously were sort of dismissed. So, that's sort of one big trend we're seeing which I think has important implications for the space we're in and financial institutions as well because, historically, the data that can be used in lending has been carefully demarcated. I think there'll be more thought in the future on how to sort of expand that and what else we're willing to allow to consider into that. So, I think that's one big trend.

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I think the other big trend is almost sort of an obvious one which is move to the cloud, but, actually, I see it under a broader theme where AI is actually moving to much more of an engineering discipline and a technology discipline. Historically, data science and AI was a set of things that data scientists did and it didn't quite have the systems, the process, the rigor which software engineering sort of had. But now, you're actually starting to see all of that rigor come in and particularly with migration to the cloud, you're having ten data scientists who could work on the same sort of model like these ensembles of models and structure.

Those problems are starting to become real and unless you have an engineering discipline akin to software to be able to manage that, you get into a whole bunch of complex issues where data scientist one creates a model and data scientist two tries to go and look at that like he's not quite sure what was built on and when you're putting it into production, is it lost. So, the whole engineering discipline around data science and AI is also a big trend which we're seeing.

Peter: That's interesting, I hadn't heard that, that makes complete sense to me. Okay, so then, last question, as you're looking out let's say five years from now, how will Experian be using AI and advanced analytics in say September of 2026?

Shri: We have started on a journey where we have a broader model and product-type stock to a small set of funds. What I would hope is that we have successfully like arranged the full scale on that democratization bit and we've got a very, very significant portion of our data clients where we've actually opened up access to analytics and AI and many of these sort of advanced techniques and models and sort of broader, hundreds if not thousands of funds, that's what I would sort of hope.

The second thing I would hope at Experian is that we are powering Experian with analytics and AI sort of much more like across the business in a very, very significant way. We're starting to make sort of forays into that at Experian. Beyond our consumer business and our decision analytics business, we also have businesses in the health space, the BIS space and we're starting to use AI and analytics in those spaces. So, I would hope that AI and analytics fundamentally becomes core to Experian sort of DNA and stocks to power like a number of our products and businesses across.

Peter: Okay. Well, we'll have to leave to leave it there, Shri, it's going to be fascinating to see it all unfold. I really appreciate you coming on the show today.

Shri: Thank you very much, Peter, thank you for having me.

Peter: Of course, okay, see you.

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Fintech one-on-one

Alright, you know, I'm no data scientist, but I do talk to a lot of lenders and what strikes me is that I don't know of any lender that has gone and tested an AI model and done it in a serious way and then say, you know what, it's not as good, it's not as good as what we were doing before, I think we'll just go back to what we were doing before. That just doesn't happen and it makes me realize that as Shri was saying there, it's inevitable that we are going to have this movement, it's going to continue.

No, it doesn't mean that everybody in even five or ten years time will be using AI models, but that's the direction we're heading. I don't know whether it's five years, ten years, 15 years, but soon there'll be no one using these old traditional models as AI will be taking over. That's my prediction, anyway.

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

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