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WILLIAM & MARY

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EPISODE 201: RAJIV KOHLI: A BREAKTHROUGH TECHNOLOGY

Rajiv Kohli

It is an extremely smart machine that can process many lifetimes worth of experiences in a second and give you an answer.

Female Voice

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Ken White

Welcome to Leadership & Business, the podcast that brings you the latest and best thinking from today's business leaders from across the world. Sharing strategies, information, and insight that help you become a more effective leader, communicator, and professional. I'm your host, Ken White. Thanks for listening. Well, since we first heard about it back in December, the buzz has continued to grow surrounding ChatGPT and other LLMs or large language models. Companies and organizations are working to determine what role these LLMs will play. Our guest today calls ChatGPT fast-moving and fast-growing. And more importantly, he says LLMs are a breakthrough technology with great potential, much like the Internet when it was first introduced. Rajiv Kohli is a professor at the William & Mary School of Business. He's among the top 20 management information systems researchers in the world and an expert in digital transformation. He joins us today to talk about LLMs, what they are, and where they might take us in the future. Here's our conversation with Professor Rajiv Kohli.

Ken White

Rajiv, thanks for being here. Great to see you and great to be with you.

Rajiv Kohli

Thank you, Ken. Pleasure to be here.

Ken White

You've been busy doing some global travel with students. What's that been like?

Rajiv Kohli

Oh, that's been wonderful. Particularly this last trip that we had to Israel. That was just an amazing trip, both from the academic perspective and then visiting Jerusalem was one of my dreams to be there, and it did not disappoint.

Ken White

Yeah, the students are still talking about it. Yeah, they said it was transformational. You can't beat that.

Rajiv Kohli

I've heard words similar to that where it was moving, touching, transformational.

Ken White

Wow. Fantastic. So we ask you today to join us to talk about ChatGPT. It seems like everybody's talking about this, and no one seems to know really what's going on. What's your reaction? What are your thoughts in general about ChatGPT?

Rajiv Kohli

It's a breakthrough technology. It's one that I think brings in a lot of excitement, opportunity, and with that comes fear. But I'm very excited about ChatGPT and systems like those, which are called large language models at LLMs. ChatGPT is a brand name, and there are many others like that. But this is not a surprise, Ken. A lot of the building blocks of what's ChatGPT have been around for a very long time. We've been putting them together, and finally, they've all come together to create something that seems very amazing. And it has a lot of opportunity. It has a lot of promise.

Ken White

So when you say breakthrough technology, what's another one in the past that we saw that you would consider a breakthrough technology?

Rajiv Kohli

Yeah, there were several. So Internet, it was a breakthrough technology that connected the world. Then there have been others, like Nanotechnology. We've seen things that have kind of broken the mold and changed the way we do things. We live our lives.

Ken White

Wow.

Rajiv Kohli

So the Internet and Internet-based models, business models. Amazon changed the way we shop. Airlines, the way we book our tickets. When was the last time we went to a travel agent?

Ken White

Right, so breakthrough. This is big.

Rajiv Kohli

This is big, and it has a huge potential that is not yet recognized. Those models will emerge much like when the Internet was first or worldwide web was first developed. We couldn't have imagined Amazon. We couldn't have imagined eBay. We couldn't have imagined Google search engine. These are all things that were built on top of that.

Ken White

Yeah. Wow. Have you used ChatGPT?

Rajiv Kohli

Yes, I have. I have played with it. I have used it for work. And it's exciting.

Ken White

How did you try it? How did you use it? Because that's what a lot of questions people will ask me, or rather, that is the question I'm asked. How do I start?

Rajiv Kohli

Yeah. So I used it in a slightly different way than most people use it. I've used it for asking questions or trying to find some underlying causes of things of what the research says about a certain topic. But the way I used it, and I found it very interesting, was I had written this paper, which is like 20-page long paper, and I had to then write an abstract, which is the hardest part, to condense 20 pages of ideas into a paragraph that's less than 200 words. So I asked ChatGPT, I put all this, everything that I had in the paper in ChatGPT, and I said, summarize this in 200 words or less. And it did a great job.

Ken White

Really? You were pleased with it?

Rajiv Kohli

I was quite pleased with it. It was something that a professional writer would write.

Ken White

Yeah. So how do you see that? Speaking of a professional writer, people in marketing, and other people who might use this, to what extent can they rely on it?

Rajiv Kohli

They can rely on it for general, basic kind of tasks. Once you bring in creativity, that's where it fails. It's not magic. It appears to be magic. What it is is really a system that has a very fast capability to absorb millions of pieces of documents it has seen. It's not much different than how we have learned to do things. When was the last time we remembered who taught us not to cross the road without looking on both sides? I don't remember that. But somehow, through stories people have told us, through parents telling us when we were kids, and the examples we've seen, somebody getting almost hit, we learned that. That's what ChatGPT is. It has seen a million examples of the question you are asking, and it is now extracting from that this knowledge that it's sharing with you. So that's really what the essence of it is. It is an extremely smart machine that can process many lifetimes worth of experiences in a second and give you an answer.

Ken White

Yeah. Wow. Now, you mentioned before we were starting to recording that you maybe found a mistake or a little error.

Rajiv Kohli

Yes. So I wanted to ask it what was the foundation of artificial intelligence or how did this term come about? I kind of knew the answer, but I wanted ChatGPT to explain the background and all of that. And that's what it does really well. It summarizes, gives you five facts, and then summary at the end. Oh, I know why I asked it because I knew that there was this conference at Dartmouth in the 50s, but I didn't remember what year it was. So I asked when was the AI as a term come about. And it says the Dartmouth Conference. I didn't mention three or four big names, Claude Shannon being one of them, person who's known for information theory. And I got the date. It was 1956. And then I said, did Herbert Simon have a role in artificial intelligence? Because this is a Nobel laureate who was at Carnegie Mellon. I had the good fortune of meeting him when I was a PhD student, and it came back and said, oh, that's right, sorry for the confusion. Herbert Simon was one of the key figures who was at the conference. He and Alan Newell, his student, wrote these papers. There were seminal papers, and thank you for correcting us.

Ken White

Wow. Yeah. So let's not rely on this. We have to do some fact-checking.

Rajiv Kohli
That's right.

Ken White
Yeah.

Rajiv Kohli
For general things, general concepts. It is good enough to get you started on.

Ken White
How do you see businesses using it?

Rajiv Kohli
Right now, the low-hanging fruit for business is to be able to compose summaries of documents. There is a ChatGPT-like or similar technology-based tool that you can download for free on Apple Store, and it's called BlueMail. BlueMail will write an email for you in a very nice way. All you have to say is sorry, I missed the deadline. And it'll compose a very nice email. So that's the low-hanging fruit. You can start to compose emails. Salesforce is using it to replace cold calling on behalf of their salespeople. So it'll compose a nice email to introduce whoever is reaching out. So those are some of the easier things that you can use ChatGPT. The other things, as I described earlier, you can use to summarize a large piece of document, let's say, minutes of the meeting or board's discussion. And then, if you want to pass on that summary to everybody to press, you can say very quickly that this is what the summary of the meeting was. There are other good examples of ChatGPT being used by business. The concern, and we'll talk about concerns in a minute, is how much can we rely on factual information. So, for example, when I asked ChatGPT, who is Rajiv Kohli? It said Rajiv Kohli is at George Mason University is an associate professor of marketing. Everything was wrong about that. Even when I said, here is Rajiv Kohli's web page, it still didn't recognize me. So these simple things that you would think that it would be able to recognize. So my point is that ChatGPT is good to do things that require automation summarization. It will get better. It is getting better as we speak, and it will be able to do more higher-level tasks.

Ken White
Yeah. Imagine where it'll be 5-10 years from now, right?

Rajiv Kohli
Oh, imagine where it'll be in six months.

Ken White

Wow, it's moving that quickly.

Rajiv Kohli

Yeah.

Ken White

We'll continue our discussion with Professor Rajiv Kohli in just a minute. Our podcast is brought to you by the William & Mary School of Business. This year the Financial Times, Princeton Review, US News and World Report, and CEO Magazine have all named the William & Mary MBA program one of the best in the US and the world. If you're thinking about pursuing an MBA, consider one that has outstanding faculty, excellent student support, and a brand that's highly respected, the William & Mary MBA program. Reach out to our admissions team to learn which of our four MBA programs best fits you the full-time, the part-time, the online, and the executive. Check out the MBA program at William & Mary at wm.edu. Now back to our conversation with Rajiv Kohli.

Ken White

You and I talk to businesses all the time and executives, and I recently talked to a number who said, I think it's time that businesses start thinking about having a chief AI officer. We had a discussion on that. What do you think about that?

Rajiv Kohli

Yeah, so that's a novel idea of having a person appointed for that. I'm not quite sure we are at the point where we need a chief officer. But I think what businesses are thinking about dedicating resources for ChatGPT and ChatGPT-like tools is a great idea. Some of those functions already exist. So, for example, the chief data officer is responsible for data and data use and data summarization and how people can implement the use of data assets that they have. Others may be in the marketing department, for example, people who do statistical analysis on customer behavior, consumer preferences, and so on. So I like the idea that we have somebody who's dedicated to looking into that technology and exploiting some of the opportunities the business has. I think we're a little bit of ways away from having a chief ChatGPT officer.

Ken White

Yeah. I think, at least in the discussions I had, it was more of we're not sure where this is going or what to do. Let's put somebody in charge is sort of where it went.

Rajiv Kohli

That's for sure. A lot of people who are more closely involved with ChatGPT and similar technologies are not quite sure where they're going to go. It's not that they're not sure. It's that they can't imagine the possibilities.

Ken White

Wow.

Rajiv Kohli

The possibilities are tremendous, immense, and huge that we cannot imagine where this will go and how it will build upon itself. So the keyword in ChatGPT, G, is for generative, and that's what's distinct about it. It can create more knowledge based on itself. And that's where the excitement is. That's where the opportunity is.

Ken White

Anytime a new technology comes along, people worry about jobs. And will it take jobs? What do you think?

Rajiv Kohli

Yes. So the way I like to think about it, Ken, is that it won't replace jobs. Any technology does not really replace jobs. What it replaces tasks. So unless a person who's in that job is so tied, so married to those tasks that they cannot do any other task, yes, it'll eliminate those jobs. But the way I like to think about it, it's pushing us as individuals, as human beings, to move up the value chain and do things that are more sophisticated and do things that really leverage our intelligence and then seed or give the tasks that can be done by a machine. And this has happened over every technology that has automated things, that we've given the monotonous things, the easier things to technology, and we've then reskilled ourselves to move up the value chain and do more higher level intelligence work.

Ken White

You are known to be an expert in digital transformation. I think that's how a lot of people think of you when they hear your name. Where does this fit in?

Rajiv Kohli

Yeah. So it's very exciting from a transformation perspective because transformation means, at the very basic level, to take or squeeze the inefficiencies out of a process. And so any place where it's taking me longer, or I'm investing more effort, or I have to deploy more people to do that, I can then replace with a piece of technology. It's transformed that process, and it ties with your earlier question about people losing jobs. As I said

before, I don't think that they will lose that job, they will lose the task to ChatGPT, but then it frees them to do more sophisticated stuff. So I think that's where we will see some disruption. From a transformation perspective, it's a wonderful piece of technology that can be inserted into different points in any transaction. And transaction doesn't always mean business transaction. It could be a conversation that you and I are having. It's a piece of information that you want to exchange with me. That's a transaction. If I can make it efficient and quick and low-cost, that's where digital transformation is affected by this.

Ken White

Interesting. It's like using a bot, right?

Rajiv Kohli

That's right. Yeah.

Ken White

It takes care of tasks that other people can then move on to things that where they really need to be.

Rajiv Kohli

And bot was one of the technologies that has created what we know as ChatGPT. So there was bots, there were these Grammarly had this technology. Grammarly is sort of like that because it can process language and put it in. So when all of these and the neural networks and so on, they all kind of came together to create where we are today as large language models.

Ken White

I probably should have asked this right off the bat. We hear the term artificial intelligence. We hear the term ChatGPT. What do they mean? What do they have to do with one another?

Rajiv Kohli

Yeah. So artificial intelligence is an umbrella term which, as I was saying earlier, was 1956 when Dartmouth conference came up with that. Before that, they used to call it simulated human thinking. So it was a term that was created to encompass many different technologies as we know them today. And the key ingredient that makes technology artificial intelligence is that it should behave human-like and it should have the ability to learn from itself, which is also a very human quality. So under artificial intelligence umbrella, you have expert systems. You have computer vision. You have a neural network. You have natural language processing and many other things like that. So ChatGPT is a

brand name that is a large language model. So it comes under the umbrella of artificial intelligence, as are many other technologies.

Ken White

And as you said, it's one LLM. It's just one. It's the one that seems to be getting all the press and all of the notice.

Rajiv Kohli

There are many, many others like that that are more, sometimes more focused on certain areas, some that are subscription based, as ChatGPT is also now.

Ken White

Yeah. Where do you think a professional or a business should start in terms of learning about ChatGPT and kind of getting comfortable with it?

Rajiv Kohli

I think it'd be good for businesses to not be afraid of it, first of all. Second, start experimenting with it before putting it in production. Use it for simple things, as I mentioned earlier, summarizing things, writing an email, just double-checking the facts. If you are unsure about something as to what the basis of that was, let ChatGPT summarize that for you. But then again, take it with a grain of salt because it is known to make errors, and sometimes very basic information, it can go wrong on those. So if businesses have an opportunity to start playing with it, but very soon, I think the fun and games part will stop. And in some cases, like universities, it has already stopped because we are now beginning to see students taking advantage of ChatGPT and doing their assignments. And now it's getting serious to the point where we have to say, all right, we need to put some guardrails around it. And that's what I would advise businesses to experiment with it, see where it works well for them, see where it does not work well for them, and then start to think about how they can bring in their own data, information, history to customize ChatGPT for their uses.

Ken White

That's our conversation with Professor Rajiv Kohli, and that's it for this episode of Leadership & Business. Our podcast is brought to you by the William & Mary School of Business, home of the MBA program, offered in four formats the full-time, the part-time, the online, and the executive MBA. Check out the William & Mary MBA program at wm.edu. Thanks to our guest, Professor Rajiv Kohli, and thanks to you for joining us. I'm Ken White. Wishing you a safe, happy, and productive week ahead.

Female Voice

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