Vynn Capital

November 5, 2021

Evaluating Indonesia's Logistics Market Potential:

Logistics Market Profile and Logistics Technology Landscape

WHAT'S INSIDE

I. Indonesia's Logistics Market Profile
II. Logistics Technology Landscape in Indonesia
III. Implementation of Transport Management System Along Supply Chain

Disclaimer 2021 Vynn Capital
Information herein has been obtained from third-party sources as well as researches performed by Vynn Capital. Although we believe that high standards have been used in preparation of the information, analysis, and views, Vynn Capital accepts no liability whatsoever for any direct or consequential loss arising from its use. This report is for general purposes only. It may not be published, reproduced or quoted in part or whole, nor may it be used as a basis for any contract, prospectus, agreement or other document without prior consent.

Indonesia, with its massive population of 268 million, and the 16th largest economy in the world as of 2020, is one of the logistics markets with the highest prospects in the region. The country's logistics market is positioned for growth owing to a significant number of existing trade agreements, continuous improvement in transport infrastructure, developing e-commerce, and increasing purchasing power in the country. In 2020, Indonesia's logistics market was valued at US$81.30 billion and it is expected to reach US$138.04 billion by 2026, with an annual growth rate of 9.22% during the forecast period.

By 2021, Indonesia signed 8 trade agreements. The country recently has focused on seeking new trade agreements in order to facilitate its economic growth during the COVID-19 pandemic. A number of promising agreements are currently being negotiated and pending ratification, namely, Indonesia-Chile FTA, Indonesia-EFTA FTA; Indonesia-South Korea FTA; Indonesia-US FTA; Indonesia-EU FTA. Indonesia also agreed and is expected to implement a trade preferential system with the members of OIC (Organization of the Islamic Conference). Once the agreement is in force, Indonesia will benefit from preferential trade with 35 members, which are mainly Islamic countries across the world.

In 2020, Indonesia exported US$163.31 billion and imported US$141.57 billion. In 2020, by value, top export products were palm oil (10.6%); coal, solid fuels made from coal (8.9%); unwrought gold (3.4%); petroleum gas (3.4%). By volume of export in 2020, major countries of destination were China, Malaysia, Ja-

Figure 1: Export of Goods from Indonesia, 2011-2020

Table 1: Indonesia's Export Products, 2020

Export Product	2020 Value (US$ K)	Change, Y-o-Y
Palm Oil	17,364,812	+18%
Coal, Solid Fuels From Coal	14,547,621	-23.3%
Gold (unwrought)	5,541,848	+56%
Petroleum gases	5,452,286	-34%
Iron ferroalloys	4,745,250	+82.5%

Table 2: Volume of Exports (Net Weight: Thousand Tons) by Major Countries of Destination, 2017-2020

Country	2017	2018	2019	2020
China	143,938.1	182,019.4	225,422.9	188,830.7
Malaysia	29,531.6	30,357.4	34,199.3	36,508.9
Japan	46,634.2	41,575.5	39,237.0	36,097.7
South Korea	50,244	48,223.1	38,169.6	32,841.7
Philippines	22,356.6	26,682.9	31,116.4	32,277.3
Vietnam	9,358.0	15,051.9	18,488.4	21,547.8
Taiwan	22,843.7	21,898.3	21,764.6	21,514.7

Table 3: Indonesia's Trade Agreements

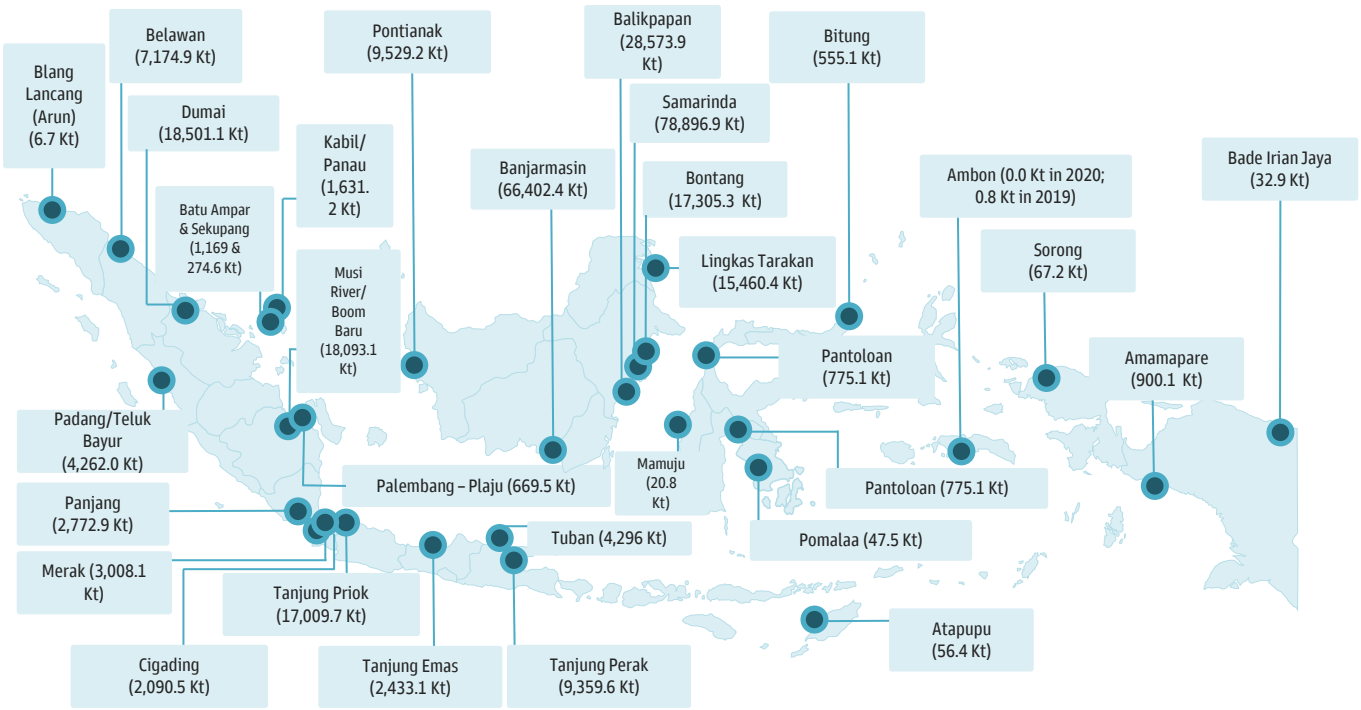
Partners	Type of Agreement	Entry Into Force
ASEAN Free Trade Area	Free Trade Area	1993
Korea*	Comprehensive Economic Cooperation Agreement	2007
Japan	Economic Partnership Agreement	2008
Australia, New Zealand	Free Trade Ageement	2009
India*	Comprehensive Economic Cooperation Agreement	2010
Group of eight trade tariff agreement (Bangladesh, Egypt, Nigeria, Turkey, Malaysia, Pakistan, and Iran)	Preferential Tariff Agreement	2011
Pakistan	Preferential Trade Agreement	2012

Source: Global Firepower; European Commission; Statistics Indonesia; Mordor Intelligence

pan, South Korea, Philippines, Vietnam and Taiwan.

Indonesia has approximately 17,000 islands and 80% of the country's territory is represented by seas. The water transport holds a major role in international trade and accounts for 90% of the total volume being transported. According to the Indonesia's Ministry of Transportation, there are 2,439 marine ports in the country, out of which 1,139 are terminals of self-interest (terminals which are a part of and serve operations of the nearest major ports). The Port of Tanjung Priok, located in North Jakarta, is the country's most busiest and advanced port, which handles more than 30% of non-oil-and-gas cargo and over 50% of the entire transshipment cargo traffic.

Map of Indonesia's Major Ports with Volume of Exports (in Kt – thousand tonnes), 2020



Since 2014, the country's government has focused on transforming Indonesia into a global maritime axis. Sea Toll Program, pivoted by the current President of Indonesia Joko Widodo in 2014, served 32 routes across the country by improving and developing distribution routes and ports with a focus on ship carrying capacities and cargo volume. According to Indonesia's Ministry of Commerce, prices of goods in areas under Sea Toll Program routes decreased by 20-50%. The program mainly reduced price disparities in remote areas.

Despite government's proactive role in improving transport infrastructure, logistics costs in Indonesia remain high. In the World's Bank Logistics Index (2018), Indonesia ranked 46th out of 160 in terms of logistics expenses, with transportation accounting for 72% of

Figure 2: Total Number of International Ports in ASEAN in 2019, by Country

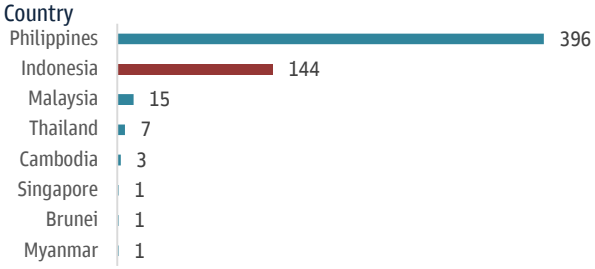
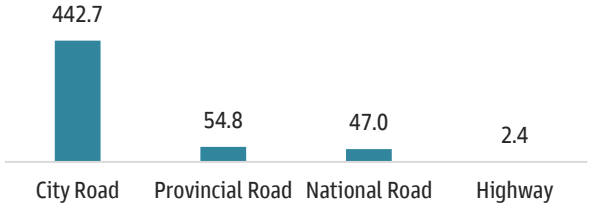


Figure 3: Lengths of Roads in Indonesia in 2020, by Road Type (in 1,000 kilometers)



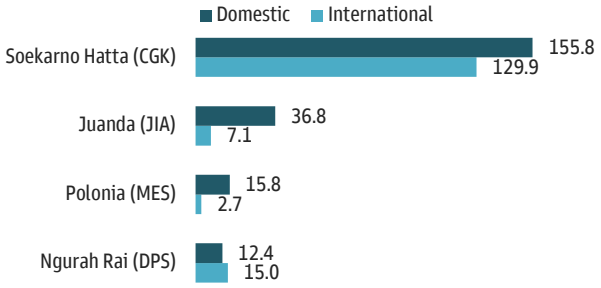
Source: Global Firepower; Indonesia's Ministry of Transportation; Statistics Indonesia

Table 4: Air Cargo Service Charges in Selected Countries in Southeast Asia

Air Cargo Service Charges (Total of Processing and Warehousing & Handling Charges)	US$ per ton
Singapore	15
Thailand	15
Vietnam	70
Malaysia	90
Indonesia	150

logistics expenses. For instance, Indonesia's air cargo, a key segment in the country's international trade, which facilitates exports for retail, garment and electronics products, is by no means at a competitive level in comparison to other countries in Southeast Asia, as the country has the highest air cargo service charge (total processing and warehousing & handling charges) in Southeast Asia (refer to Table 4; Source: Worldwide Network of German Chambers of Commerce). Indonesia's considerably unsatisfactory ranking (46th position) for highest logistics expenses out of 160 countries in the 2018 World Bank Logistics Index was attributed to poor rankings in infrastructure (52nd out of 160), customs processing (62nd out of 160), timeliness (120th out of 160), and tracking & tracing (122nd out of 160). In addition, Indonesia's logistics costs are increased by a significant record of illegal fees at ports (Source: Malaysian Competition Commission).

Figure 4: Annual Cargo Loading For International Flights at Selected Main Airports in Indonesia in 2020 (in 1,000 metric tons)



However, infrastructure programs that were systematically implemented by the country's government over the past five years led to significant improvements in logistics costs. Indonesia's logistics costs decreased from 27% of GDP in 2015 to 22% in 2020. Notably, Indonesia's government plans to lower logistics costs to 18% of GDP by 2014 to approach the standards of more advanced logistics markets such as Singapore or Japan, where logistics costs account for a single-digit percentage of GDP. In addition, Indonesia's logistics competitiveness can be improved with reduction of bureaucratic clearance times via digitalization and adoption of analytics & optimization tools by logistics providers to improve tracking & tracing.

Indonesia's logistics market remains fragmented. 70% of the country's freight and logistics industry is represented by domestic players. Within the 70%, 10 largest logistics

Figure 5: Total Railway Coverage in the Asia Pacific Region in 2020, by country (in 1,000 kilometers)

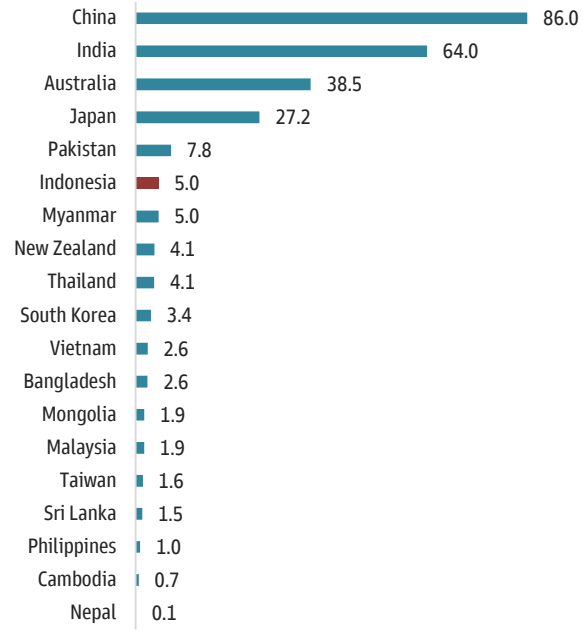
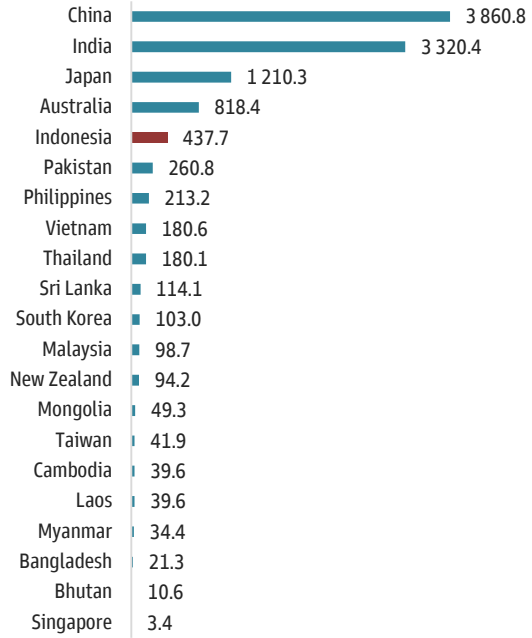


Figure 6: Total Road Coverage in the Asia Pacific Region in 2020, by country (in 1,000 kilometers)



Source: Global Firepower; Statistics Indonesia; Worldwide Network of German Chambers of Commerce

companies account for less than 30% and are mainly focused on providing freight transport and logistics infrastructure. The remaining figure is represented by small- and medium-sized enterprises.

Indonesia's logistics market is still in the comparatively early stages of adoption of competitive practices across the logistics market and simplification of bureaucratic clearance. However, the country's logistics industry presents an attractive opportunity for new entrants. Some of the compelling arguments are the country's rank in the top-10 world's markets by third-party logistics revenue in 2020 (Source: Armstrong & Associates), top-5 countries in the Asia Pacific region by total road coverage (Source: Agility Emerging Logistics Markets), top-3 in the Asia Pacific region by population along with growing affluence at AAGR of over 7% since 2014 (Source:GlobalData). According to a 2019 global survey, which was conducted by Agility, 9.4% of logistics industry professionals mentioned Jakarta (Indonesia) as one of the leading logistics hubs providing the best opportunities in the world. As a result, the sentiment among logistics professionals places Jakarta (Indonesia) in the top-5 logistics markets in terms of opportunities globally.

Figure 7: Leading Logistics Hubs Providing the Best Opportunities in the Logistics Industry Worldwide in 2019

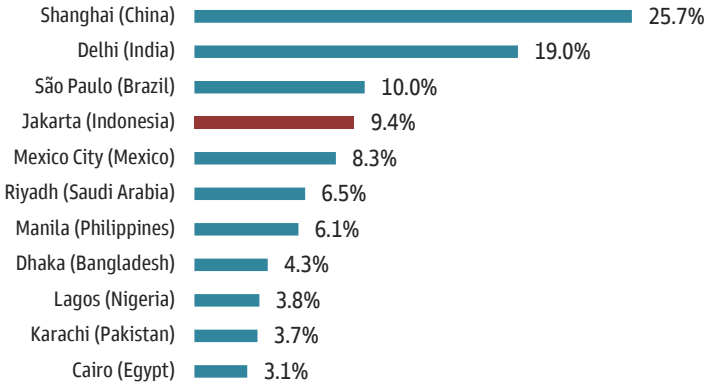


Figure 8: Top-11 Countries with Highest Third-party Logistics (3PLS) Revenue in 2020 (in billion U.S. dollars)

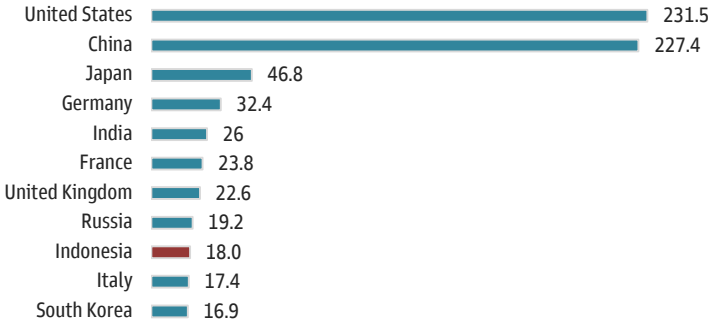
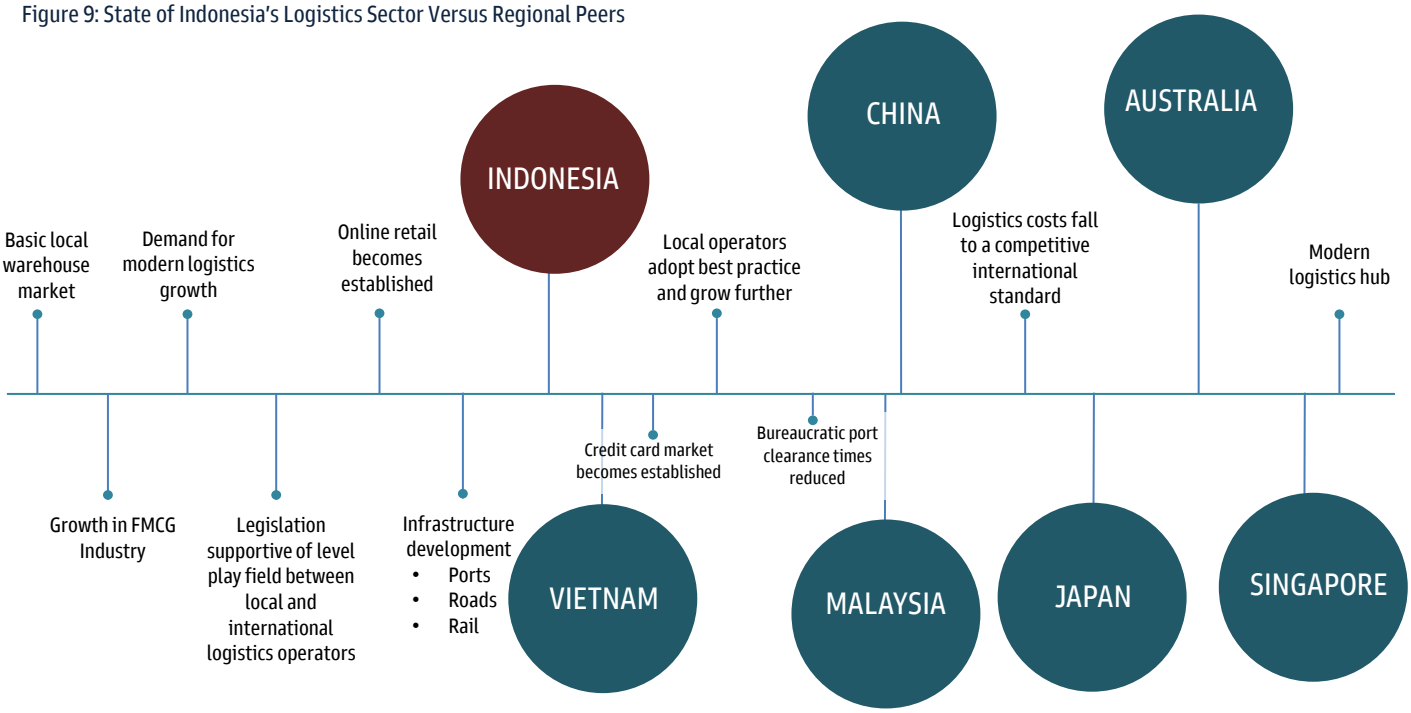


Figure 9: State of Indonesia's Logistics Sector Versus Regional Peers



Source: IMF; Armstrong & Associates; Australian Logistics Council; NESDB; Vietnam Business Forum; Indonesia Investments; Agility Emerging Markets Logistics Index 2020; Indonesia's Ministry of Transportation; Statistics Indonesia; Angkasa Pura; Figure 9 from JLL Research Indonesia Logistics – Fast Track or Derail and it was adapted and updated by Eastspring Investments in April 2020. State of China updated from Dr Yu (Jack) Gong, Director to CORMSIS Business Liaison (China), University of Southhampton, May, 2020.

Indonesia's logistics market has demonstrated positive growth in recent years owing to stable growth in international trade, acceleration of e-commerce, improvement of transport infrastructure. Concentration of logistics technology startups in delivery, fulfillment/warehousing, and analytics & optimization segments has been increasing.

Major logistics technology companies that established themselves in the trucking delivery business unit in Indonesia are JNE, J&T Express, SiCepat. As of 2021, JNE Express is the largest logistics technology player in Indonesia and accounts for more than 5,000 outlets across the country with the network ranging from big cities to district levels of the archipelago. The second largest player in the country, J&T Express, captures attention with its offering of global, intra-city, inter-city and inter-provincial deliveries. The company focuses on building a DHL-model to cater to developing e-commerce market. Lastly, SiCepat is a rapidly growing logistics startup, which handles 1,350 packages per day and accounts for 6,600 logistics points in the country, together with partners Alfamart, Shipper, and Fastpay.

Instant and same-day delivery are the domain of regional giants such as Grab and Gojek as well as Indonesia's niche startup Paxel. Both Grab and Gojek hold an advantage, leveraging on the wide ride-hailing infrastructure which is suitable for transportation of passengers, packages, or food. These capabilities allow both players to achieve cost efficiency and set competitive prices. The demand for expedited delivery has been, however, underserved, leading to a number of other delivery technology companies scaling their operations in Indonesia, namely, Kargo Technologies (Indonesia's freight logistics marketplace), Ninja Van (Singapore's last-mile delivery platform), Anteraja (Indonesia's last-mile delivery platform), Lalamove (Hong Kong's last-mile delivery platform), RaRa Delivery (Indonesia's last-mile delivery platform), etc. Such matching platforms for delivery enhance transparency and fill technological gaps in the value chain, underscored by traditional middlemen. The developing e-commerce market is expected to further boost the demand for delivery solutions. According to YCP, Indonesia's e-commerce market is expected to reach US$109 billion by 2025 vs. US$33 billion in 2020.

Supply chain management & analytics tools are also becoming important solutions to meet the challenges resulting from growing business operations for logistics players and increasing customer demands. Transport management systems (TMS) and warehouse management systems (WMS) help to run the day-to-day transportation management, while the client maintains and controls key relationships with its carriers and customers. One prominent Indonesian startup that recently launched a transport management system for the country's small trucking companies is Transporta. Transporta aims to digitize the entire order management and fulfillment cycle and targets Indonesia's underserved market – SMEs with 20 trucks or less – which account for over 75% of Indonesia's 100,000 trucking operators. In addition, other regional TMS providers that entered Indonesia's market are Singapore's Stemly, Yojee, and Zyllem.

With the development of e-commerce, warehousing and fulfillment segment plays a key role in the supply chain. Warehousing and fulfillment operators allow sellers to store their products in a portable network of fulfillment centers and engage logistics partners to facilitate the delivery of sellers' products to customers. Indonesia had seen several players actively expanding in warehousing and fulfillment space. One notable player in this segment is Indonesia's startup Waresix, which covers not only warehousing and fulfillment but most end-to-end logistics services, including trucking, warehousing, multimodal transport, and vendor management. Waresix claims to have worked with 40,000 trucks and 375 warehouse operators across Indonesia. Another prominent warehousing and fulfillment player is the logistics enabler Shipper that branched out into warehousing and fulfillment after the acquisition of e-commerce warehouse company Pakde.

With customers demanding more from delivery providers and a highly competitive environment combined with customers' high cost sensitivity, the pace of logistics technology adoption will affect the overall state of the logistics market in Indonesia, including competitiveness and value proposition for international and foreign logistics industry players.

Selected Players of Indonesia's Logistics Technology Landscape

Trucking and Fleet

J&T EXPRESS, andalin, ON TRUCKS, deliveree, assa, EZYHAUL, BOLLORÉ LOGISTICS, DIKA, kargo, Gritase, DB SCHENKER, DHL, janio, KERRY EXPRESS, LALAMOVE

Last Mile Delivery

GrabExpress, Triplogic, etobee, SICEPAT, paxel, anteraja, RaRa Delivery, gosend, LALAMOVE, PopBox, DHL, FedEx Express, ninja van, Lion parcel

Warehousing & Fulfillment

BOXME, iSTORE iSEND, Shipper, DB SCHENKER, 8commerce, Pakdé, PowerCommerce, J&T EXPRESS, Agility, Anchanto, Crewdible, waresix, TokoCabang

OMS, TMS & WMS SaaS

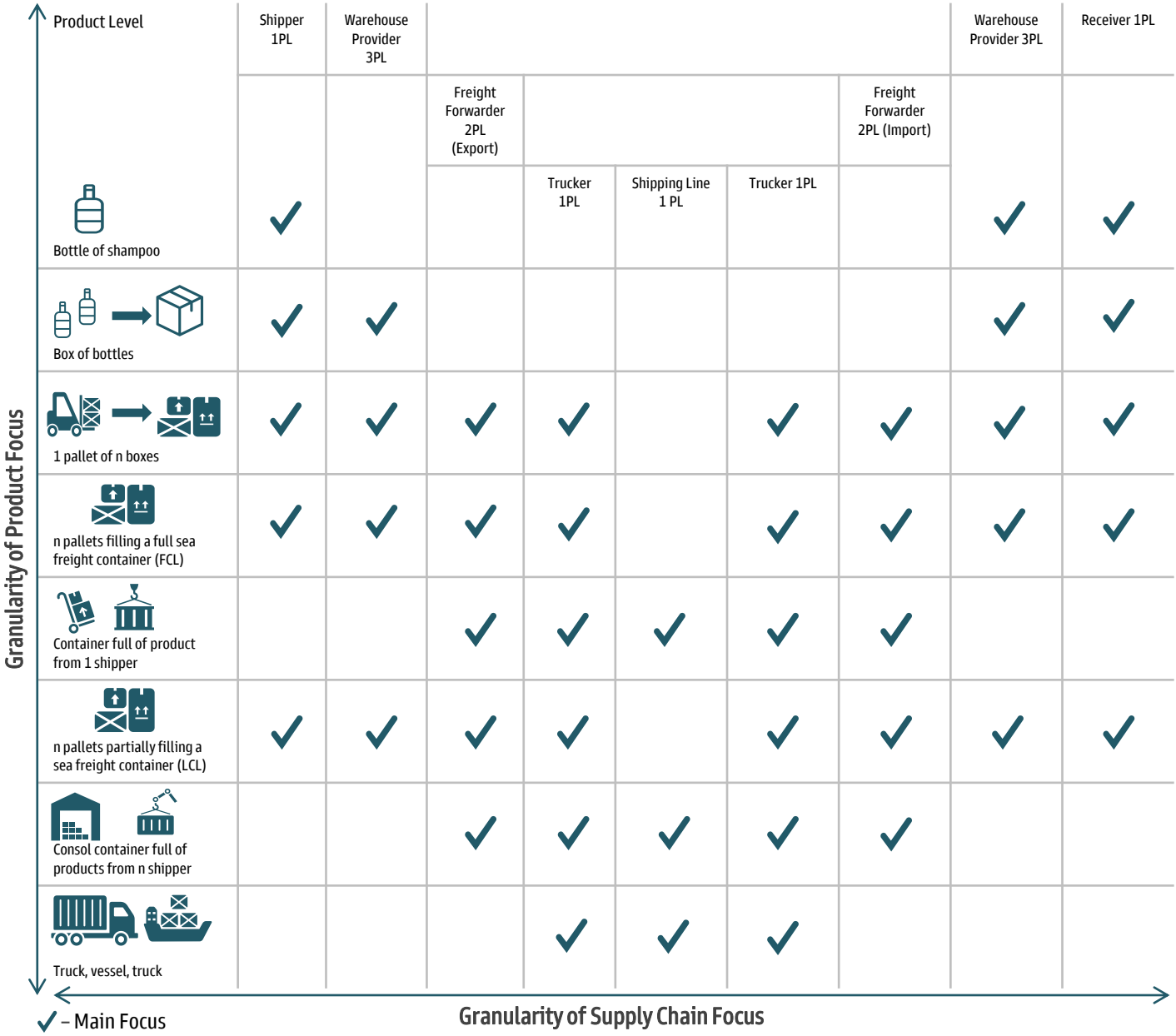
stemly, GOCOMET, Quincus, ORACLE, portcast, TRANSPORTA, advotics, Yojee, CLARITECS, ZYLLEM, CARGOBASE, SAP

When assessing opportunities for logistics technology in the market, it is essential to understand the chronological steps of the supply chain process. Figure 12 demonstrates the 3PL levels for a full container load (FLC) scenario and a less container load (LCL) scenario. In the case of the LCL scenario, the import freight forwarder would expect pallets to be consolidated with other shippers' cargo, as shipping lines mainly specialize on processing containers and less frequently on single-unit cargo, such as a pallet with bottles.

The granularity of the product level (single unit, carton box, pallets, containers) and the chronological order of supply chain steps determine the main focus of logistics operators along the supply chain stages. The "X" in each step indicates the parties involved. The focus of each party determines TMS requirements.

In the first stage of the supply chain, the 1PL shipper is required to record detailed information needed for transportation, including article number codes, batch de-

Figure 10: High-level Reflection on 3PL Types Along Product Levels and the Supply Chain



Source: Deloitte Transportation Management System Compass

tails, sizes of units, and any other related requirements. Later, the responsible 3PL warehouse provider needs to store the information recorded by the shopper along with the respective data on storage and packaging. After, the contract logistics provider has to communicate with 3PL warehouse provider and 1PL shipper to gather products from the warehouse. By the pick up time, the product must be already assigned to a suitable handling unit – pallet, truck trailer, or sea freight container. This situation demonstrates the importance of efficient load and dock planning.

The 1PL carriers can choose to fill their trailers completely (FTL) or partially (LTL). In the case of the latter, cargo needs to be consolidated with cargo from other shippers in accordance with TMS suggestions to achieve the required level of cost efficiency. The 2PL import freight forwarder can also receive a smaller load of goods (LCL) or a bigger load of goods (FCL). In this situation, the 2PL import freight forwarder will need to combine pallets from different shippers. After this step, the 1PL carrier shipping line will need to ensure that cargo is not less than full container load (FCL) due to particular vessel requirements. In this case, TMS tools will be used to assess the capacity and requirements of the vessel and not solely a container, as in the case of road carriers. Weather forecasts, political factors, and other respective sea route information will also be taken into account.

According to Deloitte Transportation Management Compass, TMS tools are more frequently used by warehousing, trucking, and freight forwarding services providers. The lowest TMS coverage is recorded in the areas of air, sea, waterways, and rail transportation. The main reasons behind low coverage within these logistics segments are the insufficient functionalities of TMS. TMS is usually proven to be the most effective for trucking companies. Such gaps are explained by different varying transport requirements. Shipments via air transport require more complex metrics in addition to other factors which TMS usually do not account for, such as tire pressure or additional checks of an airplane. Shipments via vessel also present additional demands from TMS tools, such as the correlation of weight to the changing winds and waves.

Due to varying requirements along the supply chain, transportation mode is a key factor in distinguishing TMS types. No single TMS is suited to serve all parties along the supply chain. Therefore, it is important to analyze how developed the country's logistics market is along with additional factors such as political or geographical factors to assess the potential of TMS solutions in the required timeframes.

Table 5: 1-4PL TMS Coverage, 2020

TMS Product for PL Type	TMS Coverage
1PL Carrier Road/Trucking Firms	75%
1PL Carrier Parcel/Courier	50%
1PL Carrier Rail/Railway Companies	40%
1PL Carrier Sea/Shipping Lines	25%
1PL Carrier Inland Waterways/Barge	20%
1PL Carrier Air/Airlines	15%

Source: Deloitte Transportation Management System Compass

Connect with us

Twitter: https://twitter.com/vynncapital
LinkedIn: https://www.linkedin.com/company/vynncapital
Email: vc@vynncapital.com