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(Intro Music)

Robert Glazer: Welcome to Elevate, a podcast about achievement, personal growth and pushing limits in leadership and life. I'm Robert Glazer, and I chat with world class performers who have committed to elevating their own life, pushing the limits of their capacity, and helping others do the same.

Lenox Powell: This episode was previously recorded and published as part of the Outperform Podcast

Robert Glazer: I'm Bob Glazer, founder and managing director of Acceleration Partners, and with this in mind, the quote of the day is, "All disease begins in the gut." Wise words from Hippocrates and a key premise of Biome, an incredibly innovative company founded by Naveen. I recently heard Naveen speak, and his insights about health as a solvable crisis and his love for 10X problem solving really inspired and impacted me.

Something that sets Naveen apart as an entrepreneur and philanthropist is that he pushes very big dreams into action and spurs massive cultural and technological change. In addition to founding Biome, Naveen is the founder of Moon Express, World Innovation Institute, [Inome 00:01:16], TalentWise, Intelius, and InfoSpace. He sees beyond the current business and technological landscape to create businesses that make a true impact.

Naveen is the recipient of the Ernst and Young Entrepreneur of the Year Award, Silicon India's Most Admired Serial Entrepreneur, and Albert Einstein Technology Medal for his pioneering in technology. Red Herring also recognized him as one the 20 top serial entrepreneurs with their lifetime achievement award.

Whether it's in business or life, Naveen is guided by one firm belief, our only limit is our imagination. There are hundreds of topics we could talk about with Naveen, but he graciously accepted to join us on Outperform and share some of his thoughts on how we have the ability to take control of our health and wellness, and make things like chronic illness truly a matter of choice.

Naveen, welcome. It's an honor to have you here with us today.

Naveen Jain: Oh, thanks a lot, Bob. It's really a pleasure and an honor is mine.

Robert Glazer: So you have an incredible story. When you were introduced at this year's Genius Network, it was mentioned you grew up surrounded by poverty, and essentially came to the US unable to speak the language and with only five dollars in your pocket. I'd love to have you share more about your background and journey to entrepreneurship.

Naveen Jain: Well I can ... This is just a very typical immigrant story that many of the people, I would say tens of millions of people who have come to this great country all share the same thing that we grew up in a country where they had a tremendous amount of poverty, there's a tremendous amount of corruption in India, and a whole bunch of prosecution.

Then we find ourselves fortunate enough to be able to leave that ways, and set up a new life here. And to some extent this becomes our home, and any which way you look at it, many of us who have come to this country, this society has given us so much.

So despite our taking pride in the fact what we have done, the fact is the society actually embraces you and gives you a chance to succeed. When you do succeed, they actually celebrate your success, and that's the reason we call this great country a land of opportunity.

And to me, I have lived an American dream. And right now I'm just focused on making sure that American dream is alive for everyone who is looking to come to this country, or who looks up to this country, and despite our political environment, we still believe that this is still absolutely the greatest country to be living and doing business in.

So I just hope that every entrepreneur who is disappointed at things that are happening is just take a deep breath and say, "We live in the greatest country." And really pinch yourself for being here.

Robert Glazer: Thank you. That's ... yeah, it's the American dream, I guess, that so many people have taken advantage of. I agree, one of the things that we need to make sure we do is that the concept of the American dream continues to be true for people who are coming here today, and coming here with ideas, and are willing to work.

So we call this the Outperform Podcast. After coming from so little, what would you say the drivers have been behind your ability to consistently outperform throughout your career?

Naveen Jain: You know, one of the things is that it is about constantly looking at the world, what it can be, not what the world is. I really think a lot of the people get so caught up in the ... what they see, the eyesight, that they start to forget about the dreams and the imagination of what the world can be.

Because once you start to visualize something what the world can be, then it simply becomes a matter of how do you go from here to there? The problem is people just have lost the power to dream. Once you lose the power to dream, you essentially start to feel helpless and hopeless. And that is the worst feeling that humans can ever have, is the feeling of helplessness, hopelessness.

I think to some extent, that is starting to feel, you know, a lot of people are feeling what can they do? That technology's taking their jobs away. They start to blame on immigrants, they start to blame on politicians, they start to blame on everyone else.

Well really, it's we're living in the most amazing time in human history. There has never been a better time to be alive. There has never been a better time for any one of us to be able to do things that only the kings, and the queens, and the super powers could do.

Imagine today, you can start a company, and simply with a dream of saying, "I'm going to go and take on a biggest industry." Whether it happens to be a taxi industry, nobody would've thought they could take on, taking on a hotel industry.

Or just getting sick and tired of the political environment where people say, "We're going to have the baddest treaty and the cure to treaty and somehow we gonna be able to fix the climate change and fossil dependence and fossil fuel."

It takes one person, whether it's Elon to say, "Enough is enough. I'm gonna go out and build the electric car and don't tell me that no car company has been creating the last 60 year." Here we are, number of years later, it is one of the highest market cap companies in the world.

So point is, a small individual entrepreneur can go out and do things. Whether it says who has ever imagined that a private company is going to start doing the space exploration? That was never possible. So here we are, whether it is our Richard Branson or Jeff Bezos or Elon Musk or Paul Allen, or even us building a company that can dream. And in fact not just dream, but make it happen where we can land on the moon.

As you know, Bob, we are the only company in the universe today, a company called Moon Express that I started about eight years ago, that has permission to leave Earth orbit and land on the moon. When we land on the moon, not only we become the first private company to do so, we symbolically become the fourth superpower. To me, that is really amazing to see how entrepreneurs are now likely to be the next set of superpowers, rather than countries.

So you're not gonna see the Germany or France or UK becoming the superpower to land on the moon. It is gonna be done by entrepreneurs because entrepreneurs can be held responsible every day for their actions. Unlike the political environment where you can only hold them responsible every election cycle.

Entrepreneurs can use the resources from around the world, whether when you need a talent or you need something that you want to buy, you can buy it from across the world. The capital is not patriotic, capital flows wherever the opportunities are. When you create an opportunity, whether you create them in India, China, or in Europe, or for that matter, in America, the money will flow to make that dream come true.

Because at the end of the day, if you create opportunity, everybody wants to be part of it. The reason I get so excited about life every day is that you and I today can solve problems like healthcare. Here is the problem that's a trillion dollar problem. The system is completely at this point, has become so big. When a system becomes so big it becomes an organism in itself where the survival of the system is the only thing that matters. And the purpose goes out the window.

Today our healthcare system, to some extent, has become the parasite on humanity. You look at these pharmaceutical companies, they want you to be sick. They love these chronic diseases. And our healthcare system is falling apart because instead of curing any diseases, we are fundamentally suppressing the symptom. Every time you have a drug that's suppresses one symptom, it causes three more symptoms. Imagine that, they have a drug for each one of those symptoms now.

So in some sense, we are perpetuating this idea of constantly being sick and the chronic illness. The signs is so clear, Bob, that every single chronic disease, whether you can Google Parkinson's and microbiome. So Parkinson's, Alzheimer, autism, depression, anxiety, PTSD, OCD, cancer, obesity, diabetes, everyone of these diseases and all kind of autoimmune diseases are fundamentally the disease of the gut.

As you know, we have known this for thousands of year. To date, when you graduate from medical school even today, they don't teach you about the gut and the microbiome. They still believe that somehow if you can keep the body sterile, if you can kill all the bacteria and viruses from the human body, somehow the human body will be healthy.

What they did not read was in nature's memo, which says that you and I and we as humans are really a portable ecosystem. That consists mostly of the microbial ecosystem inside us and with a little bit of human DNA sprinkled into us. So if you look at we as humans, less than one percent of our genes that are expressed come from our human DNA. 99% of all the genes that are expressed come from the microorganism inside our gut.

So just think about it. Who is controlling who? We are primarily a portable ecosystem or portable system for microbial society, as far as nature is concerned. We can all be really proud of who we are.

Robert Glazer: Yeah, that's very interesting. Can you just for our listeners who are more of a novice to some of the concept, will you explain microbiome for a second? Just so we can get everyone on the same page. I'd love to dive into Viome and what you're trying to solve now.

Naveen Jain: If you think of microbiome, microbiome is a term that is a collection of all the microorganisms that live inside us. They live inside our large intestine, in the colon, and these things are just like when you look in the space, there are trillions and trillions of these stars. The same thing when you start to look inside your gut, is trillions and trillions of these microorganisms.

And they're not parasites. They are the one that nature has actually put in there as a symbiotic relationship. So don't think these bacteria are harming you. In fact, they are the one who are digesting the food that our body cannot digest. When they digest the food, they release the nutrients our body needs.

For example, when you eat fiber, our human body cannot digest fiber. But the microorganisms in our gut digest this fiber and in turn, they release something called short chain fatty acids. This is like butyrate and propionate and acetate, which is exactly what our body needs to keep healthy.

Vitamins, the vitamin B, the vitamin K, and whole bunch of enzymes and nutrients that our body needs, are produced by these organisms that are in our gut. So when we feed them, they feed us.

In fact, so much so that nature ... think about what nature has done. When a baby is born, the first time it gets the microbial exposure is through the birth canal from the mother. As the baby's going through the birth canal, it's being constantly being soaked into this microbial ecosystem.

The first several days of the breast milk is colostrum, cannot be digested by the human body. It can only be digested by the microbiome in our gut. So think for a second, the nature is telling us that if you want this offspring that I just created, want it to be healthy, the best thing I can do is not to feed the offspring, but feed the microbiome in the gut. Because when they are healthy, our offspring is gonna be healthy.

Then here is a medical system that is constantly giving you antibiotics to kill all these organism. So what has gone wrong? What nature created and what humans are destroying. That is same thing what we're doing to our planet. If you're doing it to our ecosystem inside our body. In both cases, we are completely against anything that nature intended.

Robert Glazer: That's fascinating. I'd love to hear more about Viome, your current project. But one of the things that maybe you can answer that, is there's a lot of diet, lifestyle rages now. You've got gluten free, you've got paleo, you've got ketosis, you've got vegan. A lot of them are a little bit opposed to each other. But you have people that swear that that is the right one.

I'd love to hear your perspective on that. Then maybe even how Viome helps solve that debate for people and what it does.

Naveen Jain: Interesting thing is, what we learn is there is no such thing as universal healthy diet. There is no such thing. There is no diet that works for you or works for me. The reason for that is you and I share 99% the same DNA. But when it comes to our microbiome, less than five percent is shared between any two individuals.

So there is no diet that is good for everyone. A diet that's good for you, won't be good for me. A diet that's good for me today, won't be good for me three months from now. Because every time you change your diet, what happens is you're now feeding a different set of microbiome. Now your microbiome changes and that means your body changes and your body adapts to this new diet. Now the system's out of balance again.

You have to constantly understand what is going on inside your body. As opposed to treating the human body as a black box, what if you could look inside your body and know exactly, not only what these organisms are, but you were able to see somehow how active they are? And what are they actually producing?

Based on that, you can say, "I need to be eating the following food that is going to be good to feed my microbiomes, so my microbiome is balanced." Because when your microbiome is balanced-

Robert Glazer: The only constant is change. Is that sort of what you're saying? That as soon as when you try one of these things, 'cause a lot of people try a new diet. Then they feel great and everything changes. But then you see that it plateaus.

Naveen Jain: Exactly. It not only plateaus, it becomes worse. So lot of the times, it doesn't matter. When the Atkins diet was there, people will swear by it. It just works. Here is a guy, Mr. Atkins, died of the heart attack. So just tells you the diet that works in the beginning and people say, "I'm losing weight." Not only they plateau, they start to gain weight and they go back to exactly where they were.

Not only just because even if you're losing weight, just remember, there's so many people I know, and I'm sure you know many, many people who are on the surface really fit. You look at these beautiful models, they all have basically the inflammatory diseases. Whether you call them depression or you call them autoimmune diseases, they all have the same issues because they're just not getting enough nutrients.

I know of many, many men who have 12 pack abs and they're sick as a dog. Because they all have ... basically because they're not getting the nutrients and they're simply using ... and lack of nutrients causes all kinds of imbalance.

What I was trying to say was, when your microbiome is balanced, your body is at ease. Anytime the microbiome is imbalanced, body is not at ease. When the body is not at ease, we call that dis-ease, dis-ease is disease. The disease is nothing but the body being out of balance.

Idea is that all these fad diets, they work for someone and they work for a short time. That is really the thing is to constantly tune your body just like we tune our car. Every two to three months as your body changing and adapting, for you to be able to go back and look at what you need to be eating. Many of the times, it is so counterintuitive, Bob, that most people won't even believe it.

I'm happy to share a personal example of how my things have changed and what I have learned from just doing my own tests.

Robert Glazer: I'd love to hear that. But can you explain to someone listening here and says, "Okay, this is great. How do I do this? How do I examine this? How do I make the change? Where would I even start?" I'd love to have you dive into that a little bit. Then give your example.

Naveen Jain: Yeah. Look, Bob, I started this company called Viome and again, don't ask me as why did I name the company that Indians can't pronounce? But that just separate story altogether. You know that Indians can't pronounce the word V. So V as in victor, I-O-M-E, so it's called Viome and I know you're probably thinking, "That's not spelled Viome." But it's okay, that's how it is.

I started this company and the reason was that I was reading for the last three to four years every scientific papers, every scientific research, it's clearly showing that how our microbiome is responsible not only to cause the diseases, whether the disease actually cure works or does not work, also depends on microbiome.

So very interestingly, just in the last 30 days, just gonna give you the kind of research that's coming out. The Cleveland Clinic published a research two weeks ago that shows that the breast cancer is caused by the microbiome. They've found in every single breast tumor a microbiome that was present.

Then they published the research in that day that two more research that came out that shows that chemotherapy, when people take chemotherapy for cancer, whether it works or whether it's gonna kill the person or not work at all, depends on your microbiome. So they found certain microbiome when you take a chemotherapy drug, it converts the drug into poison and is guaranteed to kill the people. Or it can detoxify the drug, so that it's completely, essentially useless.

The same thing with immunotherapy. When you take immunotherapy, whether it is your immune system gonna actually work against the cancer or not depends on the microorganism. So you can improve the effectiveness of the microorganisms by 10 times if you have the right set of microbiome in your gut.

They came out with the research in the last 30 days on PTSD and microbiome. The OCD and microbiome. The whole idea that how our microbiome is our gut, is connected directly to our brain with the vagus nerve and it uses a neural transmitter back and forth.

Most people may not realize that 90% of all the serotonin is produced in the gut. Not in the brain. So when you talk about depression, where do you think it happens? What happens when people are depressed? They eat. Because at the end of the day, that's where the serotonin is being produced.

Interesting thing that I find is that our gut is controlling so much of who we are, that means all of our craving doesn't come from our brain, the craving comes from our microbiome. It's very interesting is when we feel hungry or when we feel full, that actually is controlled by our microbiome. It's starting to feel like that these microbiomes are really the puppet masters and that our brain really resides in our gut.

Ultimately, our brain, our so called brain on top of our shoulder, it may be just a puppet. The puppet masters in the gut are actually pulling all the strings. To a large extent, if you

go back and say for centuries, our mothers and grandmothers have been saying, "Bob, listen to your gut. Do your gut check."

Anyway, coming back to answering your question, what you do is, when you sign up for Viome, you get a kit at home. So you don't need to have a doctor, you don't have to go to the hospital to draw the blood. There are two things inside that kit. One is called gut intelligence, another is called metabolic intelligence.

Gut intelligence is actually you take a swab of stool and you put that in the test tube in the prepaid envelope and you send it to us. The metabolic intelligence is something you do at home. We send you the gluco meter and we send you the finger prick and by looking at a challenge sheet that we give you, based on that, monitoring your glucose, we can predict how does your body digest carbs, protein or fat.

Then we apply all of the artificial intelligence based on all the data that we get. Imagine the amount of data that we are collecting is in ... all I can say is, bigger than your computer can hold. It's massive amount of data that we are constantly analyzing to see whether the spinach is good for you or not. Is kale is good for you or not. Should you really be eating wheat and the gluten or not? Should you really be enjoying the gluten or not? Because all those things are completely counterintuitive.

To give you an example, I was trying to lose 10 pounds and I was pre-diabetic. Everyone told me, "Oh, that's really easy. You need to cut down all the carbs." So cut down the carbs, cut down all the starch, and start eating the spinach and avocado, and the lentil and legumes and tofu and oatmeal. That's exactly what I did.

Turns out, that in the beginning, I had some benefit, I lost some weight. Two years later, not only my weight was higher than it was before, my glucose level was back up to where it used to be. When I started Viome, I was one of the first person to test the service. It turns out that I needed to be eating completely different food.

I needed to be minimizing spinach, minimizing avocado, minimizing oat. Eating every other grain except oat. Eating all veggies except spinach and olives. Eating all fruits except avocado. My point was that everything that I thought was healthy, turned out it became unhealthy now. Because I was only feeding one set of microorganisms and other microorganisms were dying. That was completely out of whack. As I changed my diet-

Robert Glazer: So how does this information present itself? In terms of how do you read it? Then how do you take action on it?

Naveen Jain: Actually it's a very easy to use app and you get them on your iPhone, on your Android device, or you can see it on the web browser. We give you specifically for every food, should you be indulging in this? Should you be eating some quantities? Or should you be minimizing it completely?

So those are the three categories we divide all the food in. So every time you do the test, you actually get to see right on your phone what you should be eating and what you should be minimizing.

Robert Glazer: You do it four times a year?

Naveen Jain: No, we actually ... so we used to do four times a year and people say, "I want to do eight times a year." And some people say, "We want to do two times a year." So we started with two times a year and the people said, "No, I want to do more."

So finally what we did is we say, "Okay, you get \$399 once per year. Then you can do as many tests as you want for \$199 during the year." So if want to do eight tests or four tests, you can do as many as you want.

My general recommendation is that if you actually are following the diet, then you should be testing every two or three months. If you're not following the diet, then you should at least wait for six months before you test again. If you're just not gonna follow anything, just don't bother wasting money.

Robert Glazer: It tells you, essentially, what you should be eating or not eating. Does it give you ideas or recipes or combinations that make more sense? Or is more of a, "This is good, this is bad."

Naveen Jain: No, so it tells you all of the stuff, including we're adding the recipes that based on your recommendations, here is the kind of breakfast you should be eating. Here is the recipes for lunch or dinner.

We're gonna add a whole bunch more stuff to it and we're gonna be adding more and more tests. For example, in the next few months, we'll be adding additional optional services that will allow you to look at all of your mitochondrial gene expressions. Because mitochondria is our energy factory for all of the human cells

So you'll be able to for the first time, we'll be able to look at this technology and look at this gene expression for mitochondria and all of the blood gene expression. We'll be able to measure the inflammation in your body. We'll be able to measure how does your body's actually ... what kind of nutrients and what kind of enzymes it is producing? What is has too much of and what it has too little of. By also looking at your urine, a urine metabolites.

As we are adding more and more things, your recommendations are gonna get more and more fine tuned. At the same time, we'll be able to recommend some of the supplements that you may need. For example, most of the people take so many supplements and it turns out that in general, you need very few of them.

So in my case, I just needed CoQ10 and zinc and I was basically pissing off the rest of the vitamins that I was eating. Same thing on probiotic. I was taking all these probiotics and

then in the results, when you look at on your iPhone, you will see that my probiotics were actually not even staying in the gut. So I was completely wasting my money on it.

Robert Glazer: That's interesting. Food's a big part of this. But talk a little bit about what else effects gut health?

I mean you've founded a lot of companies, there must've been a lot of stress that has come along with that. In addition to our eating, what are the other conditions that change the behaviors in our gut and require us to do things differently?

Naveen Jain: Basically, there are really three things that impact microbiomes substantially. Number one obviously is the food because that's a direct impact. The second thing is the stress.

So if you're constantly under stress, the stress is a good thing by the way, the cortisol is not bad. Because that is nature's way of getting the body really ready when you are going to be under attack. So in a fight or flight response, really you need the cortisol because that's how the body to survives.

Robert Glazer: I heard some experts who were saying that we are just using our fight or flight response all day long, which is not a recommended to do.

Naveen Jain: Yes. That is exactly what it is. It was supposed to be very short term and once you were done with that emergency, your body was back to normal. But in today's, whether it's in the modern life, whether it is work stress or family stress, you're constantly releasing the cortisol. That ultimately changes the microbiome ecosystem because it's not good for the ecosystem.

The third thing that really changes the microbial ecosystem is exercise. So when you work out, it changes the microbiome quite a bit. In fact, a lot of research we can predict how much aerobic exercise you're getting simply looking at your microbiome and what they're producing.

So people who do a lot of workout, they have very high level of TCA. So if you look at someone like Ben Greenfield who is a triathlete and we looked at his gut, I mean it's massive ... I mean he's in 99 percentile on the TCA production. And someone like-

Robert Glazer: What is TCA?

Naveen Jain: TCA is way above my pay grade.

Robert Glazer: But it's something you want?

Naveen Jain: Yes, something you want. For me, I'm not working out and I'm in the sixth percentile. So there you have it.

The point is, we are able ... the microbial ecosystem changes based on stress, based on your exercise, and based on the food. Those are the three things that really are key. The

number one, by far really is the food. Number two is stress. And number three is exercise.

Robert Glazer: When you're busy and you're traveling, I would assume that all of these things suffer at once. You eat poorly, you sleep poorly, you're stressed, and you're probably not working out.

Naveen Jain: Well, that depends. Nowadays, life is not as bad. I mean more and more places you have plenty of choices where you can eat. To large extent, just like our brain has its own circadian rhythm, actually our microbiome has not only it's own circadian rhythm, it influences our sleep cycle.

So when your body is not at ease, you don't get a good sleep. So if you're not sleeping well, it's not just in your brain, it actually is in your gut.

It's very interesting that once you start to fix your gut, how many of the things in life that you have found were symptoms that you thought were somewhere else, is actually coming from that. Whether you're looking at all the autoimmune diseases and whether you're starting to look at things that nobody would've ever thought, anxiety, PTSD, or depression. They all are controlled by our gut.

Robert Glazer: I know you think decades ahead, that's how your brain works. As I think through this, do you think that this will be something that eventually becomes continuously monitored within your system? And works through your smart watch? Is that sort of the vision for, "Hey, this is what you need to be eating even today."

Naveen Jain: Yeah. So that is actually already starting to happen. It's interesting thing is 10 years from now, they'll be lot more different things are gonna start happening. Think about today, we are able to put a continuous glucose monitoring. You can buy that for, by the way, under \$100 now. You can put that up and it lasts for about two weeks.

You're able to monitor that every time you eat a food, how does your body responds to the glyceimic response to the food you're eating? You obviously want the low glyceimic response because high glyceimic response leads to high inflammation.

That means now we are doing a test of 1000s of people that will be ... we'll be able to predict what food is going to do to your gut based on your microbial ecosystem. With that study, we can in fact will be able to tell you what food you should be eating simply by looking at your microbial ecosystem and how it responds. How does your body responds glyceimically to the food you're about to eat. That you can measure today and you'll be able to adjust your food based on using this continuous glucose monitoring.

But if you start to look at 10 years from now, I believe just last week the FDA approved something called a nano pill that is gonna be able to monitor whether you are actually taking your prescription tablets or not. So it monitors to see if the things that are being prescribed are you taking them or you're not taking them by simply analyzing them inside your body. That's the big brother now.

But imagine someday in 10 years we gonna have these nano bots inside our body that are constantly analyzing all the biochemical reaction, all the enzymes being produced, it's looking at all of the microbial ecosystem. And it's constantly telling us what is going on whenever the things are out of balance, what to do about it.

So it will be in fact telling you and maybe sending you the electric shock and say, "Bob, go work out right now." Or, "Start eating spinach, you really need iron right now." So you won't need your wife to be bugging you anymore, you will have your smart watch doing that for you.

Robert Glazer: So the answer to all the people who advocate for their form of diet very, very strongly is that they are both right and wrong. I guess the answer is it depends.

Naveen Jain: Well, not only that it depends, I think they are right or wrong. That they may be right in the short term, but in the longterm, they're definitely wrong. It doesn't matter what diet you're eating, I can absolutely with 100% certainty tell you that it's gonna become bad in next three to six months.

Robert Glazer: This gets a little bit into the weeds, but is what you need after that usually the opposite of what you just had? Or is it more sort of a cousin to what you just-

Naveen Jain: It's balance. Think about there are two parts to the puzzle. Introducing the new set of microbiome through probiotics. So whether you eat Kefir and lot of the Lactobacillus, the bacteria that's in the yogurt and other fermented products. So once you start to eat lot of the fermented products, you start to introduce new set of organisms.

Then something called prebiotic that essentially is there to feed the existing organisms that are already in your gut and help them grow. Because ultimately, it's not about the organisms being bad or good, the good people become bad when there becomes too many of them at the same time.

So these organisms have something called quorum sensing. That means once they get to certain strength, they'll say, "Oh, good, now we can take over the world and we can be rowdy." And they start to form the biofilm that it starts to become bad.

Same thing with we've also found very interesting is that same organism in you could be doing completely different thing in your gut than in my gut. Depending on what else is around, they change their own behavior. To some extent you would think it's no different than human beings. In some company we are very calm and quiet and intellectual discussion. In other company, we go out and party.

Bacteria are no different, they say, "Party time." Or as maybe, "Look, let's just behave ourselves here. This is not a good time. The other people are watching us."

Robert Glazer: Yeah, so it's complicated. That's the answer. Its complicated and it's personalized. Which is I guess the exact point of what you're trying to do.

Naveen Jain: Yeah. I think ultimately, this technology that we have couldn't have been done five years ago. Because our first time and we did the complete sequencing of our DNA, it cost us billions of dollars.

Imagine what we are doing is we're doing a complete, not just a DNA sequencing, the RNA sequencing. For the people who don't understand the difference, the DNA is static. DNA tells you, you're born with your DNA. That never changes.

What changes is what is being expressed. Think of your DNA as alphabet and you can write many, many different stories with the same alphabet. It could be a thriller, it could be a poetry. What is being expressed, changes all the time.

For example, it's exactly the same DNA in your hair, on your skin, on your lung, on your foot. It's identical DNA. But it's completely different how they look and what is being done is based on what is being expressed.

The expression of these genes changes, because of these microbiome and because of other things that we do. So stress changes the gene expression. The food changes the gene expression. The toxins that we eat or toxins that we are inhaling or eating will change the gene expression.

So what we do is measure what is going on, not what could have been going on using your DNA. Something like this, Bob, would cost tens of thousands of dollars just few years ago. The fact we're able to do this for hundreds of dollars now is because our taxpayers spend hundreds of millions of dollars developing this technology for national security.

So this technology that we have at Viome really came out of Los Alamo's National Lab. Where they had designed it for national security for bio-defense war. They were trying to find out that if some bad actor were to get hold of something, how would we know what's making us sick?

Once I saw the technology and said, "Holy cow. If we know what's making us sick, why can't we keep the people healthy?" And that's how we created Viome.

Robert Glazer: I want to switch gears a bit before we wrap up. As the founder of so many impactful companies, I always find it's helpful to share what's the mistake that you made along the way that you learned the most from?

Naveen Jain: I think to me, my early days, I just was not intellectually curious. So in a sense that I was so focused on working what I was doing, I wasn't really looking at anything else that was going on outside the work.

To some extent, the biggest change that I have seen now in having started seven companies is that I'm constantly learning and the intellectual curiosity is driving me all the time. So my not being a rocket scientist to be able to start a company that can go land on the moon. Not being a doctor or a scientist to be able to disrupt healthcare. Not

having a background in a computer science to be able to create the companies building services for the smart phones or doing any of the stuff, any of the internet services.

So I think other thing that it may be must not a mistake, but just really what you learn as you grow up, is learning to understand people. What motivates people? What is driving them? How do you find the best talent to be able to help you achieve the mission?

What I found really is that once you start to think beyond yourself and you start to think what is good for the humanity and what's good for the society, you're able to attract the best and the brightest talent to come help you make that happen. When you start a company simply to focus on making money, it's very unlikely the company actually becomes successful.

I think as you and I talked about in the past, making money is like having an orgasm. If you focus on it, you're never gonna get it. So if you simply enjoy the process of it, you're gonna get everything that you want. So finding that true passion, finding that massively transformative purpose. What is your MTP? What is it that you're willing to die for? Then live for it.

If you can find that you're willing to dedicate the next five, 10 years of your life solving a problem, then you know that is your true passion and you'll be able to go out and achieve that.

Robert Glazer: That is I think very helpful for a lot of listeners. I was gonna ask you the question of how did you found so many different businesses without having experience in them, but I think you just answered that for us in the perfect way. And focus on big problems because the world needs big solutions.

Naveen Jain: Another thing I want to add, Bob, not to interrupt you, is that being a non-expert is actually your biggest strength. Once you become an expert and once you become good at something, you can only improve it incrementally. That means you can improve something that you already know by 10% or 15%.

But if you want to change something 10 times or 100 times, you have to fundamentally come from outside the industry, challenging the foundation of what experts have taken it for granted. Once you become an expert, by definition, you have taken that you believe in the certain knowledge because that knowledge is what makes you expert. So you're never able to challenge that.

Only the people who come from outside the industry are able to challenge that. That's the reason when everybody in the aerospace industry said, "Landing on the moon is gonna cost a billion dollars." And here we are going to be landing on the moon next year and it's gonna cost us under 10 million dollars. Think about that for a second. Under 10 million dollars because we thought about doing it so differently.

But everybody thought the way to disrupt healthcare system is to put the electronic medical records and all the Trump Care or Obama Care or Putin Care is gonna fix the problem. It's not. It is completely rethinking what's making people sick.

So as opposed to curing the people after they are sick, what if we are able to prevent them from happening at the first place? That to me is really the way you will do. And nobody from the healthcare system is gonna do that because they can't make money from it.

Robert Glazer: Well, you also ask different questions as an outsider, I think.

Naveen Jain: Of course.

Robert Glazer: When people who are insiders are still ... you come in and you ask questions like, "Why is it done this way? Or why can't we do that?" And people don't, people haven't done that before.

Naveen Jain: Exactly.

Robert Glazer: I want to make sure people have a place to follow up. So where can our listeners learn about Viome? And about you specifically?

Naveen Jain: So they can go to Moon Express dot com or they can go to Viome dot com to learn more about the companies. They can find me in social media on LinkedIn, Twitter, or Facebook.

At the same time, they can always email it to me, Bob. I mean send an email to my first name Naveen, N-A-V-E-E-N dot Jain, J-A-I-N at Gmail dot com. I read all the emails.

So if you have any question, if there's anything I can do to help, just know I'm here to help everyone I can.

Robert Glazer: I can tell you that that's true because I heard Naveen say that at the conference and I emailed him and he responded to me right away and we're doing this podcast the next week. So I really appreciate your responsiveness. I think it's rare that someone who has the ability to have someone handle that for you is tackling that. I think it shows your passion.

So, Naveen, thank you for joining us. There's a million more topics I'd love to talk about. We'll have to have you back on for sure and we will include links to all of these things in the show notes for our listeners.

Naveen Jain: Well, thanks a lot, Bob. Really looking forward too for the next time. Take care.

Robert Glazer: Take care.