INDUSTRIAL MARKET RESEARCH

INDIA WAREHOUSING MARKET REPORT 2018 INSIGHT SERIES #3

Logistics & Warehousing: Global Benchmarks for the Indian Industry

In the present era of globalisation, customer satisfaction is the norm. The booming e–commerce sector has made the act of sale and purchase very easy and quick. But this comfort to sellers and consumers comes at the cost of logistics providers. Supply chain processes are under immense pressure to efficiently and effectively meet this growing demand within a stipulated time and cost. If the right product does not reach the right customer within the prescribed time then the company loses not just business but also reputation. As a result, warehouse floors are always under high pressure. In such a situation, it is better to adapt and adopt. Best practices in supply chain design and management from across the globe should be adapted with modifications and recalibrations suitable to Indian needs.

The logistics value chain comprises three elements – transportation, warehousing and administration. Transportation involves the end–to–end movement of freight from the manufacturer/retailer to the customer. This transfer can span across borders and across different modes of transport. Warehousing is the intermediate storage of goods that happens during a product's journey from the factory to the consumer. Administration refers to the management of this entire supply chain. Logistics entails a lot of coordination and integration, which is made efficient through supply chain management. This article comprehensively discusses the global best practises in the logistics sector on the whole and in the warehousing component in

particular that can serve as a benchmark for the Indian Logistics and Warehousing industry. Most of these practices are currently unknown or have just started to gain ground in India.

Warehouses are not just about storage anymore. They also function as fulfilment centres, distribution centres, return centres, and at times as showrooms. It is necessary to improvise on functional, technological as well as warehouse development aspects to efficiently handle these additional functions. The following diagram gives an indicative list

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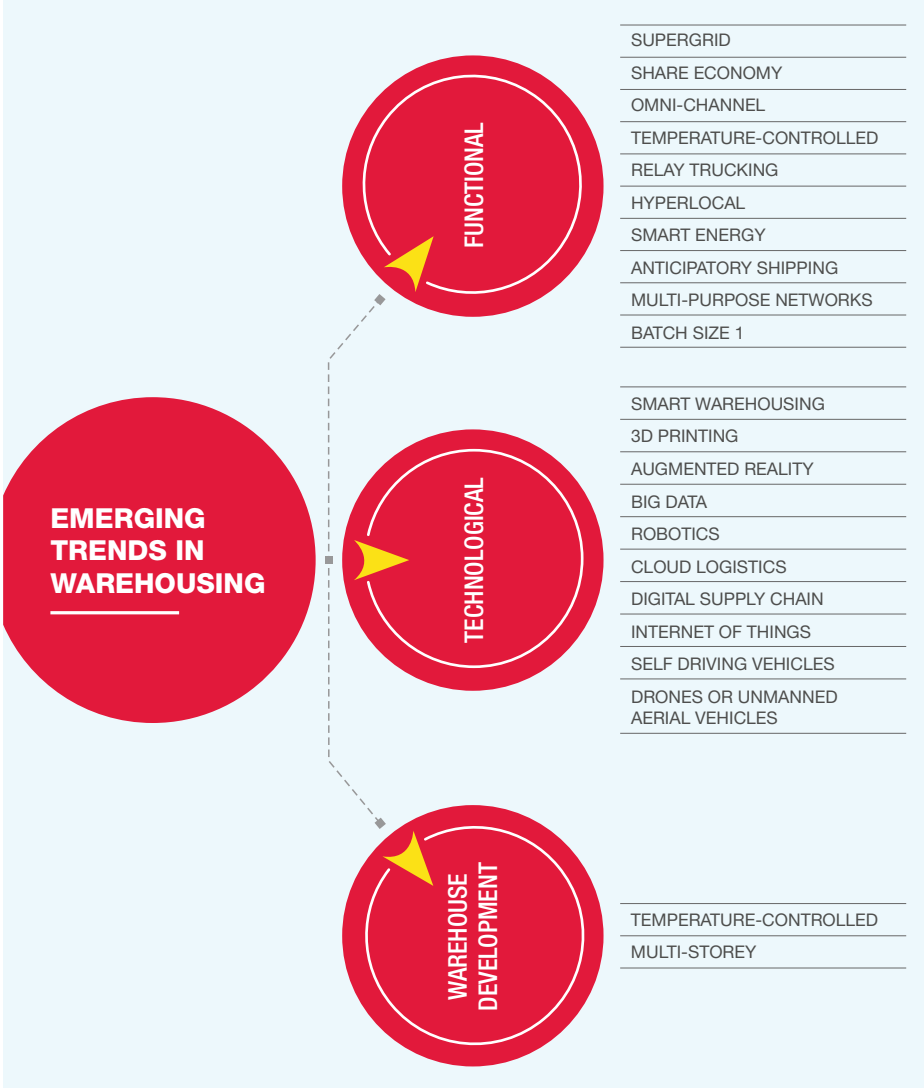
of emerging global trends in warehousing and logistics and a few of them have been discussed in detail below:

Global Trends in Logistics and Warehousing



Technological aspects

SMART WAREHOUSING

Like smartphones, smart warehouses are the ones that effectively perform multiple functions simultaneously with the help of technology. They are also referred to as intelligent warehouses or warehouses that think. In a smart warehouse, all gadgets and devices are fitted with sensors and are connected to each other via the Internet. This connectivity gives the gadgets the ability to coordinate their processes thereby enabling seamless operations. Internet of Things, Cloud Computing, Big Data Analytics, Robotics and Automation together enable the concept of a Smart Warehouse. They are all necessary elements of a larger integrated ecosystem.

For example: **Amazon** is known for pioneering the smart warehouse model and therefore this concept is at times referred to as the **Amazon Effect**. Its warehouses in the US and Europe have set the benchmark for smart warehouses.

AUGMENTED REALITY

Augmented reality is real time integration of digital information with the existing environment. This technology makes use of worker's environment and integrates it with virtual information to enhance what is seen, felt or smelt. **Vision picking** is the most popular application of this concept. Augmented reality smart glasses facilitate faster, hands–free operation of warehousing tasks like picking, sorting, and assembly.

In the US and Europe, smart glasses are being increasingly used in warehousing operations.

For example: **DHL** witnessed a 25% increase in operational efficiency after introducing the use of smart glasses for the picking task alone in their warehouses in Netherlands.

ROBOTICS

New and advanced robotics can help boost productivity of logistics operations. These robots are equipped with high–resolution cameras, pressure sensors and self–learning capabilities that can be used for assistance to and collaboration with manual labour. For instance, in warehouses, these robots can be programmed to perform tasks like picking, packing and sorting or assist in loading and unloading of goods. In developed markets like the US and Europe, they are used for last–mile delivery activities as well.

For example: **Sawyer**, a one–armed collaborative robot has been designed for performing numerous warehousing functions.

BIG DATA

A massive amount of data is generated in logistics at every level and every minute and this data is huge, diverse, unstructured and high in frequency. All of it can be and needs to be put to use in order to avoid losses and wastages. However, two major obstacles in this process are the unstructured nature of data and its extensively high frequency. As a result, real time analysis becomes a challenge. That is why the need for big data analytics. This technology consumes large amounts of data and helps analyse it real-time. It also helps discern or identify patterns, if any.

In India, big data is quickly gaining popularity in the logistics sector. Companies like **Wipro** have developed business intelligence tools such as **Insta Intelligence** that automate logistics processes.

SELF–DRIVING VEHICLES

Self-driving vehicles are more flexible and more autonomous than automated forklifts and driverless trucks. These are fully driverless and make use of integrated sensors to navigate unlike other unmanned trucks that require magnetic or inductive strips. They can be used in indoor as well as outdoor logistics operations – from pallet movers in warehouses to last-mile delivery solutions.

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For example: **Starship Technologies** has launched Autonomous Parcel Delivery, a self–driving robot that can deliver multiple parcels within a 5 km (3 mile) radius. The pilot programme was launched in major European cities in 2017 in tie–up with Domino's Pizza Enterprises.

DRONES OR UNMANNED AERIAL VEHICLES

Express deliveries and deliveries in remote areas can be executed very efficiently with the use of unmanned aerial vehicles (UAVs) or drones. These are only meant to reduce the delivery time and/or help access difficult terrains. They are not meant to replace or phase out the ground–based transportation and delivery systems. In rural regions, they can be used to access the remote and inaccessible terrains. In urban areas, they can be used for faster first and last mile delivery in areas of high congestion.

For example: **DHL Parcelcopter** was launched in 2013 for commercial delivery of goods in remote settings. It has been used for urgent delivery of pharmaceuticals from mainland Germany to remote islands in its neighbourhood.

Functional aspects

SHARE SPACE LOGISTICS/SHARE ECONOMY LOGISTICS

The industry trend of sharing assets instead of owning them is now finding ground in the logistics sector, especially after the success of start–ups like Airbnb. Everything from warehouses to trucks to electronic enablers can be shared between two or more entities. Such sharing is highly cost effective as it saves considerable expenditure on ownership of resources and assets. Smooth and hassle-free sharing of logistics activities and resources is enabled by peer–to–peer sharing platforms such as Locus.sh – an Indian start-up. **Locus** has created routing systems that not only help determine the most efficient route to deliver an order but also help optimise cargo-carrying capacity for its stakeholders.

A good international example of two brands sharing their respective assets is **PepsiCo** and **Nestle**. They have collaborated on their warehousing, co–packing and outbound distribution needs for their respective fresh and frozen products range in Europe.

OMNI–CHANNEL LOGISTICS

Customer demand has in recent times diversified into anytime, anywhere, and from any device categories. This has consequently led to the integration of online and retail i.e. offline business channels. Omni-channel logistics is nothing but the coming together of physical shopping and virtual shopping experiences for a customer. Simply put, omni-channel is having a **retail as well as e-tail presence**. The end expectation of a customer is to have a well–informed, hassle–free, to–their–doorstep shopping experience. Sometimes they visit the retail brick-and-mortar outlets for the experience of shopping **(showrooming)** but still purchase the product online to avoid the hassle of standing in queues **(no-line commerce)** and availing the superior discounts available through the online model. Sometimes they make purchases solely on digital platforms **(webrooming)**. Thus, flexibility and

convenience of customers is leading to the growth of omni-channel logistics.

For example: **IKEA**, the Swedish furnishing giant has developed its own omni-channel experience. Its warehouses in Europe are used as showrooms as well, thus serving as experience centres and a point-of-sale for the customers. The final orders are placed online on its app or website.

RELAY TRUCKING

An established practice in developed markets, relay trucking facilitates optimisation by round–the–clock movement of freight trucks. Furthermore, it is driver–friendly from the employee's perspective and cost-friendly from the company's perspective. The model works as follows – a driver sets out with a designated truck load on a particular route. At the same time, another driver sets out with a different truck load on the same route from the opposite direction. They meet en–route and exchange trucks and then drive back to their respective origin destinations carrying freight designated for that location. As a result, the truck keeps moving to its destination without a halt and the drivers do not over–work or stay away from their hometowns. This helps increase time and cost efficiency.

In India, companies like **Rivigo** are introducing this global practice. However, it is at a nascent stage and has immense scope for growth, especially with the advent of Goods and Services Tax (GST).

HYPERLOCAL

The hyperlocal concept is a good enabler of the 'on–demand delivery' business model. It makes use of the existing local retail network to meet the demands of consumers. Logistics players team up with local retailers such that their inventories are integrated with the online platforms. When products from the inventory are ordered, local retailers fulfil this demand on behalf of the logistics company which ensures faster delivery.

For example: With the hyperlocal model, **Amazon Prime Now** delivers in under an hour in select US cities.

In India, a similar model can be seen in Future Group's **Big Basket** venture.

Warehouse Development aspects

TEMPERATURE-CONTROLLED WAREHOUSING

Also known as cold-chain warehousing, these are warehouses equipped with temperature–controlled environments required for the storage of cool cargo products. Products like fresh agricultural produce, frozen foods, photographic films, chemicals and pharmaceuticals are sensitive to temperature change either due to a smaller shelf–life or due to their sensitive chemical composition. To avoid damage to such products it is necessary to maintain a fixed temperature range round the clock. This has led to the need of cold-chain warehouses. Such warehouses are equipped with temperature-control systems. Systems with a temperature range of 2°C–8°C and 15°C–25°C are common in pharmaceutical industries.

Along with temperature, these temperature-control systems also need to maintain other product specifics and parameters like air quality levels (carbon dioxide, oxygen, humidity and others). Further, such systems need to be supplemented with efficient, 24-hour monitoring equipments to ensure smooth functioning. Thus, cold chain warehouses have specific and advanced warehouse management systems that make use of technological tools like big data analytics for real time monitoring.

Temperature-controlled warehousing is at a nascent stage in India, limited to industries like pharmaceuticals and some perishable FMCG products like milk, as it is mandated by the regulator. On the contrary, in most developed markets, it is extensively used across industries for perishable and temperature-sensitive goods.

MULTI-STOREY WAREHOUSING

Multi-storey warehouses started coming up as a solution in land–constrained countries to increase the usable floor space per square foot of land. It is gradually gaining momentum in other countries as well. Such warehouses need sound architectural design as well as technological planning so that all supply chain processes can be carried out on all floors without any hindrance.

Multi–storey warehouses have been common in the Asian cities of Tokyo, Singapore and Hong Kong. Land is a limited resource here and therefore the need to maximise utilisation of the available space.

India has few restraints with respect to land and therefore multi-storey warehouses are not exactly a necessity. However, few bigger players in the industry have ventured into this space, albeit on a modest scale.

Where does India stand?

The Indian logistics industry has grown leaps and bounds in the last 8-10 years. The global practice of 3PLs (third party logistics) and 4PLs (fourth party logistics) has gained considerable popularity in the country. Enormous growth in the e-commerce segment is adding to the development in logistics and warehousing sector. Indian company Rivigo has introduced the global practice of relay trucking in India but it is at a nascent stage and has immense scope for growth, especially with the advent of Goods and Services Tax (GST). Elimination of state tax barriers will help increase time and cost efficiencies in trucking. According to our survey, earlier the travel time between Delhi–Chennai, which used to take 5–6 days, post-GST, has come down to 3–4 days. Trucks are able to cover longer distances every day with an improved turnaround time ensuring that the transporters can carry out their business with a smaller fleet. Similarly, the globally practised hyperlocal model and the technological advancements in big data have been successfully adopted in Future Group's Big Basket venture and Wipro's Insta Intelligence automation tool respectively.

Thus, adapting and adopting international best practices as per Indian environment is the way forward. The above examples are significant few beginnings in the right direction. However, there is still a long way to go for India to meet the standards of its global counterparts. And this gap can be covered with the help of positive reforms like Goods and Services Tax (GST). Elimination of state taxes is facilitating faster movement of goods across the country. As a consequence of faster movement, in the near future, companies would need to carry smaller levels of inventory to support the same level of sales. This would reduce the inventory carrying costs and working capital requirements leading to significant financial savings. Also, post GST with the removal of interstate checkpoints, reduction in cargo movement time and replacement of multiple state and central level taxes; the need for maintaining warehouses in every state has

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been eliminated. A mother warehouse for a particular geography will suffice a company's needs, thus offering economies of scale. This puts a strong case for consolidation of warehouses across industries, although, not uniformly across the board. Further, warehouses will now play a significant and larger role in the entire supply chain as they will function as facilitation and fulfilment centres apart from just storage functions.

All such policies have increased the interest of global players in Indian markets. Indian logistics sector growth will be accelerated by inflow of foreign funds as well as global practices. They will add to the efficiencies and ensure compliance as well as standardization, thus facilitating formalisation of the industry. Nevertheless, India has a wide gap to cover in reaching the efficiency and effectiveness of supply chain processes as offered by its global compatriots.

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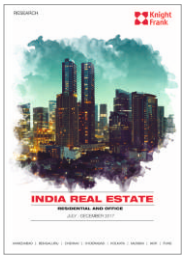

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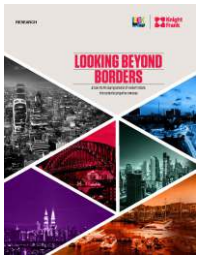

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