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‘India will emerge as a leader in both agentic AI adoption and innovation’

For **Sharad Kumar Agarwal**, Chief Digital and Information Officer, JK Tyre & Industries Ltd, agentic AI plays the role of a symphony conductor. In an online conversation with **Dr. Indranil Mitra**, Partner, iDAC (intelligent data, agents and cloud) at PwC India, he shared how agentic AI is reshaping manufacturing through process automation, workforce adaptation, and ethical deployment, underscoring the importance of trustworthy data sources and responsible AI governance.

Excerpts from the interview

Dr. Indranil Mitra

Dr. Indranil Mitra: JK Tyre and Industries Ltd. has been a pioneer in driving emerging technologies, from being the first to launch smart tyres in India to deploying AI-driven processes for agile manufacturing. How do you envision agentic AI, a technology that works with minimal human intervention, reshaping manufacturing processes?

Sharad Kumar Agarwal

Sharad Kumar Agarwal: Manufacturing has long been a neglected area in terms of digital innovations. While leveraging automation and robotics has been the forte of the manufacturing sector, using digital tools – specifically AI – in manufacturing has taken a backseat. We found that there is significant value to be gained [from deploying AI in manufacturing], which can be used to enhance the bottom line. It [AI] can help us improve productivity and sustainability, and can be factored in anywhere.

Agentic AI would play the role of an orchestrator of multiple AI agents. They can be LLM agents or RPA agents. Think of it as the orchestrator of a symphony. There are several repetitive processes in manufacturing [that can be automated]. Several robots may be functioning on the shop floor, but they need to work together under orchestration.

I also foresee a lot of industries in India moving towards dark factories. Agentic AI will help a lot there.

Dr. Indranil Mitra: How is India positioned to emerge as a leader in global agentic AI innovation?

Sharad Kumar Agarwal: Several reports say that globally, India has been at the peak of AI innovation. This industrial revolution may have started from the Western world, but India has found a sweet spot in terms of adoption. This is due to multiple reasons – the most important one being the availability of talent. The excellent talent pool that we have here [in India] is open to learning and exploring new ideas. My personal view is that business leaders are ready to experiment, and these experiments are not just proofs of concept (PoCs), they are happening section-wise.

Leaders are trying to bring in the benefits of AI, specifically agentic AI and other digital frameworks, to improve the top line, unlock cost savings and enhance the bottom line. When it comes to manufacturing, the two most important agendas are safety and sustainability. Safety is a top priority for us. As for sustainability, our company as well as our industry takes it very seriously. I'm very sure that India would emerge as a leader in agentic AI adoption. We have been followers in innovations so far, but we can emerge as the leaders.

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Dr. Indranil Mitra: I think your point about sustainability and safety is a game changer, if AI is deployed properly. You spoke about talent. I would like to understand your viewpoint on how agentic AI is reshaping the workforce in terms of human–AI collaboration on the shop floor and how you are upgrading your talent pool.

Sharad Kumar Agarwal: We need to do away with the misconception that AI is here to replace humans. It is meant to enable humans, so humans can focus on using their grey matter. Talent is available. Today's workforce is quite young – most would be in their early or late twenties, and they are doing a wonderful job. We need to redesign our human capital management (HCM) policies to adapt to Gen Z work culture. They won't adapt [to our ways]; we should adapt together, earn the fruits of the labour and help businesses to grow. We have designed offices keeping in mind the talent that we are acquiring now or that will be coming in tomorrow. Companies must thus adapt to the talent – not the other way around.

Dr. Indranil Mitra: JK Tyre has been tirelessly modernising its manufacturing processes. You have leveraged ML and industrial internet of things (IIoT). You deployed digital twins at a time when organisations had only started talking about it. Now you have deployed AI agents as well. This has boosted your competitive edge considerably. Do you plan to expand your agentic AI deployment? Any promising use cases you can talk about?

Sharad Kumar Agarwal: We are surely going to deploy agentic AI on top of the smart factories that we have already built and are building across multiple locations. We're trying to make agentic AI a part of our virtual twins and create a combination of digital and AI twins.

We are also trying to make agentic AI systems run factories for us by enabling them to take decisions wherever human intervention can be minimised. Humans would of course be in the loop wherever the exceptions are beyond the current understanding of the AI agent. A use case that we're building is a failure mode and effects analysis (FMEA) agent. We want humans to focus on how to improve and innovate.

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Dr. Indranil Mitra: Agentic AI and LLMs are very powerful data analysers – capable of deriving actionable insights from large amounts of unstructured data. Do you think agentic AI can be leveraged to pinpoint specific customer preferences? With sales channels and retailers across the country, do you think JK Tyre can leverage agentic AI to enable hyper-personalisation of products and appeal to various distinct market segments?

Sharad Kumar Agarwal: Theoretically, hyper-personalisation is possible using agentic AI. However, agentic AI is dependent on the data it is trained on, so there are possibilities of data bias and hallucination. Agentic AI may not be the perfect tool [for hyper-personalisation at the moment] but it can slowly graduate and be trained [to get there]. It can't be a one-size-fits-all solution.

> “Agentic AI may enable hyper-personalisation for one product but not for another. So, it needs to be trained and retrained with sufficient human intervention.”

Agentic AI may enable hyper-personalisation for one product but not for another. So, it needs to be trained and retrained with sufficient human intervention. Humans must remove any bias they spot. It can't be purely unsupervised learning. Having said that, yes, they can enable hyper-personalisation but can only achieve about 80% of the work. Humans will need to do the remaining 20%.

Dr. Indranil Mitra: Agentic AI can often be difficult to implement and companies may struggle to get returns on what they have invested in the technology. Do you think that the hype around agentic AI exceeds its tangible value? Companies at times push ahead with implementation even when PoCs don't yield the correct results. What do you think is the initial roadblock in the enterprise-wide adoption of agentic AI and how can we remove those to enable successful implementation?

Sharad Kumar Agarwal: The base roadblock is the unavailability of data. All data streams must come together to form a data lake. For doing a pilot, we need to have a very clear-cut value on the table – detailing the investments and the ROI. We must push out the use cases that don't bring value and focus on the ones that do.

And, as I previously said, we need to segregate the foundation layer – where data availability is important. There's a cost to building the data pipeline. You may need to deploy sensors and pull data out of programmable logic controllers (PLCs), supervisory control and data acquisition (SCADA) systems and mobile value-added services (MVAs). You will have to integrate IP security systems.

So the foundation layer has to be thought of as a hygiene function, and the ROI has to be calculated on top of specific use cases.

Another point is sometimes people get attached to solutions, especially if they are part of the team that has built the solution. It is important to focus on the problem. The solution can be anyone's. If the problem has to be solved, and there are ten solutions, one should not be biased about one's own solution.

Dr. Indranil Mitra: You spoke about biases and ethical concerns around agentic AI deployment. Do you have any concerns about agentic AI deployment, especially when it comes to balancing the autonomy of such agents with humans in the loop? Have you placed any guardrails around agentic AI deployments to ensure safety and transparency of the systems in your organisation?

> “If an AI agent has to repair a machine, it should be fed that machine's installation and repair manual, so that the agent won't go to open-source information to find a solution.”

Sharad Kumar Agarwal: Firstly, in the manufacturing sector, we train our AI agents only on reliable data sources. If an AI agent has to repair a machine, it should be fed that machine's installation and repair manual, so that the agent won't go to open-source information to find a solution. So we're trying to narrow the focus of AI agents. Secondly, balancing agentic autonomy with the human interface varies in each case.

We need to see in which cases AI agents can be given full autonomy and where human approval is required. AI agents can be allowed 100% autonomy in some cases, but not all.

You have to see the source of the training data; it cannot be a black box. You will need to remove the biases, though it's easier said than done. It is also important to clearly look into the different AI regulations of each country.

I read that legal frameworks follow innovation. As innovation moves forward, it finds its way. There may be some bad spots – a human may misuse their comprehension capabilities and similarly, an AI agent may get misdirected. It is our job to keep them within the guardrails.

Dr. Indranil Mitra: Thank you so much for your time.

Sharad Kumar Agarwal: Thank you, Dr. Mitra. It was my pleasure. I enjoyed the conversation.