Episode 1,196: A Market Alternative to the FDA

Guest: Neil Thanedar

WOODS: I'm looking at your website right now, and it's all very interesting and self-explanatory and kind of exciting, actually, but there's one thing that I'm getting tripped up on because I'm so tech un-savvy, and I think maybe some listeners might be in the same boat but won't want to admit it. When you use the term, "token-curated registry," what do you mean by that?

THANEDAR: So we're going to use a system of cryptographic tokens to — basically it's the incentives for companies to play the game the right way. And so the game in the system is a decentralized alternative to the FDA. That's really what we're looking to build with our token test. And so the way it works is that anyone can buy tokens and use them to apply a product to the registry. And so if a product is applied, it can also be challenged. And so if a product passes its challenges, it's able to be certified by the registry, and so it's a good product. And if it's challenged and it loses, it goes on the registry as a bad product. And so it's basically a self-regulatory way to pass or fail products based on their quality.

WOODS: Okay, so then the idea is that consumers will then have this information and — because I'm looking at your site, and you're saying that it can be applied to things like supplements, food, pharmaceuticals, even cannabis. Now, that's a pretty ambitious array of cases you're talking about. I mean, food, yeah, that's a huge, huge area.

THANEDAR: Yeah, absolutely. We've really been working heavily on testing vitamins and supplements, but the same kind of testing is needed everywhere. One of the biggest problems, whether it's supplements or cannabis or cosmetics or any of these other products, is these products, there's a new recall more than once a day in the United States, and they happen for very similar reasons. There's lead or salmonella or E. coli in one of the products. The products aren't what they claim to be. And so if you go to the store and you look at the product, the label doesn't tell you that that product has lead in it. Someone has to test it to figure that out. And in theory, we trust the FDA to show up and do that testing, but the FDA actually, their system is reactive. So they use recalls, so what they do is they wait for people to get sick, and when a bunch of people go to the hospital for the same reason, then the FDA investigates. And what we want to do with Test is make a proactive system where anyone can ask for a product to be tested, and if it passes, everyone should know about that so that more people would buy that product, and if it fails, everyone should know about it so people don't buy that product.

WOODS: Let's talk right now actually about where you are. You've already, it says on your site: "1,000+ supplements tested, 300K+ active users per month, 2M+ page views per month." You're still generating I guess investment capital?

THANEDAR: Yeah, so we've raised $7 million over the last five years from — we're in south San Francisco. We've raised from a lot of the top investors in Silicon Valley like Floodgate and Y Combinator, but also Mark Cuban and some of the top angel investors in the world. And so that's really how we initially funded the testing. The way we — and we found all kinds of really incredible problems in these products. So we've found products like probiotics, where the probiotics had actually died. So there's a test to see whether probiotics are dead or alive, and less than 1% of the active ingredient was actually still alive by the time the product was on the shelf. We've found fish oil, almost a third of the fish oils that we tested were rancid. So the expiration date was in 18 months, but they had gone bad now. And these are the types of things that you just never find on a label.

And so that's really, with our initial startup capital, we tested all of these products, we built our first website, and really started just sharing this information with consumers. And we monetized through links to buy the products, so we earned a commission every time you bought a product on Amazon or one of these other stores. But what we really found was if we want to go from 1,000 products tested to 10,000 or 100,000 products, a million products, which is really kind of the universe or the world of the products that we're talking about here, we have to have anyone be able to test. We shouldn't be the only ones sponsoring testing. Consumers should be able to crowdfund testing if they want to. We should be able to have companies challenge each other. So if you have a competitor and you think your competitor is bad, the current solution is to go sue them in court. Instead, if you could use a system like Test to challenge them publicly and the judge and jury is just a scientific test, we feel like that's just a much better way to self-regulate the industry.

WOODS: So in other words, you obviously don't have the authority to pull a product from the market, but what you do have the ability to do is to inform the public of your findings.

THANEDAR: Exactly.

WOODS: Is there a concern that that won't be quite good enough? Or on the other hand, would you say: but it's a lot better than what the FDA is doing, which is purely reactive?

THANEDAR: Yeah, absolutely. So I mean, we can always be better. So our proactive system, we can be more and more proactive the more we test. So instead of testing a thousand products every five years, we can test them every year or every six months. We can test 10,000 or 100,000 products. And so we can get better at our system. What we have to be able to do is find a way for anyone to sponsor that testing, because otherwise you end up in this kind of very sideload system. And I think one of the things that I've been reading a lot is a lot of Nick Szabo's work, and he talks about how trusted third parties are security holes. So whenever you put this trusted third party in the middle, there's always a risk that they get corrupted or they miss something, and so if there's a decentralized way to manage the same system, we would be able to actually cover more categories of products.

You might find, for example, a product that you've never heard of in — like we've done a product from Belgium, a fish oil from Belgium that many people in the U.S. hadn't heard of. It was actually a lot better than all of these products in the United States that have a ton of

marketing and a ton of support. And so people want to know what's the best product. They don't care where it comes from or who's selling it; they just care that it's the best. And so that's what we try to figure out.

WOODS: I could imagine that if I had a quality product, I might actually want to bring it to you. I would want it to be tested so that I could say to the public: look, we've had this impartial third party take a look at my product. They've given it a seal of approval. Look at how great it is. Does that ever happen, or are you the ones going out looking for the products to test?

THANEDAR: So when we started, we were just going out and looking for the products to test, and what you said exactly is what happened, is companies started coming to us and saying: hey, can you test our products? And Test is another way for — companies could apply their own products to the registry just like anyone else could, and I think it's a positive signal. You can actually take credit for if, hey, I as a company proactively said I want my products tested, then that's an advantage to you. Now, you can still fail. Someone can still challenge you and you could still lose. But we now have that system where anyone can make that testing happen.

WOODS: So let's say I do that and my product passes the test. Do I get the right to put some kind of label on the product, or do I just point to the successful test? What exactly do I get as the product creator?

THANEDAR: Right, so it's product labels and advertising. There's going to be a certification, a seal that's going to be on those products. And really, companies do a lot more than that. Every time when they're on TV, when they're on there advertising, they'll always talk about the fact that they've been tested. This is something that's starting to happen more and more, where consumers value transparency, and transparency breeds trust in these brands. And so because consumers are demanding that, companies are starting to really go out of their way to prove that they're good. The claim isn't enough anymore; you really have to prove it.

WOODS: Now, forgive me for not knowing this off the top of my head, but I could have sworn years ago when I read a little something about the FDA that there was some controversy about whether — for example, when you're dealing with supplements, whether you ought to be testing for safety only or for safety and effectiveness. Does it actually do what it says it's going to do on the label? And I think they test only for safety. Is that something you know about?

THANEDAR: So in pharmaceuticals, they test for both safety and effectiveness, and in supplements they test for neither.

WOODS: Oh.

THANEDAR: So it's a very unusual system.

WOODS: Then what are they testing for?

THANEDAR: They don't. The FDA does actually not perform any testing —

WOODS: Oh, that's right, and that's why they always have those labels saying the FDA hasn't even looked at this. Okay. So that's a huge gap that you're filling.

THANEDAR: Absolutely. And so we want to be able to do both. We want to be able to test — safety is the purity testing, so figuring out that there's no lead and arsenic and mercury in these products; there's no salmonella or E. coli in these products. But there's also: is the active ingredient there? And I think that's the — we've been surprise at how many categories of products said, you know, the fish oil says it's 1,000mg of omega threes and it's actually 800, or protein powders that say they have 20g per scoop of protein and there's 5 or 10g per scoop. And so yeah, absolutely that's an effectiveness issue too. And so both of those things have to be tested.

WOODS: What's your background?

THANEDAR: So I'm a chemist. My first business was a testing lab, and I learned that from my dad. He's a chemist too, and he ran testing labs my whole life. And our business that we actually started just the two of us in 2010 was a testing lab, and our specialty was we worked with companies to do failure analysis, recall investigations, and product development. So either your product is failing and you want to know why so you can fix it, or you want to make a new, better product that's better than your competitors'. And we spent a lot of time reverse engineering products, figuring out exactly why products fail, what makes products good. And it's a service to those businesses. And while building that business, this really hit me that, instead of kind of working one company at a time, trying to fix their products, could we look bigger? Could we go into the store and say: let's test all these products before they fail? Let's figure out which products are most likely to fail? And let's tell people. Let's tell everyone before they go into the store which products they should buy. And that's really where the motivation for this whole project came from.

WOODS: All right, now, a short while ago, I asked you about companies coming to you and they want their products tested and they think this'll be a selling point, and as you noted, it's quite possible they could come to you and the product fails, but I would think those would not be the ones who would be seeking you out. But all the same, you must at this point after having done this for years have had products certainly that have failed, and I'm curious about the kinds of products we're talking about. I mean, I don't know if you want to name companies or brands, but what are the kinds of products that you see failing, and what's making them fail? What's wrong with them?

THANEDAR: Yeah, absolutely. So we've seen herbal supplements where the company is just lying. There's no active ingredients, zero active ingredient in the product.

WOODS: Whoa.

THANEDAR: And this is crazy, right? It's literally just a sugar pill. And then even worse than that, we've found some of those products, because they're a sugar pill, will have bacteria in them on top of that. So they have no active ingredient and they have a contamination.

WOODS: Wow.

THANEDAR: And that happens in so many categories. So fish oil has those problems where the products can go rancid, and you don't know because you don't break open the capsule before you swallow it, so you can't smell the oil, so you just take it. And that can make it worse, not better. That can actually cause inflammation that can cause you to get sick instead of what you're trying to do, which is reduce inflammation. And there's just category after category, protein powder —

WOODS: But how could that — let's get to that in a second, but on the fish oil thing, is that just a matter of the shelf life is not as long as people think? Because I don't see how you could help that problem.

THANEDAR: So yeah, it's a shelf-life issue. It might also be how long the manufacturing control let that stay in the warehouse before it got made.

WOODS: Yeah.

THANEDAR: And so there's no — everyone just throws a two-year expiration date on these products, but they're not testing the products necessarily before they do that.

WOODS: It's funny. People, myself included, treat these expiration dates like they're holy writ or something, when probably there's not a super-duper sophisticated algorithm going along with them. What were you going to say about protein powder? A lot of people use that.

THANEDAR: So we've found a number of protein powders that had lead and arsenic contamination, and these are things that you take every day. You take them in large volumes, because you're going to take two, three scoops sometimes a day. And so that can really lead over time to accumulation of these heavy metals in your body, and so there's a huge difference between — and creatine is the same way. There's products that have high amounts of creatinine and that can accumulate over time in your body. And so if you're going to take a product every single day, which is what most vitamins and supplements are meant for, the difference between a high- and low-quality product can really affect your health.

WOODS: All right, so you've been doing this kind of work for a number of years, and I wonder if, when you started doing it, you had a certain set of expectations about what would happen or what you would find, and how does that compare with what actually has happened and what you have found?

THANEDAR: I think when I was first starting, there was a lot more trust in specific brands. There's this idea that whoever is the biggest company, the one you see on TV all the time must actually be the best product, and I feel like a lot of us feel that way. And the more and more we do this testing, we find out that there is really no correlation between price and quality — there's not much correlation between brand and quality. It really comes down to, in a specific year, on a specific day, for a specific type of product, is someone actually delivering a good product? And the other thing that I was really surprised by was how many of these companies don't make their own products. They're basically kind of marketing companies. They're not actually product companies. A lot of these people are just — especially if you're buying this on Amazon or Alibaba and you see some brand that has ten five-star reviews, I mean, chances are they buy that product from someone else, they put

another label on it, they might even buy all ten of those five-star reviews, and then they start selling on Amazon. And so even they don't know what's in their products sometimes.

WOODS: All right, so wait a minute. I'm interested in this. Do you mean that they have a white label relationship with whoever the creator is, or are they literally taking somebody else's product and putting a label on it?

THANEDAR: It's mostly white labeling, but we've actually seen the other one where people are intentionally, actually, basically just changing someone's label. So in that case, sometimes it's — you have a bigger risk of counterfeit products in that case. I mean, anything from dog food to baby formula has the same issues, where there are products now coming from — you don't know where the ingredients are coming from. They might have changed hands two or three or four or five times between the suppliers and different producers, and the final company that's selling them doesn't really know and many times they don't really care. It's just that easy to just spin up a page on Amazon and start selling.

WOODS: Now, maybe you discover something like this, some appalling fact about some product, but the difference between you and a government agency would be the government agency can hold a press conference, everybody attends, and that company is in big trouble and their reputation suffers. How do you get the word out?

THANEDAR: We also try to do — we use press as much as we can too, so we've worked with anyone from PBS to *New York Times* to John Oliver, Buzzfeed. Anyone who can really take one of these stories, we've been able to get a lot of press just on the idea of: hey, did you know what's really in your supplements? And so we've been trying to tell that story over and over again, because I think the biggest kind of problem here is that people just take these products without thinking about them. We always have this assumption that someone must be testing them. These bottles kind of look like pharmaceutical bottles. They come in pills. Someone must be doing this work. And I think the whole reason why I do this was because there was just a realization I had one day. I said, well, no one's doing this. No one's doing this product testing. Someone should be doing this, but who would be able to do that? And I just happened to be sitting in a lab at that time. And I said someone has to do it, and it's probably going to be me.

WOODS: You know, I'm not saying that the — the FDA does not, I don't think, mislead people about the nature of its work. I think it has a lot of problems, but it doesn't overpromise. It doesn't say to people: we've inspected every single apple or anything like that. But I do think that people have this lazy assumption that, because there is something called the FDA, then probably somebody has looked at this bottle. They have this instinct that, even if you pressed them on it, they'd probably say, "Yeah, I guess nobody would have the manpower to probably do all of that and they probably don't do all of that." But there is this sense that, well, we've been assured that our safety is being looked after. There's this general just generic sense that our safety is being looked after. And so yeah, you get some bottle of something, you feel fairly confident that it's not going to kill you instantly or that it'll more or less do what it says on the bottle. And for you to just have that realization, *Wait a minute, nobody's actually doing this*, it's frankly astonishing how few people both had that realization and then decided to do something about it.

THANEDAR: I think the only reason why it happened was I grew up in this business. I saw my dad test my whole life. I was in a testing business. I was uniquely qualified to know what the

solution was. And I'm the kind of person who just looks around for problems. It's like if there's a problem and we can figure out the solution, that connection between the problem and the solution is really important, and I think if I would have — it's just always so hard. Because I talk to my mom about this, and my mom's not a scientist, but she takes supplements every day and she takes medications, and it's hard. You can see, if you ever take a medication, you take that box and you actually open up the pharmaceutical facts and you try to read that, unless you have an MD or PhD, you're not figuring out what actually is going on there. And so the system isn't really built for consumer awareness or education. It's built to reduce liability in many cases. And so there has to be a system like ours, where you not only are doing testing — testing itself is very important, but you have to be able to explain to consumers in a simple, easy way which products are good and which products are bad, because that's the only way you'll really make a decision. If it's complicated, if I gave everyone Excel spreadsheets about what's in all of these products, it wouldn't change their decisions. To change their decisions, you actually have to make the decision easy.

WOODS: What's your website?

THANEDAR: So TestToken.org is where we are explaining how our token Test works, and so Test will be where you will be able to invest in the product, you'll be able to eventually apply and challenge products for testing. And then we have our original website, which is Labdoor.com, and our original company, Labdoor, which actually takes that data and turns it into grades and rankings so it's easier to understand. So on Labdoor.com — and that's available today — if you go and search for magnesium or protein powder or fish oil, you'll be able to find what are the best and worst products. You'll be able to see which products we gave a 90 to, which products we gave a 40 to, and it's the brands. The brands are mentioned, the products are listed. We're not hiding products that are failing. We're telling people: these are the best and worst products on the market. And there are ways to buy the products if there are good products that you want to buy. And so really, between these two entities, Labdoor, which helps people understand the data, and Test, which helps people get testing done, is really our work.

WOODS: You said something almost in passing about being able to challenge products for testing. Do you mean that I could come to you and say I have good reason to believe or I would at least like to see that this product gets a clean bill of health and that could be a reason that you would look into a product?

THANEDAR: Yes. And so the challenge is either one consumer or group of consumers would actually basically stake an equivalent amount of tokens to the application, and that would basically cause there to be a test performed, and whoever won the test would basically get the majority of the tokens. And so that's really the big reason why the tokens exist, is it keeps people honest and it creates a financial incentive for — I mean, don't go around challenging everything. If you challenge good products, you're going to lose your tokens. You're going to lose money. But if you have a good sense of I'm only challenging products that I know are bad, either because you're a consumer or maybe you're a lab or maybe you're another company and you know because either you took the product or because you tested the product that it's bad, then go in and challenge it because you actually have a financial incentive to do that.

WOODS: That's really, really interesting, and this is just a fascinating project. People should check it out for themselves. As you say, TestToken.org —

THANEDAR: Yes.

WOODS: — will you give you the bird's-eye view of what the vision for this is, and then the this itself is Labdoor.com. So Labdoor.com, TestToken.org, I will link to both of those at TomWoods.com/1196. Well, continued good luck with this. It's really — I mean, what a gap you're filling here. It's extraordinary and I hope more and more people find out about it and support it.

THANEDAR: Absolutely. Thanks for having me on and thanks for having spread the word, and we'd love to have as many of your listeners help support us at TestToken.org and help make this a reality.