

Age of With™ Podcast

Ep. 2 A conversation with Prof. Rajesh S Upadhyayula

From Deloitte India's AI practice this is the “Age of With™. A podcast series that looks at the evolution and coming of age of Artificial Intelligence, where humans *with* machines work together to harness its full potential.

In these conversations we unpack the full impact of human intelligence working *with* machine intelligence. It's application across businesses, speed *with* precision. Its value in solving real life problems, insight *with* purpose. Its correct use in building a better world, ethics *with* accountability.

The technology is smart, but we make sure the way it's used is smarter.

Here's your host, Prashanth Kaddi.

[00:00:00] **Prashanth Kaddi:** Hello, my name is Prashanth Kaddi and I'm a Partner at Deloitte's Data and AI practice in Consulting. Today, on The Age of With™ podcast, we have Professor Rajesh Upadhyayula. He is a professor at the Indian Institute of Management, Kozhikode, and he's also the Executive Director of the IIMK-Live programme. Live stands for laboratory in innovation, venturing, and entrepreneurship. It's a business incubation and entrepreneurship development centre that is established by IIM Kozhikode, and he's at the forefront of it. Welcome to this podcast, Professor Rajesh.

[00:00:42] **Prof. Rajesh S Upadhyayula:** Thank you, Prashanth. Thank you. Thank you for having me on this podcast.

[00:00:47] **Prashanth Kaddi:** Professor, I know you are a professor of strategy, but you have a very keen interest and you've been a close observer of technology and business trends. What are your thoughts on the AI/ML of today and how it's going to progress, especially, vis-a-vis the holy grail of strategy, which is getting a sustainable and competitive advantage?

[00:01:05] **Prof. Rajesh S Upadhyayula:** Thanks, Prashanth for that interesting question. What I will do is, I will take a step back and look at innovation in the larger sense. And, if you really look at innovation...innovation is done primarily to do value creation. And the second part of innovation is primarily value capture. So, these are the two aspects that people innovate for. And, if you classify different kinds of innovation, there are again, three kinds of innovation that are possible. One is disruptive innovation, which is primarily led by technology disruptions. For example, if you try and look at the steel-making process, it changed from blast furnace to arc furnace—electric arc, and that was a disruptive technology that changed that. And the second one, probably one of the examples that I look at is, the

biotechnology industry, the formulations' changed from a chemical formulation to a biotechnology formulation in the pharmaceutical industry. It's again technology, right? So that's where it is called disruptive innovation. The second innovation is what is basically known as business model innovation. So, this is where disruptions are happening in technology at multiple levels, and all of these congregate together to look at value capture and value creation to change business model. So, an example here can be Amazon, which happened because, primarily if you really look at Amazon's story, it happened because of the long tail, and the long tail could not be serviced by bookstores, physical. And those physical bookstores, primarily were looking at, publishing and servicing those readers, which have large number of sales. Whereas the technology helped in terms of cataloguing on internet. And there were courier services already there, in the arena, which can deliver those books. And that's how, you know, the long tail could be captured as a market by Amazon. So that was the business model innovation that happened through a congregation of different technologies. And I see the AI/ML space pretty much in that arena, if you really look at, because there were technological innovations in terms of the way we look at storing data, movement to cloud. Then the second aspect that I was looking at is accessing the data, the way we used to access the datasets and capture the datasets. That also has changed. There's a lot of technological innovation that happened around that. Lot of video technologies, audio technologies, text, whole set of data is getting captured. The third set is the analytical engine and the algorithms that are behind the AI and ML. And there were a lot of improvements around that. And so, that's one part of the story of the innovation—the emergence of innovation in business models. And the third innovation that I classify is as value innovation. Whereas the first two that I talked about, business model and disruptive innovation, work for nearly existing market setups, value innovation or blue ocean strategy, as strategists call, is primarily looking at non-existing markets or non-customers. So, these are different kinds of innovations that happen. But why innovation is a critical cog in the wheel for any entrepreneur or business? One of the things that most of us fail to understand is the life cycle of the innovation. And that's very critical. So, the life cycle of innovation has four aspects. One is what is called as emergence of the innovation across these three areas. The second is early adoption, and the third is what is called as democratisation of the innovation. And the fourth is obsolescence. Some innovations get obsolete. So, between these stages, if you really look at, classify AI/ML, I see yes, there are a lot of early adoption of the innovation, but I'm not sure whether it has got the favour and which industries have the favour for that. And which industries still don't take that or adopt that innovation of AI/ML into their own business models. I'm not sure about that. But then, the important aspect is the ones who scale from early adoption to democratisation are those who succeed. And that's what we observed with any general technological innovation. To take the example of two innovations that happened in the phone industry. For example, the satellite phones came in and there's also cellular phones, which came in immediately afterwards. So, the satellite phones dissipated away. So, it became obsolete. So, some of the early innovations, just turn out to be what you call a fad, and then they die out. So, it's important to understand that this early adoption has to be managed properly so that it can reach the level of democratisation. So, this is my view on the AI/ML life cycle. However, you being a very inspiring leader in AI/ML and well known as a thinker in the AI/ML practice, I want to understand from your perspective, what is your experience of this phenomenon at close quarters working with whole lot of business clients, and where, which stage AI/ML is at this current juncture in this journey?

[00:06:50] **Prashanth Kaddi:** Thanks professor. So, indeed, AI is truly in that point of inflection between early adoption and democratisation, as you know, you so well put it, right. And some of the drivers of this have been fundamentally digitisation, right. So, I think there was the whole, let's say, journey of digitisation of processes, which led to generation of vast amounts of data. So that was the digitisation of data. From there we said, how do we digitise what needs to be converted into insights from data. So, in some sense, it's digitisation of insight generation and AI/ML has actually tried to do what we call the digitisation of cognition, right...which is how do we actually make sense out of this and drive it in a more prescriptive fashion, as a human would have made a decision, right. So, a lot of digital experiences are actually driven by AI/ML, right. So how we experience. If service is often, determined by what level of personalisation we get to it, how much it talks to us, how much it recommends, what else we could like, et cetera. So, it just wouldn't be the same. We did a large survey with about 300 senior executives, which we call—The state of the AI in the enterprise. And what we did find is at least in the enterprise, the strong belief and optimism and bullishness about AI and its importance, right. I mean a lot of adoption in the early phases was more of as a proof of concept, but increasingly enterprises are looking at how do we industrialise this? Embedded into our business processes or into our business models and therefore create, you know, sort of value out of it, right. So, and, and how is that tangible? In fact, some of them are moving towards strategic outcomes as well. So, the good other heartening fact that we see, is whether the businesses were family-driven, small, large with the advent of a lot of other democratising forces, which you also refer to such as cloud, availability of computing, availability of algorithms, et cetera. It truly has become available to all enterprises. Now, obviously the usage of the outcomes is a little bit of an education process, which still needs a culture change, which obviously is perhaps the next step before this whole, AI, takes root inside enterprises. But there is, you know, the choices that enterprises have are pretty stark today. Either we adopt and thrive, or we ignore it, become obsolete ourselves. Right. And I think it is a differentiator that can separate them in the marketplace from their rivals. So, it looks like it's an idea whose age has come and therefore, you know, is unstoppable. And, and that's what we see as well playing out in the market. Right. So, I think, that's where we see in our clients and our markets where we service, and we have conversations.

[00:09:49] **Prof. Rajesh S Upadhyayula:** That's interesting. That's interesting. Prashanth nice to know the adoption from multiple sectors and what you call as democratisation across various categories of enterprises too.

[00:09:59] **Prashanth Kaddi:** And on that topic, I wanted to pick your brains on one area as well. So, what we see is, there are many things which are needed and some hurdles in actually being able to achieve a more widespread understanding of the power of AI as well as the limitations of AI, so people can make appropriate choices and use them. What do you think? From where you sit, what do you think will make that jump to wide scale, availability and adoption?

[00:10:27] **Prof. Rajesh S Upadhyayula:** Yeah Prashanth, that's a very interesting question. So, one of the things that I see across firms is the recipe is not uniform. So, the recipe is going back and looking at your own business models, and that's where, you know, the business model innovation again comes off. So, innovation cannot be equal to everyone. So,

the adoption and the way they adopt would be very different across different industries, as well, different sizes of the firm, and as well as different ownership groups of the firms. Such as families versus nonfamilies, public sector versus private sector. So, what I mean by that is, if you really see the processes of engaging and delivering value to the customers, in terms of, identifying the customer segments, identifying the products, they require the type of relationships you maintain with customers, the type of channels that you use to deliver that value to the customer. And as well as, your own organisational resources as well as processes to achieve those outcomes, including the partner ecosystem that you have are very specific to these various kinds of firms. And thus, it's very important for AI, whenever the firm start looking at achieving strategic outcomes from AI to look at how do they embed these aspects with the existing models that they have, which parts needs to be replaced and which parts needs to be protected and which part needs to be enhanced or modified. And thus, consequently one has to really look at each business separately and try and understand; you know, how the solutions can be incorporated to suit the strategic outcomes for each business industry even the size of the firm. So, this is what is the broad outline of what firms should do. It's not just a general recipe that everybody can go ahead and implement AI. And from that question, I have a very interesting thing because since you are working closely with clients, if you can, also elaborate on how different players are reacting to this in terms of some of these processes that I talked about that would be very illuminating also, I think for everyone in the business.

[00:12:55] **Prashanth Kaddi:** Indeed, indeed, Professor, and exactly right. So, I mean, there is no one-size-fits-all and which perhaps is the personalisation that AI itself preaches right. It is applicable to the adoption or suitability of AI and what needs to be tweaked within organisations to make it better. Right. So, from a Deloitte perspective, we believe, and this podcast series is actually titled as such, we believe we are in the Age of With™. Age of With™ is humans working with bots or AI algorithms to actually make superior impact, it's not one against the other, but it's both with each other. So, how, you know, each organisation looks at it and even within an organisation, different functions look at it is fairly different across the value chain. If you look at, from the customer-facing functions to the operations functions to the backend functions, et cetera. So, each of them has a different value that, can, you know, pocket of value that they can dip into and create for the organisation. Business models is obviously a very critical role. For example, we have actually worked with, one of India's large companies, which wanted to transform one of their businesses from a product business to a services business. And there are some interesting issues which come about, which is how much is usable life of a product, how much is the wear and tear of a product and therefore, what should be the pricing strategy? How do I make sure I make EBIDA when I price something in the way that I do? And critical for all this is the ability to model this. And obviously the data which typically comes in several products from IOT devices, et cetera. Right. So, this is one example of a business model transformation, but there are, there are several others, right. And the ecosystem point that you touched upon is also very valuable because no longer can an enterprise hope to build everything or buy from a single place. Right. So, one needs to sort of make friends and have a network or have partners who do have an ecosystem that they can tap into, which is the power of the many, right. Each focus on certain things. And we like to call this, for example, as a conductor of an orchestra, where each instrument may actually have to play something differently. Right. And that's how we look at ourselves and we're not therefore, you know, whether it's start-ups, whether

it is large other services or boutique companies, niche companies, et cetera. We also look at how do we collaborate to bring all of this, to bear together on every problem that we do. And you're aware of the Deloitte AI Institute, which is one such endeavour. How do we create a platform where the latest thinking from a research perspective, the advances and learnings from an academia perspective, the problem statements that we see from an industry perspective, and, you know, obviously the practitioners that we bring from a consulting perspective, come together and are therefore able to create solutions and value, which would independently not be possible? So, I think that's something that's, that's a big focus for us. Globally, a lot of research is getting channelled into these interactions as well. So, on that note, I know, you actually lead the IIMK Live, which is creating this whole business accelerator and obviously you've been on the industry side and the academia side, and you have been a strong proponent of how the two together can actually, make a much better impact. So, what are some of the thoughts on how these collaborations have the potential to take the AI agenda forward?

[00:16:27] **Prof. Rajesh S Upadhyayula:** That's an interesting thought Prashanth. So, one of the things that I keep observing whenever we looked at, the power of AI till now has been, the focus has been primarily from the angle of technological institutes and the collaboration between the industry and the technology institutes was pretty much advanced and rightly so, because when technology is at its early stage, when it's emerging to early adoption, there's lot of focus on the development of the technology and the algorithm and, you know, the way you can handle all of that. And that's, the collaboration between academic institutions, especially at the technology level and industry will go up. But however, the stage from an early adoption to democratisation is what we call is when you know, the business models will start, getting fine-tuned and refined. And that's when I think it's still in the early stages, as you know that all of us are aware that we have entered, IIM-K Live has entered into a partnership with Deloitte to handle a programme for acceleration of start-ups in the AI/ML space. And these collaborations are not so much witnessed as of now in the AI/ML space. And more such partnerships would lead to a lot of refinement of business model that is specific to the Indian context. Because contexts are important. Research needs to be done across institutions. Probably you will witness these collaborations already at a Deloitte level in markets, such as US and other places, but you may not see in emerging markets and this kind of collaborations will help accelerate the adoption of AI and ML, even in the emerging economies and developing economies context, and thus refining business models across the world. And this is one of the things that I'm a strong advocate of. And I believe that, collaboration between any industrial's organisation and academic institution and a business should enhance the process of both value creation and eventually the value capture to a variety of stakeholders.

[00:18:37] **Prashanth Kaddi:** Indeed, Professor. Actually, with the diversity that we have, I personally strongly believe that if we can solve the problems that Indian people as well as enterprises face, those solutions will work pretty much anywhere in the world. Clearly, we can be world leaders in this space, leapfrogging, you know, all the other phases that we might or might not have gone through. So, anyway thank you so much, Professor, for being on this show, on the Age of With™, and thanks to you the audience for tuning into this podcast. Look forward to more.

[00:19:08] **Prof. Rajesh S Upadhyayula:** Thank you Prashanth for hosting.

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