BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

Enhanced traceability plays a crucial role in building a resilient biopharma supply chain

February 4, 2022 | News | By Hithaishi C Bhaskar

In conversation with Aik Jin Tan, Vertical Solutions Lead, Zebra Technologies (Asia Pacific)



In today's pharmaceutical industry, disruptive technologies such as the Internet of Things (IoT) and artificial intelligence (AI) are key to building a resilient Biopharma supply chain. The IoT healthcare market in APAC is expected to grow to $201.93 billion by 2027, while the global pharmaceutical AI market is expected to grow from $699.3 million in 2020 to $2,895.5 million in 2025. There is growing interest in AI and IoT developments in APAC's pharmaceutical environment, with countries in the region beginning to explore AI and robotics to solve healthcare challenges and improve existing healthcare systems and workflows. **Aik Jin Tan, a Vertical Solutions Lead at Zebra Technologies (Asia Pacific)** shares more insights on the concerns and competitiveness at the Asian Bio/pharma supply chain. Edited excerpts;

- **How do you foresee digitalisation trends in APAC pharmaceutical supply chain improvising visibility, agility, and business resilience?**

Unpredictable events and increased customer expectations have exposed the vulnerabilities of the pharmaceutical supply chain. The ongoing COVID-19 pandemic has launched manufacturers and supply chain organisations into a race toward a digital future, as it highlights the importance of technological innovations such as AI and robotics, helping to solve many of the challenges that exist within the pharmaceutical sector today.

Machine learning (ML) is one example of such innovation. ML has the ability to analyse individuals' profiles and compare drug efficacy and demand. Through this process, pharmaceutical manufacturers can then adapt their medicines accordingly to create improved predictions on the use of specific medications and increase the effectiveness in particular individuals.

Enterprises are continuing to leverage technology to improve pharmaceutical supply chain operations. Zebra's Pharmaceutical Supply Chain Vision Study found that pharmaceutical industry decision-makers believe the use of enhanced track and trace technology is critical in strengthening supply chains and meeting patient expectations around medication authenticity, availability, and quality assurance. This comes to no surprise since 96 per cent of enterprises agree that supply chain visibility provides a clear competitive advantage. There is also a greater shift to more responsive and predictive operations over the next five years as enterprises in APAC leverage real-time data to build more efficient and resilient supply chains.

- **Can you elucidate Zebra's statistical interpretations regarding the implications of IoT and AI technologies for leveraging a resilient Biopharma supply chain?**

Technologies such as rugged scanners and IoT and AI technologies that help improve productivity and visibility in the supply chain are being prioritised as decision-makers recognise the benefit they provide in helping to improve traceability within the supply chain. Zebra's Intelligent Enterprise Index also found that 74 per ent of APAC organisations have an IoT vision with plans to execute it, of which 55 per cent have already implemented while up to 43 per cent are planning to implement it within the next few years.

Enhanced traceability plays a crucial role in building a resilient biopharma supply chain. Pharmaceutical industry leaders are now realising the importance of modernised operations, led by technologies that enable next-level visibility and traceability.

- **Are industry decision-makers' strategies efficiently prioritising IT investments to harness the technology to sustenance an agile biopharma supply chain?**

The pharmaceutical industry will need to invest in technologies to ensure an agile and efficient biopharmaceutical supply chain. According to Zebra's Pharmaceutical Supply Chain Vision Study, 92 per cent of industry decision-makers surveyed in the study are planning to increase investment in pharmaceutical manufacturing and supply chain monitoring.

This shows that industry decision-makers are aware of how technologies can improve and strengthen existing supply chains to meet patients' expectations. According to the same study, pharmaceutical industry decision-makers are prioritising IT investments in their future strategies. Almost 90 per cent (89 per cent) are planning to increase their IT spending within the next year, with 42 per cent indicating the increase will be more than 10 per cent. In addition, 86 per cent of surveyed patients agreed that technology investments provide a competitive edge in managing supply chain stability, security, and traceability. By doing so, track and trace technology can enable end-to-end visibility, streamline operations, and achieve compliance.

- **Can you outline the major concerns at the APAC Biopharma supply chain? How successful is the region in tackling regulatory challenges?**

Currently, there are many challenges and issues affecting the pharmaceutical supply chain, including the need to prevent, detect, and respond to risk and threats posed by standard, fake and counterfeit medicine, quality assurance issues, as well as the need to keep pace with the adoption of technology innovation.

In APAC and around the world, regulatory delays are the top supply chain challenge faced by industry decision-makers. Regulatory delays include facility inspections, longer approval timelines, more in-depth inspections, and increased quarantines. About one in 10 lags in meeting regulatory requirements; this remains a potential threat for the pharmaceutical industry. In APAC, over three-quarters of patients say more regulation of pharmaceuticals is needed, and nearly all (95 per cent) decision-makers say better cooperation between governments, regulatory agencies and pharmaceutical industry companies is needed to protect patients, the highest of any region.

In a highly regulated industry such as pharmacy, where quality and efficacy are paramount, improvements support regulatory compliance and patient protection and are enhanced by increasing investments in technology. The importance of data quality and integrity is driving the change for a safer, more agile, and more resilient supply chain that can stand up to future market disruptions.

The pandemic has been a wake-up call for enterprises across the biopharmaceutical supply chain in the APAC region. Increased supply chain disruptions have forced many to reflect on how they can do more to keep pace with the adoption of

technology and improve their resiliency in times of disruption and crisis.

- **How do you describe Zebra's efforts in driving transparency and supply chain resiliency in the biopharma industry?**

Pharmaceutical companies are facing increased challenges presented by strict regulations, costly recalls, counterfeiting and product protection across the supply chain. Meanwhile, managing the pharmaceutical supply chain is complex with greater demands for business innovation, security, reducing costs and improving customer satisfaction.

Zebra Technologies is assisting pharmaceutical companies/ enterprises across different stages of the supply chain for better-informed decision making in research, manufacturing, retail and clinical care. We help optimise operations, meet strict safety regulation requirements more efficiently, prevent and detect risks opposed by falsified and counterfeit drugs, avoid costly recalls, and earn greater patient trust with greater product protection.

The deployment of barcode printers, scanners, and handheld computers in various research facilities, pharmacies and hospitals in APAC has helped these enterprises streamline workflows to drive resiliency across the pharmaceutical supply chain.

Zebra's recent Pharmaceutical Supply Chain Vision Study surveyed over 3,500 patients and pharmaceutical industry decision-makers globally, including the Asia Pacific (APAC) region. The study examined perceived supply chain stability, gauged supply chain responsibility and the trust in its entities and identified needs for improving supply chain visibility and transparency.

Overall, the study revealed patients' distrust of the pharmaceutical supply chain, with an average of only 39 per cent of patients saying they place complete trust in pharmaceutical supply chain entities. There is heightened interest in how their medications are manufactured, handled, stored, and transported.

The study also found that 70 per cent of patients surveyed are concerned about receiving an improper dose due to labeling errors and the harm it could potentially cause them, stolen, contaminated, tainted, expired, or counterfeit medicines, and medications that were improperly handled/stored during transit and could have damage or diminished efficacy.

The principal insights of the study revealed the biggest challenges decision-makers are facing are regulatory delays, production limits, distribution, storage problems, shipping capacity constraints and transportation delays. Through the Pharmaceutical Supply Chain Vision Study, Zebra aims to highlight why pharmaceutical traceability is critical to improving public trust and safeguarding product authenticity.

Hithaishi C Bhaskar