Paving the Way for Digital Transformation of Pharma Industry

Abhrasnata Das | Sunday, 20 March 2022, 03:42 IST

Sreeji Gopinathan, CIO, Lupin, in interaction with **Sudhakar Singh, Editor, CIOReview India**, shares his insights on the approach that must be followed by the pharmaceutical industry for digital transformation.

How do you see the current level of technology maturity of the pharmaceutical industry?

Over the last decade, patient care and management of healthcare services have transformed significantly. Today, technologies, like, Remote Connectivity, virtual sessions, telemedicine, and also IoT-driven care, with data-driven technologies give more insights into how to improve the delivery using artificial intelligence.

The pharma industry being part of the healthcare ecosystem needs to look beyond the traditional ways of manufacturing drugs and supplying them while embracing technology in terms of how we engage with the healthcare providers, be it doctors or other players in the ecosystem.

Today, technologies like Cloud are being adopted more and more for different reasons, matched with it the architecture of the organization is also changing, into a data-driven platform. Secondly, administering the drugs that are manufactured, needs to be better governed for consumption by the

patients. To enable the same, most of pharma enterprises are adopting IoT technologies. Looking towards patient engagement, this has also become very important and advanced digital mechanisms must be utilized to enable effective engagement.

Internally, technologies like AR and VR are also being leveraged for performing the work in a faster and better way. Even in areas like training, when a lot of people are working remotely, it's important to make sure that comprehensive training is delivered virtually in a very effective way. To conclude, numerous things are changing and a lot of interesting work is taking place right across the value chain of the organizations.

How is Lupin adopting new technologies to further increase its competence in the market?

At Lupin, we have taken multiple initiatives to incorporate advanced technologies into our work culture. For example – our chatbot Anya delivers valuable information to everyone more effectively using Facebook Messenger. Currently, it is focused on respiratory ailments like COPD, asthma, and more. A person can go and get the verified information from this Chatbot. Anya can communicate in 13 different languages and we're looking to make that available through other platforms as well.

Furthermore, we have set our journey towards significant digital transformation, where advanced analytics plays a big role in the different use cases. Predominantly, Lupin wants to improve the quality of manufacturing. Matched with it, Lupin is also eyeing other technologies like augmented reality, gamification-oriented training programs, digital twins to leverage different processes in manufacturing and and even packaging   areas.

What are the most critical considerations for pharma companies during digital transformation?

Today, the pharma sector needs to look beyond drug innovation and manufacturing. The organizations must leverage the digital revolution to evaluate and prioritize the high impact areas. Although R&D, production, and supply chain processes may differ, and various pharma businesses may confront distinct issues, there may be certain areas of commonality. The common areas might be in the manufacturing and quality area, where one might look at how to improve the throughput or how to improve the lead? How to reduce losses? How to get into preventive maintenance, and reduce core cost as well as non-core cost?

All these areas need to be looked at carefully for understanding where to focus and how to approach the same. Organizationally, there has to be a top-down strategy which again needs to be supported by a bottom-up evaluation process.

Another big challenge in this time is the capability and the mindset. These are new things and many people who are in the traditional organizations do not have the new digital and data oriented capabilities. However, most companies are now delivering optimum effort in this space and hence, there is a huge competition for these novel resources. To realize effective digital transformation, it has to be a combination of sourcing versus development. An inner focus has to be put in that space with a dedicated mindset. Lastly, all the activity must be supported by organizational setup both internal and external.

What steps should be taken for an effective convergence of IT and OT layers?

Traditionally, OT was standalone in its space. However, with increased digitalization, and availability of data, OT is now gaining more importance. Today, it is important that things like security, data integrity and data convergence be taken care of in a dedicated manner.

The OEM firms offering machines for the OT environment play a vital part in establishing the same. OEMs have not been very proactive in addressing these kinds of concerns in the past, but with the growing impetus, they now need to take it very seriously in terms of how they're going to manage the embedded systems in these machines, as well as the operating systems that go with them, while also managing the upgrades that are required. As technology is advancing at such a rapid pace, they must work together to complete this journey.

Internally, pharma firms must ensure that data interchange is set up using a safe architecture, and that any latency that may have existed between OT data entering the consolidated platforms is minimized as much as feasible. It's also crucial to make sure the data is standardized so that data interpretation can be done properly.

How should the pharma companies address the challenge of cyber security?

Cyber security has been a big issue for both the pharmaceutical and non-pharmaceutical industries. However, due to the sensitivity of the activities undertaken in the pharmaceutical sector, such as the manufacturing of goods and the data associated with them, the cyber security challenges faced by the pharma industry are more critical. For example, clinical trial is a significant area where patients are working with the pharma industry to facilitate some of the trials.

Today, data integrity is the foundation of everything done in terms of compliance, especially now that the world is moving toward a digital economy. This is compounded by the current digitalisation, which emphasizes the need for trust and confidence development. As a result, once the system and tools are in place, an integrated operations management layer must be built on top of them.

We need to stay ahead of the game and make sure that some of the proactive detection that other providers have done is implemented in terms of threat management in our area, as well as creating and correlating that with other activities that are happening in the organization, even externally. This type of orchestration technique, as well as operations management, is crucial.

How do you envision the future of the pharma segment in terms of new technology adoption?

There are numerous technologies like chat bot and other mechanisms that the pharma segment is working on. In the days ahead, internal processes are going to be data driven and automation driven, with ensured security. To conclude, the pharma industry must move towards a progressive journey to adopt new technologies while maintaining information security.

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