On March 21, 2024, Intelligent Enterprise Leaders Alliance founder, Rob Shannon, sat down with Shola Oyewole, VP of Digital Innovation at United Therapeutics. During the live exchange, Shola provided insights into his responsibilities at United Therapeutics, the company's Shark Tank idea generation initiative, the prospective role of AI in future innovations, and more. Explore the enlightening interview below.

Rob Shannon

My name is Rob Shannon and I'm the Managing Director and Founder of the Intelligent Enterprise Leaders Alliance. It's my absolute pleasure today to welcome Shola Oyewole to the program. Shola's the Vice President of Digital Innovation at United Therapeutics. Shola, welcome to Intelligent Enterprise storytellers.

Shola Oyewole

Thank you, Rob. Nice meeting you. Good afternoon, everybody. Thank you for joining us on today's brief call.

Rob Shannon

Absolutely. There's a lot to cover today, Shola, and some really exciting elements as well. And for those of you that are joining us, thank you, first of all. Keep an eye out towards the end of our conversation today for some interactive polling. It's going to be some great discussion around some really innovative ideas. But Shola, before we jump in some of these questions, I was hoping you could tell our viewers that aren't familiar with United Therapeutics. Just a little bit about the organization.

Shola Oyewole

United Therapeutics is a 27-year-old publicly traded company, formed by Martine Rothblatt, our CEO, primarily to find a cure for a very rare disease a doctor has called pulmonary hypertension. We've been marketing a portfolio of drugs for this disease the last 20 years. And the ultimate cure for the disease is a transplanted set of organs, the heart and sometimes the lungs. And right now, our focus as a company is to be able to manufacture transplantable lungs and organs of all kinds, which is our main focus and our strategy today.

Rob Shannon

Thank you for sharing that, Shola. That's some great and very important work obviously. One of the first questions that I had for you was, and you and I have talked about this in the past, you started your career out at United Therapeutics as a CIO, where you've self-described being involved more in the nuts-and-bolts capacity within the organization. And you've now transitioned into a role of VP of Digital Innovation. I was hoping you can talk to our viewers a little bit about what that transition was like.

Shola Oyewole

It was tough. There's no way I'm going to say it was easy at all. As CIO, and I was CIO for the first 19 years at United Therapeutics. I've worked here for 24 years now. So, my first stint at UT was running IT, IT leader. IT is plugged into everything. Your priority is to ensure the ship sails, it works 24/7. You're always on call, you have to be careful about what solutions you roll out. And frankly, after you have vetted the needs of the company, the needs of your users, the solution or technology, you've got to live by it. And pretty much as CIO, you cannot dictate what technology a company uses. And I use the word dictate very loosely, I don't mean, dictate what I mean, you have to set the standards. Innovation, on the other hand, that's a whole different skill set. You're working with people that are much smarter than you. You're working with people that are experts in the industry. And you're coming in to provide assistance where they really don't need your assistance. So it's a different skill set.

Rob Shannon

Yeah, no, that's, that's really interesting. And I think you sort of touched on this, but I was wondering if you had to narrow it down to some of the key elements of the role that you're currently in, what would those be?

Shola Oyewole

I would say, I'm learning the business first. A lot of humility, a lot of patience. You're going back to the drawing board, you're going back to the beginning. Your technology knowledge, it's nice, it's great to have over 35 years worth of technology, but now you're operating in the realm of the business. What makes a business tick? How do they generate revenue? How do we get patients? How to get drugs on the market?

All these are very important things. And if you're going to innovate, you want to work in a space where you truly understand the need of your customers.

Rob Shannon

One of the nice things about storytellers and thank you for sharing that is we have a lot of people that tune in to learn from leaders like yourself and others that we've had on the program, who are aspiring themselves to move up within their respective organization. And so my next question for you, as we touch on some of these issues is advice. If you were to impart some advice to the viewers that we have here today who are looking to go from, let's say, a more tactical type of role, to a more strategic role, where they're helping enable the business, what are some of the key nuggets that you might want to share today with that group of people?

Shola Oyewole

I mean, first and foremost, I'd most give a shout out to my boss who is the president of United Therapeutics, Michael Beckwith, and he has been very supportive of this role, and growing me. So I'd say first and foremost, you've got to become very diplomatic. Because folks really feel like you know, they're good without you. So, you have to, you have to get into the trenches, for lack of a better word, and feel the pain of the business unit. So, you start by targeting one business unit, build your relationship, and understand, be empathetic about the issues that happened. And then you've got to figure out what aspects of technology do you think you can bring into the picture to help that business unit? Start very small. Start with a trusted group of people. And technology is not the answer to everything. You know, as a technologist, we have to remember that. When you start wearing the hat of an innovator, you're no more a technologist, you're somebody that is trying to reduce friction and improve customer service, you're someone who's going to bring a solution that may not be even recognized at the time. So I'd say the first skill is diplomacy and a lot of patience.

Rob Shannon

Definitely would serve anyone well, in any role. You talk about technology and innovation. And that's the next sort of section that I really wanted to address with you is around the spirit of experimentation and innovation. But I really like what you said that innovation doesn't really just have to be about technology. And so, when you and I have talked in the past, you've talked a lot about importance of experimentation and how, you're really not innovating unless you're experimenting and, in some cases, failing along the way. I think it's such an important concept. I was hoping you could spend some time with us today, talking more about that.

Shola Oyewole

I am always experimenting. Anybody that knows me very well will tell you I'm always trying things. Experimentation is a low-cost way of trying something out. If you walk into a room with a solution already baked, you're in trouble, it will not be adopted, it will fail. What you do by experimenting is you're building a relationship with whom you're trying to help. You're trying- I call it love fidelity prototypes. You're like, does this is work? You're trying a little bit at a time testing each one, testing each one. And because you're experimenting, you're giving yourself as well as your clients that opportunity to pivot to improve on that idea. I employ design thinking in almost everything I do. And design thinking is that continuous learning that iterative thing. I'm always experimenting, I am never going full blown, "Oh, we're gonna do this." No, let's try this. With Generative AI now we've tried four different models, all little, little proof of concept. Experimentation is key, I believe, to build that kind of trust, and also educate both yourself as well as your customers.

Rob Shannon

A lot of really useful knowledge that you've just imparted. And sort of as you're speaking, one of the things that's come to mind is, in today's day and age, so many people want the quick fix. And a lot of what you were just referring to is iterative, small, incremental improvements, maybe having to go back and restart. I imagine that might create some cultural challenges within the organization or within the teams that you work with. How have you managed to deal with that and help instill this culture that you just so eloquently described?

Shola Oyewole

I'd say that is why I adopt experimentation, because experimentation shows the customer, what they get to get. They're already involved in a problem solving, they see the light at the end of the tunnel, right? And frankly, I wouldn't get involved in a customer that has a mission critical business. And probably don't, you know, they probably don't have the time to iterate through experimentation. I'm very careful about what project I try to introduce within the company business unit. So, I would say, experimentation, encourages your business partner to stay committed, because they can see the iterative process, they can see the improvement every time you're engaging them.

Rob Shannon

Thank you for sharing that. One of the things that really jumped out at me when we met for the very first time was, in talking about this spirit of innovation and experimentation, you talked about the concept of a shark tank within the United Therapeutics organization. And, quite frankly, most of us, if not all of us, that are participating here today are familiar with the television show, and probably have some vague concept of how you might be applying that. But I really would like for you, if you can, to share with the community that we have participating today. Some more details around that shark tank that you've spearheaded internally at UT.

Shola Oyewole

Oh, thank you. Um, so we call it the big idea. And the big idea is a competition limited only to United Therapeutics employees. What we're trying to do is we're trying to democratize ideation. Remember, this is a very, very innovative company. We're pushing the edges of drug development, we're manufacturing organs, we're doing all these fantastic things.

However, I'd like to give everybody, every employee an opportunity, you know, to have their idea seen, heard, voted up. And we set up a portal by a company and encourage folks to contribute ideas. The requirements were as follows: the idea could be on practically almost anything. It could be around the business, it could be around R&D, it could be about even improving the employee experience, and the four major categories. And everybody that participated would post an idea, and probably a high-level step, how to implement the idea. And we'd let these ideas sit on the board, the portal for a few months, and all employees have visibility and vote on the ideas. So the ideas with the highest votes, plus with the judgment of a steering committee, we round the highest ideas to the top five. The top five ideators now present their ideas to the sharks. The sharks comprise of board members, and some senior leaders in the company. The winning ideator gets $100,000 to develop a working prototype of the idea.

Now, as an employee, you get the $100,000, but you have a $100,000 budget to develop the idea, even if your idea is going to cost $100 million. The point is, you need to develop a low fidelity prototype of your idea. And that gets re-presented into the business. And if it is something that company wants to adopt, then we will. We've had numerous ideas come out of the Shark Tank. We've had about four ideas. So far, we filed two patents on two ideas. And this is probably one of our greatest Employee Engagement programs we've had in a while.

Rob Shannon

That's amazing, I can imagine people getting so excited about that. Not to mention the type of corporate culture that that creates where a company is supporting its employees in that way, particularly given the important work that United Therapeutics is doing. To the extent you can if we can just maybe dive right back into that shark tank for a minute. To the extent you can share, because I'm sure there's a lot of proprietary, whether it be technology or innovations, perhaps something with our viewers that might be more tangible that was developed through this. Are there any, anything that you can share with us because I find that concept so interesting.

Shola Oyewole

Yes, one of our employees who was a nurse and had catered to show the specialist nurse and her specialization was pulmonary hypertension. She had anecdotal information, and experience about relieving pain during therapy. And she came up with a very, very simple accessory. You know, something called... it's a kind of plastic thing you throw into your beer cooler to cool your beer. Apparently, if you laid that ring out of your body, where the needle goes in, it relieves the pain. Very low tech, very simple. Great idea. And we also have another group of biomedical engineers that invented a device that you could use to transport organs for transplant. To make sure they're optimally transported – there's a patented for that. And so, you know, those are the two winners the first time around this. We run this competition again, around Thanksgiving. And, again, we have a whole bunch of ideas, which are kind of proprietary right now, because we're in the process of filing patents. So we've run the whole gamut of very low tech, low hanging fruit ideas, to really sophisticated medical devices. And they all came from this competition.

Rob Shannon

That's amazing. I'm sure a lot of our viewers and participants today are taking copious notes on that, no doubt, going to be starting up similar types of initiatives within their organizations, which can only help to benefit everyone. So hopefully, we'll be hearing a lot more about that in future episodes of storytellers. In the beginning, we talked a little bit about technology more than a little bit, and everyone is talking about artificial intelligence. But you have a really unique perspective, given your role and the type of organization that you've worked for as far as how you are, and your team is, leveraging AI to help find cures for rare diseases. I was hoping you could tell us a little bit more about how you're out actually leveraging AI technologies in your work at United Therapeutics.

Shola Oyewole

Um, so AI has been with us in the world for the last three, four or five decades. It just became more pedestrian, more mainstream sometime last year with generative AI. So, in that sense, I'll talk about generative AI. We use generative AI for different purposes, all over the organization. Now, for R&D, in particular, as a company that manufactures organs, human organs, we, I'm not sure if you're familiar with a gentleman that received a pig heart as a transplant sometime last year in Maryland. Now, that was a genetically modified pig that we had grown. And it was done in such a way that it had the correct number of pig genes and human genes added together to ensure its organs were human compatible when transplanted. Where I see AI helping in the future of things like this is artificial intelligence relies on a lot of data, a lot of information. And I feel that with more information that has been gathered and collected today, not just in my company, but in the industry in general, AI can be used to help us be more targeted, as to what DNA we could extract, or include into an animal to ensure the animal can grow human compatible organs.

I think today, there's a lot of experimentation. Try this, try that. Likewise, in the non-transportation world, in drug development, every disease has a malfunctioning protein, right? And the goal of every drug company is to find a compound or a molecule that can detect and find that protein in the body. All of these can be done with artificial intelligence. If you can revert the molecules or the compounds to mathematical numbers,
a disease protein to mathematical numbers, and then you leverage AI in general to do a match and say, okay, molecule A, will attach a protein B, and shut down the disease. I believe that this, as soon as it is widely adopted enough in our industry, I believe that this will cut down R&D by a significant amount of time. These are the ways that I see AI helping, you know, accelerate drug development in the biotech space.

Rob Shannon

That’s a really interesting case study, and so many questions come to mind. And, and again, I know we've just posted the poll, so please take some time and fill that out. While our community is working on those poll questions, Shola, you mentioned data, I'm curious about the data to inform the models that you're currently using, to the extent you can and we have some time left. Can you maybe talk about the beginning of that journey? You as you're doing the generative AI and running those models? What can you tell our viewers that are involved or interested in maybe starting their own types of generative AI programs like this at biotech and life sciences companies about the data?

Shola Oyewole

Well, so therein lies the challenge, right? Because for any good AI model, you need data management. And I'm not going to say that that's an easy thing to figure out. I would say at the very onset, we collect every form of data that we can. On our devices that are used to configure organs, we collect data, we collect pure text, we collect data from all the machines. Because the expectation is at some point you can take a look back at everything realistically. The AI might be able to prepare me and help guide the kind of research you should be doing... to help guide protocols you designed for clinical trials. So, I don't have a scientific or a structured way to advise you on how to collect data or where. I'd say in anything you embark on, try to collect every piece of data. It is easy to delete the data down the road, it is hard to build an analysis if you did not collect data to begin with.

Rob Shannon

Thanks for sharing those insights. I want to circle back. There was a question that actually came in from one of our participants- really a comment- enjoying your story about moving from an IT role into that of an innovation role. And I want to kind of go back to that. You've been in the organization for 20 years. Plus, you've worked with a lot of teams and a lot of individuals. I know you've provided some advice and guidance, but maybe let's take it from another standpoint. As far as constructive feedback, things that you've seen in people that you've worked with that might be perhaps preventing them or a roadblock in having them move to that next step. How would you coach and counsel folks that that might be in that type of position where they desperately want to get out of their current role. What other kinds of nuggets of advice would you give to people that are, are wanting to really kind of make that push from a tech role to that of an innovation or a business enablement role?

Shola Oyewole

Well, I'll say, if your role is an IT leader today, for you to even move into that role of innovator, you have to build a rock-solid IT organization and IT system. There's no way an organization can begin to trust you, if you don't already have that as the background. So first and foremost, everything needs to be in order, and you should be able to have IT handed over properly to another group. And then your organization will also need a very good mentor. Like I told you, my president is my mentor, he encourages me, he opens the doors for me. You need people that believe in innovation. With that being said, you have a lot of homework to do. As an IT leader, you cannot determine what things were wrong at your own pace, in business. But as an ideator you're now a partner, you're now leading from behind, not from the front. And you need to build enough trust that they're willing to listen to you.

They don't have to listen to you anymore. You're not a CIO, you know, you're just an ordinary person at this point. So, I would say learn the business. Find a business unit that you think could do with some novelty, some new stuff, not for the sake of it, but to see where they can optimize things. Partner with them. Walk in their shadow, walk in their steps, go through the pain they're suffering, recognize the pain, and then see if you can find a low fidelity proof of concept project that can help alleviate that suffering. That's why I use the word experiment. "Hey, can we try this, we try that," and each time improve on every version of a proof of concept that you have. But again, you're no more leading IT, you're now leading from behind. Build trust, learn the business, and do small experimentations. And the most important is forget support.

Rob Shannon

Well, thank you, that's great advice, not only again, for people that are looking to be mentored, but there are a number of people on our attendee list here today that are very senior within their organizations, and I think that's excellent advice for those folks that might be looking to mentor other individuals in their teams. So thanks, again for sharing that.

Shola, we have about four minutes left, in our time allotted, and I know that there was, you know, sort of an issue that you wanted to dive into around open source R&D and funding. I thought maybe you can talk a little bit about that and maybe pose that question to our viewers here today.

Shola Oyewole

So, I've always wondered if it would be helpful if, in my industry, there was an open-source concept, where pharmaceutical companies can get together and kind of share data. Of course, financed heavily by the government. And we've seen this work before. Remember, during COVID, there was a race for a cure. You had a whole bunch of companies with government funding, you know, begin to iterate till they developed a few vaccines. I was hoping we could use that same experience to expand on drug development. And I told you earlier, I said, the future of R&D is going to be mathematical. Many companies have molecules, and all those molecules, if they could be converted into mathematical models, right? We could find diseases that these molecules could be used for. So rather than Company A having just 11 molecules, company being having 200, well, we're saying, let's mix it all together with an open source consortium and see what molecules- maybe a combination of A and B- can we use for what diseases. United Therapeutics operates in a rare disease space. Let me say less than 100,000 patients with this disease, it's fraught with risk? It is.

It's just a very risky business today. So could we balance that out by other companies, you know, targeting small populations, but with a mix of molecules. It's not super well thought out. But that's where my thinking is, the future might be in accelerating drug development.

Rob Shannon

That's an interesting perspective, and I'm sure that's on the mind of some of our other viewers as well. You know, as someone who's more of a lay person in the life sciences field, what it tells me is that there's hope in getting groups of consortia together to work on some of these diseases, not just rare diseases. And I think that's outstanding to making that progress.

There was another question that came in here just a few minutes ago, Shola. The question was: How do you instill innovation down to the individual and team level at United Therapeutics?

Shola Oyewole

Innovation is in our DNA. And what I do, by running a shark tank and extracting that from everyone at the company, is say OK I know innovation runs in your blood. This portal, this program is to encourage you to share. We democratize ideation and product building by inviting every person in the company to innovate. Innovate in whatever skill set you have. Innovate in whatever space you have. Everybody has an idea. And the hope of the program is to draw that out.

Rob Shannon

Thank you, Shola. Well, we're out of time. I wish we had some more time. I would definitely love to have you back to give us some updates on these clinical trials and the important work that you're doing. I know that our community is going to want to hear about that as well. They can definitely hear you speak in a few weeks at the AI Tech Stack Master Exchange in April in Atlanta.

If you haven't done so already, please follow us on the Intelligent Enterprise Leaders Alliance LinkedIn page. Thank you very much, Shola, and we'll see you soon!

Shola Oyewole

Thank you, Rob! Thank you, everyone!