



FINTECH ONE-ON-ONE PODCAST – PANKAJ KULSHRESHTHA

Welcome to the Fintech One-on-One Podcast. This is Peter Renton, Chairman & Co-Founder of Fintech Nexus.

I've been doing these shows since 2013 which makes this the longest-running one-on-one interview show in all of fintech, thank you for joining me on this journey. If you like this podcast, you should check out our sister shows, PitchIt, the Fintech Startups Podcast with Todd Anderson and Fintech Coffee Break with Isabelle Castro or you can listen to everything we produce by subscribing to the Fintech Nexus podcast channel.

Before we get started, I want to talk about our flagship event, Fintech Nexus USA, happening in New York City on May 10th and 11th. The world of finance continues to change at a rapid pace, but we will be separating the wheat from the chaff covering only the most important topics for you over two action-packed days. More than 10,000 one-on-one meetings will take place and the biggest names in fintech will be on our keynote stage. You know, you need to be there so go ahead and register at fintechnexus.com and use the discount code "podcast" for 15% off.

Today on the show I'm delighted to welcome back Pankaj, also known as PK. He is the CEO and founder of Scienaptic, and we're talking all about AI in lending, and we cover a lot of territory in this show. We obviously talk about what has changed at Scienaptic over the last couple of years since we had him on, we talk about how lenders are using AI in underwriting today, we talk about any resistance that is there from when it comes to using AI, we talk about automation, we talk about the experience for these lenders, for these credit unions, how they're implementing this sophisticated system, we talk about the different verticals they operate in, we talk about fair lending, because that's a really hot topic these days and Pankaj has some very interesting things to say there, we also talk about ChatGPT and the future of AI, and much more. It was a fascinating discussion. Hope you enjoy the show.

Peter Renton: Welcome back to the podcast, Pankaj!

Pankaj Kulshreshtha: Thanks for having me again, Peter, great to be talking again.

Peter: My pleasure. It's been a couple of years since you've been on and obviously the industry keeps marching forward. Let's kick it off by just telling the listeners a little bit about just Scienaptic what's been happening over the last couple of years and how do you describe yourself today.

Pankaj: No, I think we have had more than our fair share of happening and mostly in the good direction.

Peter: That's good to hear.

Pankaj: Happy to be at this place, absolutely. But really, very simply speaking, Peter, what we do is we are in the business of providing the best possible customer management and underwriting signal to a large number of lenders that we have in the US, somewhere over 12,000 people and what we do enables them to use a lot more richer data than they're currently using. It also enables them to use cutting edge algorithms, all embedded in a seamless way at the back of the technology that they work



from that we are providing so that's what we do. But if you think about what has changed when I was having the podcast with you about a couple of years ago, we were evangelizing this idea and we had a few customers and it was going quite well, but it was still a lot of what we were trying to foresee really.

And now, we have like over 125 customers, adding customers by the day, it's very clear that customers are seeing a huge amount of value using Scienaptic platform and in fact, as I had gone around the country meeting several of our customers over the last few weeks, everyone is actually asking for more. They're saying, how can AI help us with now, you know, manage the customer life cycle a lot more effectively in terms of either cross selling them some stuff or keeping track of any stresses that might be developing and so forth. So, it's hugely exciting and a lot more active a field that we are working with now.

Peter: Right, right, okay. So, when you're in front of your customers here, how do you describe what you're doing, particularly, I'm interested in the AI piece obviously. So, maybe you could describe how you're using AI in underwriting today and how do you differentiate yourself from others in the space?

Pankaj: I think, especially when I'm talking to potential clients, financial institutions, credit unions or lenders, banks and so forth, obviously, AI is interesting and you get a conversation in because we are actually doing real-deal AI and we can talk a little more about it later on, but what I emphasize is what the system will do, what our platform will do for them effectively. In terms of outcomes, basically what we deliver is a couple of things.

They start having the ability to underwrite more loans and approve more customers without increasing the risk. So, we see typically our clients get anywhere from 20 to 40% increase in approval rates when they start using our platform. And the second thing that happens as a fringe benefit is that there is a large amount of automation that happens. Most of our clients currently basically look at every loan application and that takes a little bit of time, with our technology they can automate like 50 to 85% of the decision through the platform.

Peter: Okay. Do you emphasize AI or do you emphasize it, just curious because, you know there's been, there traditionally was resistance to using AI here. I think there's a lot more awareness of it now, but how much do you emphasize the AI component?

Pankaj: I think we were emphasizing the AI component a couple of years ago even when we were talking about it and at that time we used to talk about explainability of AI.

Peter: Right, right.

Pankaj: Fortunately, the system has moved on now and nobody is asking those questions because, you know, we have kind of put it through examinations, we have done a whole lot of work in terms of model validations and so forth because of which now there is a relative comfort that that is not the issue really so one, that part has moved on. In terms of how we use and how much or how little AI we use is pretty much everywhere AI will be there. I think our clients also like to think that they are working



with a cutting-edge piece of technology which they actually are really, unlike in many cases where, you know, AI is used and what people are doing is really age-old way of doing things.

What Scienaptic does is definitely a new way of doing it, there is definitely a core new environment stuff that is embedded at the back of our platform that is powerful AI, but we are practical about it really in most situations, Peter. We like it to the extent our clients like leverage it and they like to kind of say okay, we are using AI, we also emphasize that confidence, but my pitch particularly tends to be more focused on here's what you're going to see in terms of portfolio improvement on your lending portfolio or here are the changes you are going to see with respect to your member experience. Those are two things I generally focus on.

Peter: And what about the automation piece? I see your announcements that come out where you are regularly signing on new credit unions, oftentimes these are not very large lenders and I imagine that they don't have a very large staff in place. So, is the automation piece, is that embraced, I mean, because I imagine they've gone from doing it....do they go from doing it relatively in a manual process to you guys which is it's not just one or two steps up, but it's a completely different way of doing it. Is that something that these credit unions and other lenders are looking for?

Pankaj: It's massively important to them because it's a very tangible and very immediate benefit that starts happening, right. So, if you start thinking about it, they have an underwriting team that is working through the week, they have to go home, for example, on a Friday evening, a deal comes on table, nobody these days will wait for Monday and wait for you to get back on the deal. The fact that you have a platform that can actually take over is very powerful to their business strategy and their member experience really, so it is definitely core to their experience.

In terms of how we migrate clients to that, we take a very empathetic approach, Peter, because we realize this is a massive change, changes are for human beings, definitely for organizations. I think what we do is we say okay guys, lets sit down together and say, this platform can automate lending 100% basically, it can, over time, replicate everything that you think should be done and more in terms of whatever our data and algorithms are able to extract from their historic experience on our own.

We can combine both of those things and give you some views that can completely automate the whole thing, but that's not necessarily the right thing from a change management perspective for the organization. So, what are you comfortable with, why don't we go from like 10% automated decisions right now to say like 50% in the first step and so forth so we kind of work with them and cue-in or dial-in or out, depending on what is their appetite and what is right for them.

Peter: Right, right. And then what about the human touch, I've heard you talk about this before, but I'd love to get your take on it. Now, you just say that particularly credit unions pride themselves on the human touch, that's sort of one of their unique selling points, that for many or most, I would say. With this increased automation how do you kind of think about the human touch, how can lenders still maintain that?

Pankaj: Frankly, human touch can actually only increase because the trade-off is this, trade-off is do you want to spend five minutes on a hundred applications in a day or you want to spend 10 to 15



minutes on 20 applications or something like that, that's the trade-off really, right, If you are doing it, doing 100 applications in a day looking at it very, very quickly, as a human being we get tired. The underlying technology that we have, algorithms don't get tired, they are designed to not get tired, not get irritated, do not let the biases creep in because I am under pressure and I will have my cup of coffee or even the pee break for some time really, right.

So, those kinds of things actually, it really enables human beings to actually do the right thing for their members. Right now, frankly, if you were to see the workload of an underwriter sitting there, in all probability they are just actually, they're not even talking to the customer, there is an intermediary in between that is negotiating with the customer and they are basically just kind of quickly going through a whole lot of information. So, I really think that it frees up the time for them to actually become embedded to a customer and actually prompt them for data that'll help them make a yes decision for the customer.

Peter: Interesting, interesting. As I mentioned, I've seen you focus on credit unions a lot, it seems like when I see your announcements come through on a regular basis there's a new credit union signing up. Did you just sort of stumble into that or why the focus on credit unions specifically?

Pankaj: The focus on credit unions is only because I'm really surprised with the rate of adoption that they have. Our platform is very generic, it will work for all kinds of lending, international services space, all kinds of unsecured lending basically operations fully supported by our platform anywhere globally, frankly. But in the US, the credit unions are seeing massive level of adoption and they are in fact pulling us and we, because of that, we haven't had the resources basically and the energy to spend elsewhere basically where if you are working with bigger banks and so forth, the cycle times of those decisions tend to be longer. Oftentimes, they have competing internal kind of initiatives that kind of, you know, because of which it takes time for them to figure out what they want from you and so forth. So, we'll get to those other folks at some point in time, right now, there's just so much going on with the credit unions and I'm just delighted.

Another thing I will just say, Peter, I'm a big fan of what credit unions do in the market really. I saw a bunch of our customers in Wyoming and Colorado and Washington state and so forth and really what they are doing for their customers and the empathy that they have is very powerful. And I think our mission at Scienaptic is and personally, frankly, it energizes me that we are bringing very cutting-edge capability to people who are trying to do good and improve the communities that they are in and I would like to put the tool basically which some of the bigger institutions spend hundreds of millions of dollars every year in building. We actually are able to bring that capability into these communities by working with our credit union partners so I'm very proud of our work with credit unions.

Peter: Right, right. So, when you're talking with these credit unions, what are they looking for most? Are they looking for automation, are they looking for speed, are they looking to increase their credit box, I mean, when it comes to their underwriting, what are they telling you that this is the most important thing?

Pankaj: Here's the thing, let me frame it slightly differently. Credit unions have large amounts of deposits that have been growing quite substantially, their delinquencies are still very, very low



compared to average lenders in the similar product space actually if you were to look at, which essentially means that they can lend a lot more and increase the yield for their portfolios. And because these credit unions are also focused on the communities, if they increase their yield, their services for their customers, their members actually improve.

They are able to offer them lower prices for the loan products and they're probably be able to offer them higher prices on their deposit products really. So, essentially, what we are helping them solve for and what they most often get hooked to is we'll be able to lend more because this capability that Scienaptic is bringing in is a lot more advanced risk management underwriting capability. But, using that, they are typically targeting to grow faster without increasing risk.

Peter: Okay, okay, interesting. So then, do these credit unions, I mean, obviously everyone has a website, some probably would have an app, but probably not all, are you replacing anything or are you...is this, most of them I imagine it's their first foray into this type of sophisticated underwriting, right?

Pankaj: That is correct and we are trying to keep it very, very easy, Peter, for these folks. What we have done is we have done integrations with their loan origination platforms in the background and with those integrations we really are just a add-on a piece of technology in their world. So, think of us as a bullhorn technology platform that basically is in the business of automating the intelligence of the signals that they are getting.

So, right now, they are doing it in a certain way we get on top of that system and suck in the data and basically augment the data, create signal out of that in the specific context of the particular credit union and send it back. So, we don't affect the workflow of how the actual interaction that this credit union has with its members, we just add intelligence and do it so that keeps it simple to operate and easy to implement for these credit unions.

Peter: Do you need them to gather, to collect more data or different data because, I imagine, they at least have an online form for filling out an application. Do you get into that level of detail with them while you're looking and saying right, this will be great if you could add these three fields into your application or do you just literally work with what they have?

Pankaj: We'll start working with what they have in the first instance. Just to your specific question, typically, we are now in a time, Peter, where people are very reluctant to provide more and more inputs that they have to key in. As consumers, we are all getting used to, we are like, why are you not able to pull out my information from here, I'll give you permission, so forth.

So, what we do is we rely more onwe have a bunch of partnerships we have built out with the data providers in the background using which..... just based on this identified information we will go back to all of those, or some of those providers, depending on the context of this credit union and the product and the customer, and pull out additional data, augment this application information that is coming in through the system already and then run check and send the signal back, That's the way it works.



Peter: Right, got you, got you, okay. So, the borrow experience may stay exactly the same, the borrower may have no idea that anything's changed, right, other than the speed maybe?

Pankaj: Yeah. So, they'll get a faster response, hopefully, they'll feel that, you know, as an individual obviously they won't feel that, but at an overall level, many more of them will get yeses instead of declines.

Peter: Right, got you, okay so then, are these mainly auto loans for credit unions, I know that's a big focus, I mean, personal loans like unsecured personal. I mean, I know on your website you talk about small business, but I imagine that's not a huge focus for credit unions. I mean, maybe you can tell about what types of loans that you're working with here.

Pankaj: Primarily, auto loans, unsecured personal loans, credit cards, in some cases HELOC, but other than all kinds of unsecured lending other than mortgages is what we are currently focused on. We do a good bit of work on SMB lending as well, Peter, which is on the lower end of the size of the ticket release so like, for example, small business loans up to \$100,000 and so forth. That's another space where there is a lot of broken technology, it is, again, very expensive, the current underwriting process is very expensive and time consuming so there is a lot to be done in that space with our technology as well.

Peter: Right, got you, got you, okay. So then, you did touch on this, but I want to just tease it out a little bit more, if I could. Someone wants to come and deploy Scienaptic into their credit union or community bank or whatever, what sort of expertise do they need to actually get this done. I imagine, you said you've got a 125 or whatever you've done, a lot of implementations now. If the credit unions are listening to this and think oh this might sound interesting, but I don't know if I can really, have the capability to even understand what's going on here, but what do you work with, what are the capabilities they need?

Pankaj: So, we have tried to really keep it very simple to the point I was making because this is a fancy new technology, it's difficult to understand. When we talk about the AI part of it, we wanted to make sure that from a tech perspective there is more additional challenge. So, once people are over the hump of saying they're going to use this new age algorithms, AI and stuff like that, everything we have tried to keep it very, very simple for them to implement which essentially means that we have these integrations that are hooked up with the loan origination systems provider.

They switch on the integration and really once they switch it on, all that we ask the customers do is to do a bit of testing so the client will go ahead and do the testing once we have actually deployed this integration for them. So, that's the extent of involvement that they need to have from a technical perspective.

Peter: Right, right. I want to ask about fair lending because there's been quite a bit of talk about that in the last few months. You said explainability was a hot topic, you know, three or four years ago, it feels like fair lending is the hot topic when it comes to AI and underwriting these days. How do you ensure that your models remain free of bias?



Pankaj: So, Peter, several answers to this really, several types of answers to this broad question. From day one when we built the platform, five/six years ago when we launched it, we have been obsessed about that. I probably mentioned in our earlier podcast, my background is I've been a Chief Risk Officer in a lending business myself so I'm deeply aware about the issues and my quest is to make sure that I give very safe systems to people as a fellow practitioner to them. So, really from day one we were compliant, we had built models in the right way. If you see what goes into this really, there are a few technologies.

There is a certain kind of data we'll use, if you use certain kinds of data sources, data elements then you are at the higher risk of redlining the protected classes like gender and age and race and things like that. Obviously, we have enough experience because of which we'll not use those types of variables or proxies of those kind of variables. There is a good statistical process that is followed for doing that. The bigger issue, frankly, Peter, in this whole bias discussion is actually we don't realize how biased the current system actually is right now and you and I feel that. I think, again, I would have given this example last time we were chatting, but, for example, my utilization going higher is a very big indicator of risk and my scores jump up and down very dramatically currently because of that.

Now, you're sitting in Wyoming area, operating in a certain employment generation area, you know, you can have a lot of customers that actually take very little amount of credit, that have just one credit line and once in a while they use that credit even if they are late in paying once in a while by a few days. They come back because they're sincere, well-meaning folks that want to actually use credit only for the purpose of building, you know, a good life really and the current modeling system doesn't have any kind of accommodation for that really.

So, what we are saying is that bias, one of the big ways to drive the bias out is by sampling these things differently. So, I think one way of bias in this system is by kind of creating the context of the communities into the models and that's a little bit of the stuff that we have developed internally.

And then last layer of protection is most of the clients that we work with, they will do this fair credit reporting or something like that when they are undergoing an exam, basically once a year or once in a couple of years really. When they use our system, on day one they start getting this fair credit reporting, you can actually see it on a weekly basis, how are you doing, compared to your original system how are you doing by different protected classes?

Right there is where you start seeing any signs of things that you need to do differently and you correct the algorithms at the back end to align them appropriately. So, that's the last mile of control that we are able to give, and we create much higher, much faster visibility for those kind of outcomes using our system. In fact, our clients have been on record saying that...one of our clients basically deployed was out saying that they are able to give a lot more credit using Scienaptic System for the Native Indian communities.

Peter: Interesting, interesting.



Pankaj: So, all of, we have a bunch of all of those kinds of things that are now coming up, our clients are giving us those kind of anecdotes.

Peter: Right, right, that's great. That's one of the true breakthroughs, I think, with the technology that you've built. How is the model getting better? The thing that we talk about with AI is that it learns and it improves over time, you've been now doing this for several years, how is your model getting better with time?

Pankaj: It's the way, even the previous regime of modeling used to work even if you're not using the latest, most cutting edge model, if you use more recent historic data to re-train and refit your models, you get the benefit of more recent trends coming into your model. It's the same principle industrialized in our world where these models are re-trained pretty much every month, basically. So, our model of models is getting re-trained every month and as a result of that, you know, these models in the specific apply are getting smarter by the day as more and more applications pass through the system. That's just a very simple way that this whole system works.

Peter: I want to talk about ChatGPT because it's everywhere in the press these days and there's always been some interest in AI but not so much in the general population whereas now with ChatGPT and all that's just on the mainstream press all the time, it feels like. As someone who's been in this for a while, what do you make of all this sudden interest caused by ChatGPT?

Pankaj: You know this is part of the evolution, these things can...frankly, there's no point even calling these things good or bad because this is just the nature of the system really, right. So, the world has suddenly found in ChatGPT a beautiful, new toy (Peter laughs) and I think everybody is kind of, you know, trying to get engaged with that. It's a good thing over time, hopefully, rational balanced usage of those kinds of technologies will be figured out, it'll progress as humanity, that's my sincere hope.

The problem though as a practitioner who, basically I started my career doing this stuff at college basically when it was not even, we didn't used to even call it AI and there were words like (inaudible) automation or expert systems and things like that that were used at that time. But from that time, I have been aware that there are two reactions that society generally has to advanced technology like this.

One, I get depressed as a human being and say oh my God, technology is really getting so smart and in the singularity that is being forecasted for some time by the wiser folks, human beings actually have no role to play really, they are just puppets of technology really. So, that's one extreme, I get depressed as a result of that conclusion.

Another is it's a new toy and I'll have frivolous uses of that toy. At Scienaptic, and I personally have been very focused, we have a clear world view on this topic, which is all of this technology evolution is interesting, but the way you use a particular piece of technology in a specific use case and solve a real problem which either has customers or individuals benefit from that, those are use cases, that should be the quest that we should get to go. So, when you think about ChatGPT, specifically, there's a whole



lot of beautiful things that can be imagined. If you think about it, it's basically about putting a natural language processing layer on top of a whole lot of things.

So, if you think about it my world, we have underwriters, for example, that are very sophisticated in what works in their local communities, what kind of profiles work, what kind of profiles don't work. They don't necessarily have a lot of analytical sophisticated data analysis kind of capability. So, if they could work in terms of tuning the system below what we have built already, in-between they bring in a Chat GPT layer, that can create a fantastic world where this person now who has 25 years of actual lending experience in Wyoming, or in Denver and so forth, they can actually get all the power of data scientists at their behest really and they can actually use it to actually do good for their financial institution as well as to their members. Those are the kind of use cases that we are very excited about.

Peter: So, does that mean you're looking to augment or add into your systems some of this technology?

Pankaj: Absolutely, absolutely, yeah, absolutely. And we think that there are broader augmentations that we have started actually just doing work around Generative AI. So, Generative AI, again is working on creating paintings and, you know, doing this natural language stuff and so forth really. We also think that there is a large amount of structured data that can be very powerfully leveraged so what is the Generative AI equivalent of that where you are actually working with classic data, structured data, but you are doing stuff that doesn't require very serious data science expertise and you can create something very complex.

So, think of, you know, you have the colors because all of the data, for example, somebody asked me to draw a picture, it'll be rubbish basically, I have no idea but with a tool like DALL-E I can create a whole lot of very sophisticated imagery that is roughly their (inaudible) and I get help from a software to do that. Can you do the same thing with actual data using the Generative AI-type profiles, so that's the kind of next level thing that I'm starting to think about.

Peter: That leads into my last question actually because, let's just take this directly to the lending space because I've been around the lending space for a long time. FICO, talk about it, has been used for decades, but there's been lots of advances in the last few years so I'd love to sort of take us through. When you look at the lending space, specifically, how do you see the AI piece or the technology that you're really bringing forward through Scienaptic, how do you see that evolving over the next like three to five years?

Pankaj: So, here is the Nirvana of financial services and lending, in my view. The Nirvana is that financial services companies can make infinite products basically, right? So, if you think about products it's like I have a product that is 1% APR, I have a secured credit card where you only put in the money, to a credit card that can get \$100,000 credit limit, for example, and I have APRs that are ranging anywhere from 1% to 35% or whatever.

Right now if you go, most people, most financial institutions will have four or five, ten, twenty products, but there are millions of consumers, hundreds of millions of consumers and they may all be a little bit different so how do you use all this incoming data that you have which is getting richer and richer and



depending on the type of product that you offer to the client they may have the appetite to provide you more information about them, if they really need that product. So, how do you manage on one hand an infinite range of products that you can quickly customize?

It's like Amazon recommendation engine really that is a lot more continuous than like I have three tiers card, for example, right, or something like that really, right. So, you can have a lot more continuous product on one hand and then you have the customer who's basically saying okay, provide me the credit or lending product when I need it without asking for any information because I will give you a cover of information on me and you ask me when you need more information so consumer permission type of data really. I think that's the system.

Technology is very much there to create that system. We have created, all the technology at Scienaptic is capable of doing and supporting something like the vision that I am laying out. I think the challenges are more process and practice challenges at the back, challenges are more around regulators' kind of getting ready for that kind of work and so forth and that will be very interesting to see how it pans out over the next, you know, decade or so.

Peter: Right. Well, that's a whole other conversation, but you painted a really interesting picture there, Pankaj, where there's really just ah, I can see the possibilities as you were talking there. Anyway, we'll have to leave it there, always great to chat with you, Pankaj, thanks again for coming back on the show.

Pankaj: Enjoyed the questions, Peter, well thought out questions, always enjoy conversations with you. Thanks for having me.

Peter: If you like the show, please go ahead and give it a review on the podcast platform of your choice and be sure to tell your friends and colleagues about it.

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

(music)