Is Your Warehouse FUTURE-READY?

Thomas







Introduction

n 2019, the warehouse automation market in India was valued at INR 202 billion, with a projected CAGR of approximately 13.38% from 2020 to 2024. This industry is expected to reach a value of INR 421.50 billion by 2024.

This growth is powered by several reasons: Rapid adoption of mobile technology, which in turn spurred growth in e-retail operations. The implementation of the Goods and Services Tax (GST), which facilitated the expansion of the warehouse automation market. Evolution and adoption of advanced technological solutions like Artificial Intelligence (AI) and their application in warehousing.

This paper explores some aspects related to the following areas:

Key trends in the global marketplace that are impacting the warehousing scene in India,

Growing need for warehouses to become hubs of operational efficiency (than being offloading and storage facilities alone),

Case for integrating automated solutions and digitised solutions in warehouses

Events and Trends Impacting the Warehousing Industry

RISE OF THE PHYGITAL STORE Thus, businesses are now looking to drive omni-channel customer journeys. This trend is best exemplified by mammoth e-tailer Amazon opening its first physical bookstore in 2015 (two decades after selling books online). Amazon now has a wide range of physical stores to supplement its online presence, including bookstores, grocery stores, convenience stores, general merchandising outlet and stand-alone kiosks. This, in turn, means that businesses' need for warehousing solutions is going to be on the rise. However, what this also means that there is greater emphasis on shorter turnaround times, zero-error fulfilment and resource optimisation.

TRADING STEPS FOR CLICKS The Indian retail market is broadly categorised as the 'unorganised sector' (which includes the 13.8 million neighbourhood 'kirana' stores – India's version of 'mom-and-pop' outlets), and the organised retail sector (including brick-and-mortar stores and e-commerce sites). With time, the balance, which still tips to the unorganised sector, is expected to move in favour of online shopping.

A report in 2019 said that the share of online shoppers is projected to increase from the current 15% of all people online in India to 50% by 2026. Smartphone users are expected to increase from 260 million in 2016 to approx. 450 million in 2021 – which automatically implies a corresponding rise in e-commerce and m-commerce.

This change was hastened considerably by the COVID-19 pandemic, which led to extended lockdowns in India from the third week of 2020 onwards (at the time of writing this paper, complete lockdowns were in 'high risk' districts across multiple states). The resultant restriction in mobility meant a sharp rise in the number of first-time-ecommerce-users in India – who looked to e-tailers to do their shopping for them. Major e-commerce players BigBasket and Grofers put out messages that they were unable to fulfil the sudden rush of orders, while Amazon put a temporary halt low-priority orders in favour of essentials like household staples and packaged food.

This may be the best business parallel for fishing in troubled waters – desperate times drove people online; many are bound to stick around. This, in turn, means that e-tailers and phygital brands will have to invest in warehouses that have flexible, robust systems capable of supporting increasingly erratic demand cycles and growing expectations of instant fulfilment.

What Makes An Online Shopper Come Back?

- 96% of online shoppers said that a positive delivery experience would encourage them to shop with a retailer again
- 80% of online shoppers said they want same day shipping and 55% are willing to pay a premium for it
- Only 53% of online retailers offer same day shipping
- 46% of online shoppers abandoned a shopping cart due to long or unavailable shipping times
- 1 out of 3 online shoppers said that speed of delivery was a reason for buying from physical stores

GOING GLOCAL KFC. Ford. Gillette. Pepsico. Unilever. IKEA.

These companies are all examples of global chains adopting a local avatar and customising their products to suit local expectations, aspirations, tastes and cultural markers. Thomas Friedman said in The World is Flat that the Internet is a great glocalization enabler; the Internet has also been a great leveller of differences and catalyst for aspiration. Global brands today have their eye on the middle class, estimated at 350 million (25% of the population) at present, and expected to rise to 583 million (41% of the population) by 2025, which drives demand across sectors from FMCG to pharma, automobiles to F&B.

Even as McDonalds makes a McAloo burger or Barbie makes a doll modelled on Indian Olympic gymnast Dipa Karmakar, these companies understand the need to keep coming up with products that are in line with international trends and locally relevant as well. To keep up their presence in the local market, these global brands require on-ground partners and support for logistics and supply chain, and warehousing operations. Meeting this demand requires local warehousing companies to provide spaces that meet international standards – and demands.

REAL ESTATE. REAL ESTATE. REAL ESTATE. Can you make a losing bet and still come out tops? Hamid Moghadam, an Iranian-born property developer, seemed to have lost the investment opportunity of a lifetime when he declined the opportunity to invest in a start-up called Amazon. However, he made a game-changing decision by buying up millions of square feet of warehouse space on the sides of American airports. Today, Prologis, the company he heads, is Amazon's biggest landlord in the United States.

Today, demand for warehousing is at all-time high world over – and India is no exception to this trend. Moreover, shrinking delivery timelines, a rapidly expanding catalogue of products being handled and the pressing need for flawless end-to-end fulfilment experience means that companies are looking to move closer to delivery hubs. And companies are looking to claim back the money they spend in expensive real estate through cost-effective warehousing solutions.

POSITIVE INDICATORS

Traditionally, warehousing was primarily seen as a storage facility but it has now become a point where multiple functions are performed: storage, collection, assortment, packing and distribution. The warehousing industry, which forms around 20% of the total logistics market, is expected to grow at a rate of 35% to 40% annually.



India-Specific Warehousing Challenges

Dependence on manpower

The prevalence of low wages for blue collared workers has meant a higher dependence on manual labour in the Indian context. However, there is the twin problem of a shortage of labour in this industry due to poor working conditions, relatively less attractive incentives and benefits and availability of attractive alternate career options, as well as the need for warehouses to hire skilled workers who are able to handle automated systems and digitised processes. The COVID-19 also brought to fore the immense labour crunch that ensued due to lockdown – which served to exacerbate the problems of keeping up supply chain operations and managing erratic demand cycles successfully.

Inconsistency in integration of automated systems With global markets setting up camp in the Indian market, and the government encouraging homegrown companies to align themselves under the 'Make in India' umbrella, warehouses will have to integrate automated and mechanized inventory solutions so as to enable optimal storage and inventory processes. However, even to date, a majority of the Indian warehousing players continue to rely on traditional methods of storing, handling and monitoring of goods – which leads to issues with stock visibility, stock traceability, higher rates of pilferage and damages. The (relatively) low rate of adoption of digital solutions acts as a handicap, and raises doubts about the continued sustainability of homegrown warehousing service providers.

Lack of integration with supply chain

Warehouses in India are typically constructed on a standalone basis, following from the traditional mindset of viewing them primarily as storage facilities. However, with companies looking to integrate their supply chain on a global level, warehousing service providers have to be sufficiently equipped to be integrated with other supply chain stakeholders, so as to provide the expected value-added service performance. For this, warehouses need to invest in the required automation and digital solutions, and upgrade the space in line with the required technology compliances.



GAMECHANGERS IN WAREHOUSING SOLUTIONS

Warehouse Mobility: The integration of smartphones and mobile devices with machines is a major step forward in warehouse efficiency. The use of devices and apps will substantially reduce walking time and allow warehouse employees to work and access data on the go – both within and outside of the physical structure. Today's warehouse mobile solutions – such as mountable and hand-held computers and portable printers – offer excellent operational efficiency and bring together the benefits of multiple functions such as imaging (pictures and video), tracking and data collection.

Autonomous Guided Vehicles (AGVs) Although not yet widely adopted, AGVs are potential substitutes for the forklift and will help to substantially reduce costs, time and human effort. With increasingly faster delivery cycles becoming the norm, time of extreme essence. AGVs are also capable of moving goods across the warehouse flow, speeding up the picking process and contributing to inventory management operations. Even better: They can customised for warehouses of all sizes, scales and industry-types.

Smart Analytics and Machine Learning Increasing customer satisfaction, effectively predicting product demand, and optimising resources on hand – these factors are moving companies to bring in systems that enable forecasting and accurate decision making. Enter 'predictive analytics' – which makes use of statistical techniques such as predictive modelling, big data and data mining to analyse historical trends and make predictions about the future. Predictive analytics, together with artificial intelligence (AI), can enable warehouse managers to make data-driven decisions for optimizing inventory levels, replenishing inventory and increasing operational efficiency.

BRING IN THE DRONES

Drones are going to become one of the major tech in the disruptors the warehousing industry. Safe, compact and economical, they can locate cargo, conduct inventory, and performing stock-check operations – in less than a third of the time it takes to do the job manually. A drone equipped with sensors, cameras, barcode scanners, or RFID (radio-frequency identification) technology and can reach even the innermost spaces within a facility.

Automation and Robotics

Automation and robotic solutions, especially when implemented for repetitive tasks, can reduce the time and cost taken, and increase throughout and efficiency. With bots expected to become more 'human' in terms of data retention, sensing, skill and learning of new processes, automation looks to be an indispensable element for warehouses that wish to keep up their competitive edge.

Real-time Inventory Management With hyper demand cycles, and omnichannel trade driving a higher number of smaller orders, due to e-commerce exerting on warehouse managers, efficient inventory management is the need of the hour. Automatic identification systems such as smart sensors, RFID (Radio-frequency Identification) and GPS provide end-to-end visibility of inventory as well as operational intelligence through data collected by the sensors. This helps warehouses optimize inventory management, and make the warehouse a safer work zone.



Advantages Of Integrated Automation Solutions

Data-driven decisions General Electric uses a IoT software model called Predix to predict when a specific part in an individual machine might fail. This system would identify unexpected rotor wear and tear in a turbine, check the turbine's operational history, report that the damage has increased fourfold over the past few months, and warn that if nothing is done, the rotor will lose an estimated 70% of its useful life. Even with routine checks, such inefficiencies might be missed out by workers on the floor – thus giving rise to the possibility of a costly shutdown. This is an example of how automated systems and AI can thus be used to provide decision-makers with valuable data that can help them implement cost-effective systems for added value and – more importantly – avoid expensive mistakes (counting time and money lost) in the form of breakdowns.

Optimising time, space and resources As companies face the pressure of shrinking timelines and zero-error fulfilment in the face of erratic surges in demand, the implied need to move warehouses closer to cities and urban delivery hubs is becoming stronger. This brings with it the two-pronged problem of lesser space and higher prices per square foot. By making maximum use of headroom and minimising aisle widths, automated storage systems for pallets, tote-bins and cartons, we can reduce footprint requirements for stock storage and with it land and storage costs. This translates to substantial gains in efficiency of movement, higher throughput, minimal damage and seamless fulfilment experiences. With vertical, high-rise warehouses set to become the norm, automated warehouse solutions that can be customised for varied spaces will be the way to go.

Using human workers effectively As we move towards Industry 4.0, one of key features is the use of automation to relieve human workers of repetitive tasks, and free them up to perform functions that require higher investments of thought and effort. For example, automated storage and order picking systems can reduce the need for labour and wheeled machinery – as the right goods are brought automatically to the right person at the right time. This also does away with time spent on manual movement, thus increasing the productivity of slower-moving SKUs by nearly 10 times as compared to traditional zone-picking or pick-to-pallet approaches. Higher productivity automated systems also reduce the number of operators required for storage, picking and packing. Automated systems also help bring down errors and damages considerably, thereby ensuring higher savings and on-time fulfilment journeys.

Flexibility to fit varied order profiles Automated order-picking systems help in ensuring uniform levels of productivity for small as well as large orders – without being affected by the number of SKUs as is the case in traditional manual systems (where more SKUs and smaller orders mean greater walking distances, lower productivity and more time lost). This is particularly of relevance for multi-product, multi-brand e-commerce companies that deal with orders that vary vastly in terms of quantity and size. With automated systems in place, there is greater flexibility with respect to how and when an order is assembled and the order to be picked up at any time, thus improving response times – thereby moving the graph towards zero-error fulfilment and higher customer satisfaction

THE WAY FORWARD

With the entry of global 3PLs and rapidly evolving business dynamics, logistics and warehousing services in India are set to face stiff challenges and calls for change. The move from transportation and storage to turnkey value-added solutions means that warehouses will have to become hubs of several important functions in the supply chain. In other words, warehousing players have to find ways to stay relevant and maintain their competitive edge in the market. Warehousing players who have moved towards integration of technology in all areas of operations are much better adapted to meet business needs and compete in domestic as well as global markets.

However, adoption of automated processes does not mean a complete phasing out of human workers. On the contrary, companies need to work out a strategy whereby they get the best out of integration AI and human capability to gain optimal benefit from resources and work processes. This also implies a commitment on part of the employees to upskill themselves and develop what Harvard Business Review refers to as 'fusion skills' – capabilities that 'enable them to work effectively at the human-machine interface'. For now, only a minority of warehouse players have gone

full steam ahead in terms of reimagining and realigning their business processes to optimize collaborative intelligence – but the way forward is clear.

ABOUT BRICSPAC

Bricspac India Pvt Ltd is a Mumbai-based company that manufactures, assembles, delivers and services customized turnkey end-to-end next-generation warehousing solutions that suit the needs of industries competing in today's connected era. One of India's few warehouse automations providers, Bricspac provides manufactured solutions, and customizes high tech machinery lines to meet the needs of the connected manufacturing era.



207 Shanti Industrial Estate, SN Road, Mulund West, Mumbai – 400080. PHONE: +91-99208 24021 | EMAIL: info@bricspac.com

www.bricspac.com