PHILIPPINE TRANSPORTATION AND LOGISTICS: PREPARING THE FILIPINO WORKFORCE

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LABOR MARKET INTELLIGENCE REPORT

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I. Background

Transportation and Logistics is a USD 4.3 trillion industry[1], its global logistics market size will grow by over USD 357 billion by 2022[2], and a central component of the world economy. It not only supports numerous jobs and output within its own sector but also enables other sectors, namely manufacturing and retail, to generate and distribute supplies and products nationally and globally creating new wealth through exports. [3]

The gross income of the Philippine Transportation, Storage and Communication (TSC) sector grew by 5.5 percent in the second quarter of 2019, and the Gross Domestic Product (GDP) from Transport increased to ₱84,765.58 million in the second quarter of the 2019 from ₱76,553.45 million in the first quarter. [4]

As an economy grows, the more crucial the role logistics networks play to its development. More so with the rise of e-commerce. [5] E-commerce industry in the country has attributed to the extraordinary growth of the freight forwarding industry which was supported by development in industries in manufacturing, retail, wholesale, construction, agriculture, mining sectors [6] and demand for warehouses where several industrial parks require storage facilities. [7]

The Philippines, being an archipelago, anchors its logistics system on the maritime transport system, supported by a road network, linking ports to production areas, markets and logistics terminals, and an air transport system with strategic regional and local airports. [8] The improvement of road transport infrastructure is critical for strengthening the logistics service sector of the country. The country has seen modest improvement in the overall freight transport service, but a large part of the road network remains in poor condition and intermodal integration is low.[9]

The government is accelerating multiple infrastructure projects under "Build, Build, Build Program" and among those projects are three (3) bus rapid transits, four (4) seaports, six (6) airports, nine (9) railways and 32 roads and bridges.[10] Moreover, as an initiative of the government to improve the transportation system in the country, there will be an implementation of the "Public Utility Vehicle Modernization Program (PUVMP)." ₱2.2 billion has been allocated for the transport modernization plan, which will be used to provide subsidy to drivers and operators who will be buying electric

[1] World Bank LPI 2018.
[2] Global Logistics Market 2018-2022.
[3] Damicis, J. (2018)
[4] PSA (2019)
[5] Beltran, B.B.M. Business World (2019).
[6] PR Newswire. Philippine Freight Forwarding Markets, 2012-2017&2018-2023.
[7] Mordor Intelligence
[8] Lidasan & Castro (2009)
[9] Mordor Intelligence. Industry Reports/Philippine-freight and Logistics Market (2018-2023)
[10] Business World (2018) On the Upgrade

jeepneys, as well as address the training for drivers. The training will serve as a refresher on the technicalities of driving, safe measures, and proper etiquette in dealing with passengers. [11]

II. The Global Demands of Transportation and Logistics Activities

A. Global Status and Demands

The global logistics market reached a value of USD 4,730 Billion in 2018. The global demands are the effects of the rapid explosion of trade agreements among various nations and the rising needs of importers, exporters,[12], and delivery drivers, shifting of customer needs and demands, innovations in transportation and delivery, optimizing strategic operations and planning[13].

The World Economic Forum identified the seven (7) market trends and technological advances that have contributed to the growing demand for Logistics. [14]

A growing customer base	The world's population is growing and expected to reach 9 billion people in 2050[15]
Rise of digital consumer	The number of smartphone subscriptions is predicted to almost double to 4 billion by 2025, with nearly all of that growth coming from emerging markets.[16]
Political and economic developments	The three most significant effects are the price of oil, trade harmonization and growing concern about the environment.
Performance of the logistics industry since the 2008 financial crisis	Though it had a negative impact but the sector has recovered since 2008, with the market capitalization of the top logistics companies growing at an average of 15% annually over the six years to 2014.
The third age of the Internet	The most important technology trend of this new era is *the Internet of Things (IoT)*, a network of smart devices, sensors and the cloud that allows the physical world and computer systems to interact directly. IoT already consists of 7 billion devices – from fridges to thermostats to street lights – and is expected to grow to almost 50 billion objects by 2020.
Rise of the platforms	The emergence of giant Internet platforms such as eBay, Amazon and Alibaba. Which enable startups and small firms to operate in a global market from their first day of business.
3D printing and driverless vehicles	3D printing and autonomous vehicles revolutionize logistics providers, by reducing operating costs while improving the reliability of deliveries.

11 Adrian, M. (2019). PUV Modernization: Here's what you need to know
12 Research and Markets (2019). Global Logistics markets, 2011-2018 & 2019-2024
13 Forbes Insights
14 World Economic Forum. Seven Trends Driving Change in Logistics
15 UN (2014)
16 Burt, David, et al. Cyberspace 2025.

These global trends and digitization compelled a sweeping implication in the Transportation and Logistics operation. Here are some of the global demands that will have exponential impact to the sector:

I. Automotive logistics market is predicted to hike from USD 115 billion in 2018 to around USD 170 billion by 2025[17]
II. Airfreight is predicted to increase by more than 1 million metric tons by 2018 and with the fastest growth on routes between the Middle East and Asia[18]
III. By 2030, it is predicted that there will be 41 megacities with populations of than 10 million people.
IV. Smartphone subscriptions to reach four billion by 2025.[19]
V. Global e-commerce logistics cost are expected to have 17% Compound Annual Growth Rate(CAGR)
VI. E-commerce logistics market is projected to grow by USD 524.1 billion with a compound growth of 20.7%.[20]
VII. Transportation services to reach USD 464.2 by 2025
VIII.

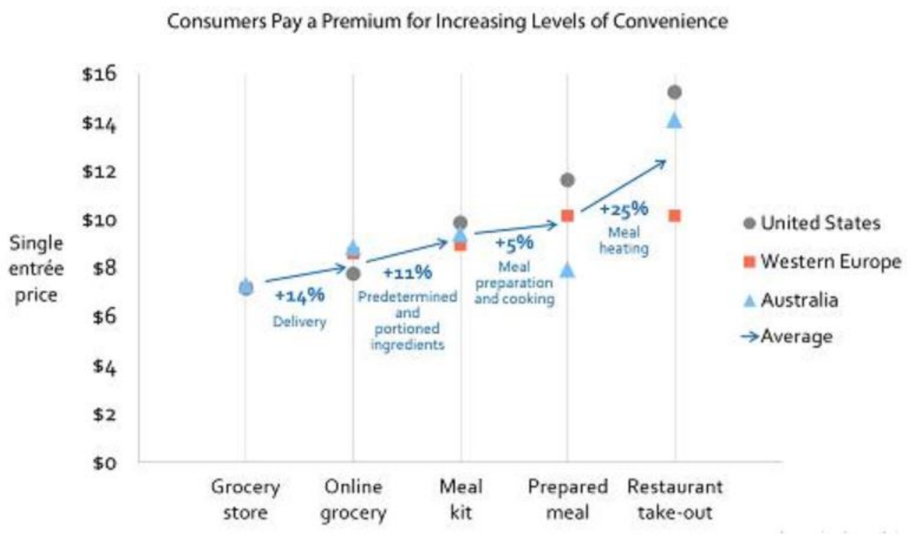

Figure 1(Source: Business Insider)

An on-demand economy is on the rise, based on the figure above (Figure 1). The on-demand economy takes place when access and provision of goods and services has become more convenient through the use of technology. It shows that consumers around the world are willing to pay more for convenience in food preparation and delivery. [21]

[17] Global Market Insights (2019)
[18] Beltran, B.B.M. (2018). Business World.
[19] World Economic Forum
[20] Research and Markets (2019)
[21] Winnesota. The Rise of On-Demand Economy

Figure 2 presents the shipping fees generating an upward trend as value of merchandise ordered, where delivery becomes significant and shippers has an increase in efficiency and cut cost. In 2018, shipping fees generated from the same day delivery of merchandize are projected to hit USD 1.1 billion.[22]

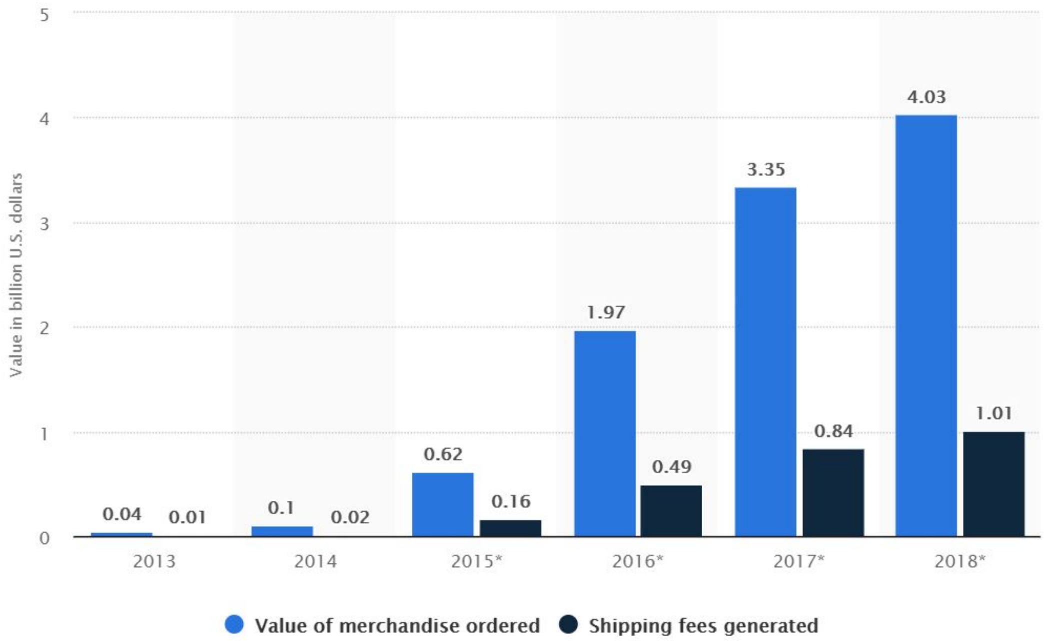

Figure 2 (Source: Statista)

Globalization and innovation play a key role in changing the structure of production, trading, transport and logistic activities and consumers' consumption. Its trends sweep through regional markets, moving businesses and different sectors across the globe.

Wholesale and retail sector in the US was the largest user of transportation services in 2014. This sector also utilized a significant quantity of warehousing and other transportation services such as parcel delivery, courier, and messenger services.[23]

Its growing e-commerce sector acts as a driver for the growth of the logistics market. It is valued at USD 400 billion in 2017, and is expected to register an exponential growth rate. By 2023, the industry is expected to account for 7% of all US retail sales. It also recorded robust growth, as consumers perceive that any product can be transported to any place in the least amount of time, which is made possible by logistic companies. It is expected to be worth more than a trillion-dollar industry soon. [24]

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[22] Idem

[23] Mordor Intelligence. North America Freight and Logistics Market-Segmented by, Function by End-User, and Geography-growth, Trends and Forecast (2018-2023).

[24] Idem

The Asia-Pacific Contract Logistics market accounted for USD 80,963.7 million in 2017 and is expected to grow at a Compound Annual Growth Rate (CAGR) of 4.6% over the forecast period 2018-2025, to account for USD 126,102.9 million in 2025. [25] It is stated that freight & logistics play the most important role in carrying out a trade, globally. Currently, the supply chain management is a complex challenge, due to globalization and the increased consumption of various products. [26] An integrated and global direct distribution business model has already been developed to ship products directly from Asia to Western and other markets along the global supply chain and an Asia-wide trans-port and logistics network is essential for Asian countries to get their goods to markets more effectively.

As incomes in the ASEAN countries steadily rise, demand for consumer goods is created, with an evolved e-commerce ecosystem and increased spending of people in those countries. E-commerce contributed a lot in the rapid growth in Asian's total consumer spending and household disposable income stand out. As illustrated in Figure 10, growth rates have increased gradually since about 2014, tracking at just over 5% Year Over Year (YOY)over 2016 to 2018. Total consumer spending and household disposable income should continue to rise CAGR of 4.8% and 4.6% respectively between 2019 and 2022, according to the latest data from Oxford Economics.

Figure 3 (Source: Colliers International, Oxford Economics)

It is also reported that it expects the Asia Pacific trucking volume to grow fast, caused by production relocations from China to Vietnam, Thailand and Myanmar. China domestic trucking is expected to grow because of the continuous growth of business to consumer (B2C) volume. [27]

Thailand, the second-largest economy of ASEAN, significantly improved in 2018 due to its massive investment in transport infrastructure and relevant legal reforms. Its expanding internet user base has made it an ideal growth

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[25] Research and Market. Asia-Pacific Contract Logistics Market 2017-2018 & 2019-2025
[26] Mordor Intelligence. Asia-Pacific Freight & Logistics Market Study - Market Trends, Analysis & Forecasts to 2022
[27] CEVA Logistics (2019). Q1 2019-Ground Transport Asia Pacific

environment for e-commerce businesses. Many courier companies have launched their cost-effective and high-quality logistics services in the country and brought domestic end-to-end delivery to the market. Central Group, Aden, DHL Express Thailand, Kerry Express, Lazada, Pomelo, and Shopee, are some of the major e-commerce and logistics companies in the country. Additionally, the air freight handled at Thai airports is significantly increasing, owing to the on-going demand created by e-commerce. AOT's airports handled more than 1.5 million metric ton of freight in 2017.[28]

India's economy is expected to grow by 7.3% and it is the fastest-growing economy that just needs more structural reforms[29], and its transport sector will grow at the rate of 5.9% through 2021 as per the financial report by the GoI (Government of India). [30] Its logistics services is a prominent sector in terms of contribution to national and state incomes, trade flows, FDI as well as employment. Approximately, 14% of its Gross Domestic Product (GDP) is spent on transport and logistics sector, against 8 to 10% in other developed countries. Indian Logistics and Transportation sector is comprised of Rail, Road, Water and Air Transport. Warehousing industry in India is worth USD 7,887,656,000 in 2017 and is growing at a rate of 10-12% every year. This growth is led by various factors such as - Implementation of Goods and Service Tax (GST), growth of e-commerce and digitalization, growing domestic consumption, increasing international trade and growth in private and foreign investments in infrastructure.[31]

In Vietnam, the logistics industry is one of its fastest growing industries which is estimated to grow at a pace faster than the GDP growth rate. Currently, the logistics service accounts for 15-20% of GDP in Vietnam. Hanoi and Ho Chi Minh City are current major logistics hubs in Vietnam. There is an outsourcing trend for logistic services in Vietnam and they are classified in two groups:

- Basic services including outbound transportation/warehousing and inbound transportation/ warehousing
- Specialized services including warehouse management, inventory management, order processing, vendor management, custom information and support, reverse logistics and climate controlled logistics.[32]

The Transport and Logistics sector in Australia has an estimated annual revenue of $95.65 billion, with an operating profit of $10.41 billion in 2017. The sector employs nearly half a million people across its major sub-sectors: road transport, logistics, warehousing and stevedoring. It has 48,747 registered businesses in the road freight transport ranging from single truck operators to large multi-national corporations. [33]

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[28] Idem
[29] Sood, J (2016) India ranks third on world emerging markets logistics index: Agility.
[30] Vasgustha, P. (2019). Future and Growth of Transportation Market by 2020. Entrepreneur India.
[31] Ministry of Commerce and Industry Government of India
[32]Netherlands worldwide. Transport and logistics in Vietnam
[33] Australian Industry Standards (2018). Transport and Logistics Industry

China, home to the world's largest online retail market, has the potential of 650 million consumers and a rapidly growing middle class must not be overlooked. China's growth over the last 30 years has been largely based on being the workshop of the world, relying on low-cost labor and often heavy manufacturing. However, as crystallized in the "Made in China 2025" industrial strategy launched in 2015, policy makers are making a concerted effort to accelerate the country's move up to the value chain. Alibaba and Tencent, the significant investments of the major Chinese e-commerce giants in Southeast Asia over the recent months, have brought the region into sharper focus, and with cross-border payment solutions being introduced, the scope for growth is significant. As with other markets, as more retail moves online, the growth in demand for modern logistics warehousing around major urban centers and transport axes will have a strong trend going forward.[34]

B. Local Status and Demands

Transportation and logistics are considered main catalysts of economic growth. The country's transport system is intermodal in character, which includes inter-island as well as intra-island mobility, and typically combines air, sea and road transport modes. [35] It has a growing need for an efficient goods and service delivery and transport system.[36] This is due to the government's Build, Build Build Program to improve infrastructures, increasing demand warehouses and storage facilities in particular for food, beverage, clothing apparel and packaging materials.

The Ambisyon Natin 2040[37] which describes the 25-year collective long term vision of the Filipinos towards a sustainable, and prosperous middle-class society foresees its GDP per capita to grow three times. This will positively impact the demand for products such as apparel, electronics, food and beverages which will also augment demand for logistics services in the country.

The Philippine Development Plan (PDP) 2017-2022 of the government is directed in accelerating infrastructure programs and projects which will significantly result to high demand for logistics and transportation. Thus, the Philippine Ports Authority is aiming to accelerate the implementation of infrastructure projects in ports nationwide under the 'Build-Build-Build 'program to decongest ports for cargo and passenger, and in order to keep up with the rapid demand of logistics. [38]

The 2016 Annual Survey of Philippine Business and Industry (ASPBI) recorded a total of 2,860 establishments that were engaged in transportation and storage activities. Figure 4 illustrates the percentage distribution of all establishments for the sector by industry sub-class in 2016. It shows that among industries, freight forwarding services had the highest number of establishments at 600, or 21.0% of the total establishments for the sector. Freight truck

[34] Knight Frank. The future of Asia Pacific's industrial and logistics markets
[35] Business World (2018) Improving the local logistics industry
[36] Raeber, M.K. (2019) Opportunities abound in PH logistics industry
[37] Ambisyon Natin 2040 is represents the collective long-term vision and aspirations of the Filipino people for themselves and for the country for the next 25 years which was launched by NEDA in the Philippines
[38] Bloomberg (2019). Philippines Logistics and Warehousing Market is Expected to Reach PHP 1,100 Billion in Terms of Revenues by the Year 2024: Ken

operation followed closely with 580 establishments or 20.3%. Customs brokerage (ship and aircraft) ranked third with 251 establishments or 8.8%. [39]

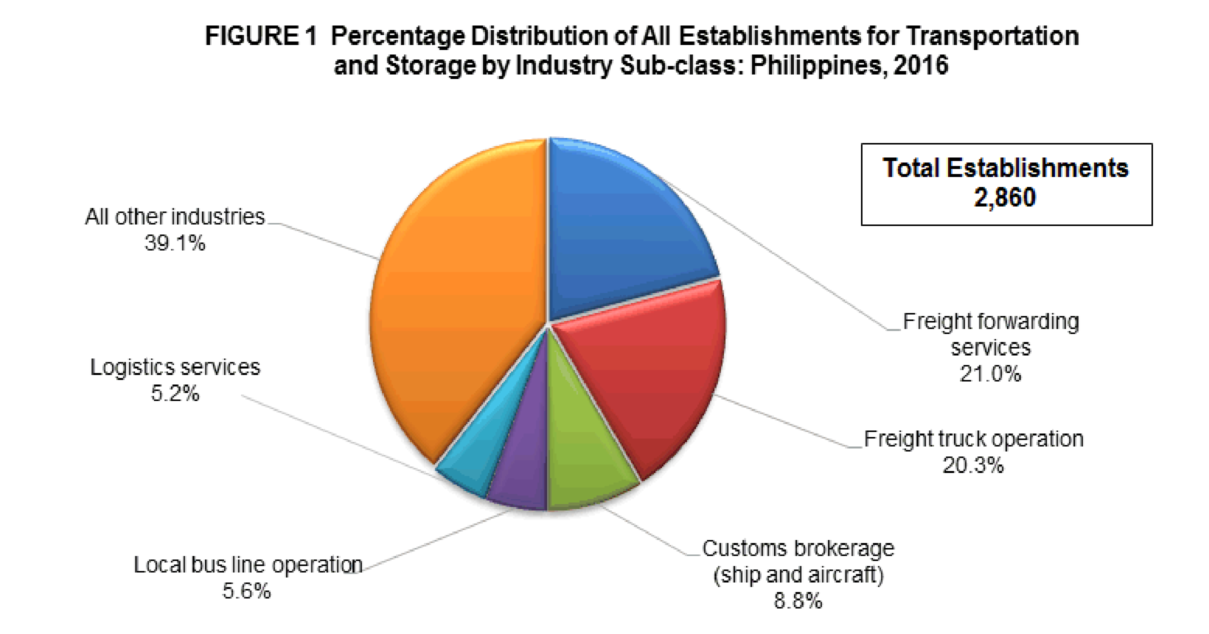

Figure 4 (Source: PSA)

The strong economic growth in the country is likely to boost the logistics market. According to KEN Research, the country's logistics and warehousing market is expected to reach PHP 1,100 billion in terms of revenues by the year 2024. The sectors which are expected to be particularly depending on logistics services include healthcare, telecommunication, electronics and retail. An increase in the consumer spending will provide a strong impetus for the growth of these sectors thereby affecting the logistics market positively.[40] Another global market research firm, Transparency Market Research, also forecasted positively that the country's freight and logistics market will reach P3.26 trillion by 2023. [41] In more recent news, FedEx Corp, one of the biggest logistics companies in the world, is reestablishing its Asia Pacific hub back to the Philippines, to be located at Clark, Pampanga[42]. This will surely boost the Philippines logistics sector in terms of investment and employment. The ASEAN Trade in Goods Agreement shall also facilitate the exponential growth in the logistics sector among ASEAN countries as it allows liberalization of logistics services across the nations including Philippines.[43]

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[39] Philippine Statistics Authority (PSA). 2016 Annual Survey of Philippine Business and Industry (ASPBI) - Transportation and Storage Sector for All Establishments: Final Results.

[40] Ken Research (2019) Philippines Logistics and Warehousing market is Expected to Reach 1,100 billion in terms of Revenues by the Year 2024

[41] Raeber,M.K.(2019) Opportunities abound in PH logistics industry. Inquirer.net.

[42] https://www.philstar.com/business/2019/11/06/1966258/fedex-returning-aspac-hub-philippines

[43] KEN Research.

Other Emerging Developments[44]

- Third Party Logistics (3PL) Outsourcing – to help in the management of complex supply chains of multinational companies, some of which have a presence in the country. It is anticipated that its revenue share for the sector will reach 40% by 2024.
- Rising number of ship calls – In 2018, the number of ship calls in the Philippines reached 465,654, and this will improve the competitiveness of the Sea Freight industry.
- Demand for air express logistics is also expected to increase.
- Increased technological investments by manufacturing, engineering and retail companies in warehousing has resulted to the increase in revenue share of retail/industrial warehouses.

With these developments, there will be job and business opportunities in the Philippine transport and logistics sector. However, these opportunities imposed challenges to capacitate these demands. The road transport is the dominant sub-sector accounting for 98% of passenger traffic and 58% of cargo traffic. [45] The Department of Trade and Industry (DTI) stressed the importance of having an efficient logistics system. Moreover, the country has the highest logistics cost compared to the ASEAN countries. DTI stated that the country's logistical costs account for 24% to 53% of wholesale prices, while shipping and port handling costs cover 8% to 30%, depending on the goods' route, and roughly 5% of the retail price of goods.

It is even noted the country's weak standing in the Logistics Performance Index of World Bank where the Philippines is ranked 71st out of 160 countries. The report indicated its inadequate and relatively poor quality of infrastructure, inefficient customs, and poor competency of logistics providers, along with their limited ability to track and trace shipments. Its performance is attributed to government's restrictive and incoherent regulatory framework especially in the transport costs and efficiency of the ports.

III. Employment Situation

A. Global Employment Situation

According to the Bureau of Transportation Statistics, in the US, employment of logisticians is projected to grow 5 percent from 2018 to 2028, Moreover, the transportation and warehousing sector and related industries employ over 13.0 million people in a variety of roles, from driving buses to manufacturing cars to building and maintaining ports and railroads. Transportation and material moving occupations had employment of 10.2 million in May 2018, representing 7.1% of total national employment. The largest transportation and material moving occupation was laborers and hand freight, stock, and material movers (2.9 million) and the highest paying transportation

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[44] Ken Research
[45] Asian Development Bank Study (2012). Transport Sector Assessment, Strategy and Road Map

and material moving occupation was airline pilots, copilots, and flight engineers ($169,560).

As reported by Torpey (US Bureau of Labor Statistics) as projected employment in transportation and warehousing will grow by about 7% between 2012 and 2022, and this growth amounts to about 327,300 new jobs over the decade. New jobs are also projected in truck, water, scenic and sightseeing, and transit and ground transportation; support activities for transportation; and warehousing and storage as seen in the next chart.

Despite, the growing employment demands, the challenges lies on filling warehouse jobs as workers choose jobs across many fields, while trucking companies are finding it hard to attract and retain drivers.

Transportation and logistics jobs is always on the go and flexible yet it is also physically difficult or dangerous where safety is a top priority. Depending on the specific job, education requirements range from high school to a bachelor's degree with specific skills and abilities such as good communication, teamwork, and problem-solving, ability to adapt to new technologies and practices. Most of the occupations require formal trainings and special credentials.

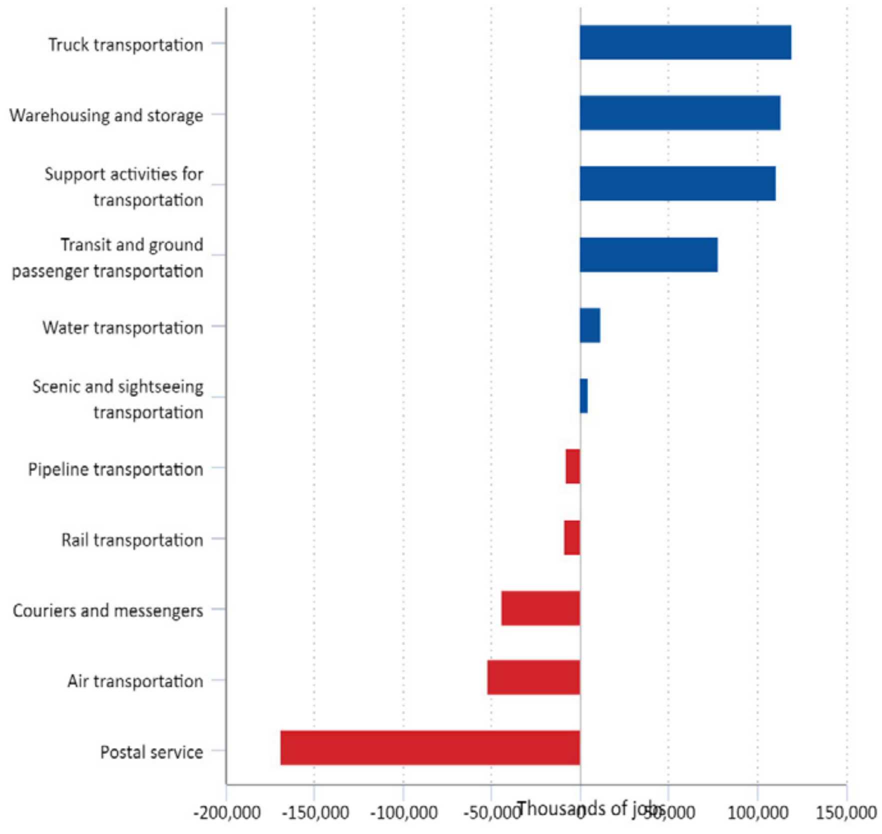

Figure 5 (Source: US Bureau of Labor and Statistics, Employment Projection Program)

According to Australian Industry and Skills Committee, transport and logistics industry in Australia [46] employs nearly half a million people across its major subsectors: road transport, logistics, warehousing and stevedoring. Vocational education and training (VET) is required in these occupations such as driving instructors, purchasing and supply logistics clears, transport and dispatch clerks, crane, hoist and lift operators, automobile drivers, delivery drivers, truck drivers, store persons, freight and furniture handlers, waterside worker and forklift driver. 80.7 per cent of employers reported experiencing a skills shortage in the last 12 months [2017 Survey results]. The occupations reported as being in shortage were:

1. Truck Drivers
2. Educators
3. Supervisors/Managers
4. Schedulers
5. Forklift Drivers.

Employers identified the following reasons for the shortage with the most frequent response listed:

1. Wages / salaries considered too low
2. Unattractive job / poor industry image
3. Ageing workforce / current staff retiring
4. Cost/time to achieve the required qualification
5. Competition from other organizations

Sourcefit[47] estimated that logistics and transport outsourcing was worth $15 billion in 2011, and those numbers have continued to climb. The availability and accessibility of skilled logistics professionals are key competency challenges, so companies are looking to outsourcing providers to fill the human resources gap. The following are the logistics roles they needed to recruit:

Dispatcher	Delivery Supervisor
Dispatch Supervisor	Planning Director
Call Center Operator	Route Planner
Jobs Coordinator	Transport Director
Logistics Support Clerk	Export Brokerage Clerk
Research Clerk	Courier
Scheduler	Shipper and Receiver
Inventory Clerk	Operations Manager
Estimator	Marketing Analyst
Buyer	Business Development Manager

[46] Australian Industry and Skills Committee (Transport and Logistics)

[47] Sourcefit is an online recruitment working with global companies in various industries

It was highlighted that the workforce will grow and would need skills and talents to fill-in the positions. Therefore, an appropriately-skilled and knowledgeable workforce is essential to ensure the operations continue to run smoothly.

In the transport and logistics sector, one of the occupations which has the largest employment for Filipinos are seafaring. The Philippines remains among the world's top sources of seafarers, but its maritime industry is at an alarming situation. It now has many competitors—China, Russia and Vietnam among them—in producing seamen, said Nelson Ramirez, president of the United Filipino Seafarers (UFS). "Vietnam has three quality maritime universities, with 100,000 seamen already. The figure below shows the steady decline of Filipino seamen: from 442,820 in 2016 to 378,072 in 2017. CHED said, as many as 20,000-35,000 Filipinos complete a three-year maritime course in a year, but only around 5,000 manage to find jobs onboard ships.[48]

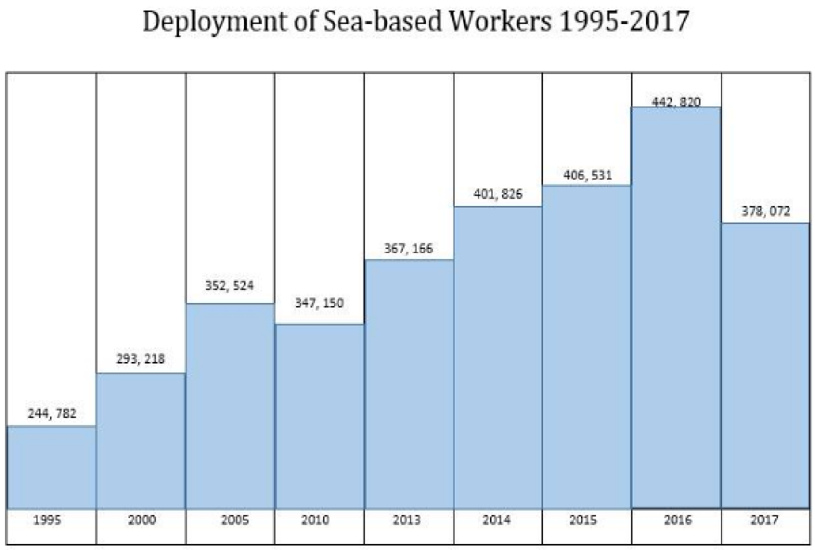

Figure 7 (Source: POEA, Figure from United Filipino Seafarers)

B. Local Employment Opportunities

According to the Philippine Multimodal Transport and Logistics Association Inc. president Marilyn Alberto, the industry has a total employment of 191,817 jobs in 2016, and of all the sub-sectors, the inter-urban bus line operators employ the greatest number of workers. The industry foresees that the sector may help create 7.5 million jobs and achieve 5% employment by 2022. [49]

The Philippine Employment Projection Model (PEPM) 2013-2022 reports the following Net Employment and Average Employment Growth Rate for the sector:

[48] Factor, M.F. (2019) PH seafarers need lifeline or sink amid global rivals

[49] PSA (2016)

Occupation	Net Employment (Thousands)	Average Employment Growth Rate
Land transport and transport via pipelines	500	3.3
Warehousing, storage and support act for transport	55	2.6
Postal and courier activities	9	2.1
Air transport	1	0.6
Water transport	-5	-0.9

The DOLE Project JobsFit 2022 has reported the following in-demand and hard-to fill occupations for the transport and logistics sector:

In-Demand	Hard-to-Fill
Administrative Clerk	Engineering Manager
Automotive Painter	Master Mechanic
Human Resource Assistant	Parts Pricing
Ticket Issuing/Travel Clerk	
Ticket Teller	

As identified by the Industry key stakeholders based on the 2018-2022 NTESDP Action Plan, there are three major categories with the biggest roles to be developed in the country:

Drivers	Assist with inventory and deliveries and assistant to drivers	Inventory Managers and Warehouse upkeep and storage
Bus drivers	Customer Associates	Machine Operator
Taxi drivers	Dispatchers	Warehouse personnel
Motorcycle drivers	Helpers	
Truck drivers	Conductors	

IV. TESDA Initiatives

A. TVET Capacity

- Training Regulations

Below is the list of relevant Training Regulations (TRs) for the Transportation and Logistics Sector based on the identified In-

Demand and Hard-to-Fill Occupations in the DOLE JobsFit2020 and shortage workers in the Australian Industry and Skills Committee and Sourcefit.

In-Demand/Hard-to-Fill Jobs	TESDA TRs
Automotive Painter	Automotive Body Painting/Finishing NC II
Master Mechanic	Auto Engine Rebuilding NC II
	Automotive Servicing NC I
	Automotive Servicing NC II
	Automotive Servicing NC III
	Automotive Servicing NC IV
	Motorcycle/Small Engine Servicing NC II
Motorcycle Driver	No TR Available
Taxi Driver	Driving NC II
Bus Driver	Driving (Bus) NC III
Truck Driver	Driving (Articulated Vehicle) NC III
Route Planner	No TR Available
Dispatcher	No TR Available
Dispatch Supervisor	No TR Available
Transport Director	No TR Available
Delivery Supervisor	No TR Available
Courier	No TR Available
Forklift Drivers	Forklift NC II
Export Brokerage Clerk	Front Office Services NC II
Scheduler	
Shipper and Receiver	
Administrative Clerk	
Inventory Clerk	
Ticket Issuing/Travel Clerk	
Ticket Teller	
Jobs Coordinator	No TR Available
Logistics Support Clerk	Warehousing Services NC II
Warehouse Operator/ Warehouse Personnel	
Call Center Operator	Contact Center Services NC II
Operations Manager	No TR Available

In-Demand/Hard-to-Fill Jobs	TESDA TRs
Customer Associate	Customer Services NC II
Research Clerk	No TR Available
Planning Director	No TR Available
Helper	No TR Available
Marketing Analyst	No TR Available
Business Development Manager	No TR Available
Machine Operator	Press Machine Operation NC I
	CNC Milling Machine Operation NC II
	CNC Lathe Machine Operation NC III
	Plastic Machine Operation NC II
	Plastic Machine Operation NC III

Source: DOLE JobsFit2020, AISC and Sourcefit

- Based on the table above, there are some in-demand and hard-to-fill and emerging jobs that require higher education qualifications. Hence, there are blue collar jobs that still do not have corresponding TESDA TRs. Occupations where TVET qualifications can be applied such as Dispatcher, Courier and Helper do not have corresponding TRs yet.

  - Enrolled and Graduates on Relevant Qualifications, 2018

Sector	Enrolled	Graduates
Driving NC II	35,892	35,515
Driving NC III	2,853	3,126
Automotive Body Painting/Finishing NC II	64	84
Auto Engine Rebuilding NC II	67	61
Automotive Servicing NC I	22,537	21,943
Automotive Servicing NC II	23,671	22,879
Automotive Servicing NC III	226	231
Motorcycle/Small Engine Servicing NC II	7,244	7,266
Front Office Services NC II	5,676	4,495
Warehousing Services NC II	108	0
Customer Services NC II	966	853
Contact Center Services	21,542	22,189

Press Machine Operation NC I	26	13
CNC Milling Machine Operation NC II	274	118
CNC Lathe Machine Operation NC II	597	379
CNC Lathe Machine Operation NC III	597	0
Plastic Machine Operation NC II	1893	2045
Total	124,335	121,299

Source: TESDA PO-LMID

- Driving NC II has the highest enrollees and graduates, followed by Automotive Servicing NC II, Automotive Servicing NC I and Contact Center Services.

- Assessed and Certified on Relevant Qualifications, 2018

Qualification	Total Assessed	Total Certified
Automotive Servicing NC I	42,044	38,442
Automotive Servicing NC II	35,565	32,242
Automotive Servicing NC III	676	591
Automotive Servicing NC IV	1,167	954
Driving NC II	56,634	52,351
Driving (Articulated Vehicle) NC III	31	25
Driving (Passenger Bus/Straight Truck) NC III	2,190	2,119
Motorcycle/Small Engine Servicing NC II	6,865	6,378
Heavy Equipment Operations Forklift NC II	388	322
Front Office Services NC II	894	770
Customer Services NC II	2,016	2,016

Source: TESDA Certification Office

- The top three assessed and certified qualifications are Driving NC II, Automotive Servicing NC I and NC II.

- Trainers/Assessors

Qualification	Total NTTC	Total CA
Automotive Servicing NC I	-	378
Automotive Servicing NC II	974	378
Automotive Servicing NC III	922	403
Automotive Servicing NC IV	83	18
Driving NC II	33	429
Driving (Articulated Vehicle) NC III	39	19
Driving (Passenger Bus/Straight Truck) NC III	141	84
Motorcycle/Small Engine Servicing NC II	353	150
Heavy Equipment Operations Forklift NC II	8	2
Front Office Services NC II	52	177
Customer Services NC II	8	40

Source: TESDA Certification Office

➢ Automotive and Land Transportation sector have the highest number of NTTC Trainers and Assessors.

- TVIs and Assessment Centers (ACs)

Qualification	TVIs	ACs
Automotive Servicing NC I	335	201
Automotive Servicing NC II	348	210
Automotive Servicing NC III	12	12
Automotive Servicing NC IV	6	10
Driving NC II	351	233
Driving (Articulated Vehicle) NC III	7	16
Driving (Passenger Bus/Straight Truck) NC III	26	56
Motorcycle/Small Engine Servicing NC II	115	89
Front Office Services NC II	9	7
Customer Services NC II	4	8

Source: TESDA Certification Office

- The top three qualifications with TVIs and and ACs are Automotive Servicing NC I, NC II and Driving NC II.

D. Tsuper Iskolar

It is a scholarship training program through the partnership of the Department of Transportation (DoTr) and the Technical Education and Skills Development Authority (TESDA) primarily intended for jeepney drivers and other affected individuals under the Public Utility Vehicle Modernization Program (PUVMP). DoTr and TESDA signed a memorandum in 2017 to ensure that stakeholders in the transport industry are provided trainings and social assistance for stakeholders. TESDA sets guidelines for implementation of the program. The scholars are entitled to free skills training and free skills assessment. They are also provided with free entrepreneurship training and also entitled to the training support fund to cover food and transportation allowance equivalent to Php350 per training day attended for a maximum of 35 days. The program will be implemented until 2022.

E. 911 TESDA

It is a mobile application that provides the graduates an access that would link them to employment assistance. It is a venue that connect people in need of technical services to TESDA-trained workers. This grab-like application serves the public and help TESDA graduates find work.

F. World Café of Opportunities/JoLiNS

World Café of Opportunities (WCO) is a one-stop shop for job seekers and employers which was formally launched through Job Linkaging and Networking Services (JoLiNS) last August 2018. This is a sector-based job fair aiming to facilitate employment of TVET graduates.

G. Development and Promulgation of Training Regulations

TESDA's Qualification Standards Office (QSO) is currently developing training regulations (TRs) such as Speed Limiter and Automotive Servicing (Euro-4) to complement the requirements of the PUV modernization program of the DOTr. There are also five (5) TRs such as Warehousing Services NC III, and NC IV, Multimodal Transport Operations and Logistics Services NC II, NC III and NC IV due for promulgation by December 2019.

H. Mutual Recognition of Skills (MRS)/ Mutual Recognition Arrangements (MRA)

TESDA participated in two meetings among ASEAN member states - the Experts Meeting on Mutual Recognition of Skills (MRS) Logistics and Transport held in Bangkok, Thailand on

September 3-5, 2019, and the 5th Regional Skills Technical Working Group (RSTWG) Meeting held in Hanoi, Vietnam on September 12 -13, 2019. In both meetings, TESDA contributed in the coordination and cooperation efforts on the MRS/MRA of the skills in the logistics industry. In the meeting in Thailand, an agreement was reached between Thailand, Vietnam and the Philippines to collaborate on the mutual recognition process for logistics skills with support from the International Labour Organisation (ILO) and the Government of Korea.

V. Issues and Challenges

The following are the identified global and local challenges facing in the transportation and logistics industry:

A. Lack of Infrastructure

Infrastructure problems, in developing countries especially in the Philippines, pose a serious problem in general.

B. Shortage of Workers

The World Economic Forum reports that there is a shortage of managers as well as truck drivers in developing countries.

C. Cost of Logistics and Rigid Regulations

According to a 2016 report by the Department of Trade and Industry, the Philippines has the highest cost for logistics in the ASEAN region. Mainly due to its geography and arduous regulations.

D. Traffic Congestion

It remains to be a significant issue, as it severely impacts the performance of the industry as a whole.

E. Lack of Employable and Specialized Jobs and Skills

Administrative roles such as warehouse personnel, customer associates, dispatchers, helpers and conductors are easier to hire because of the nature of work and skills needed. But specialized jobs like machine operators are also difficult to hire as drivers. Drivers are required specialized skills and have the biggest supply gap. Though some of the drivers have TESDA certificate, most of them are not employable and ready for work.

F. Lack of Maintenance

There are overloading of trucks and poor maintenance of fleets. There is a need for basic care of the machines, equipment and vehicles.

G. Gap on Knowledge, Skills and Attitude

Majority of the drivers are lacking in all three areas - skills, knowledge and attitude. The root cause is identified in the lack of training.

The results of the National Technical Education and Skills Development Plan (NTESDP) Action Programming for the Transport and Logistics Sector point out that the main supply gap is centered on the lack of employable drivers, and even the more specialized jobs like machine operators. There is also the lack of maintenance which is a result of both a transport company's lack of initiative in maintaining their fleet and driver's use of the buses and lack of knowledge in proper driving and maintenance.

In terms of skills of workers, the report also enumerated the following gaps:

1. Competency in Technical Skills – It was noted that most drivers did not know how to drive properly or read road signs despite having the TESDA certification for driving. Most of the companies retrain their hires.

2. Competency in Basic Troubleshooting and Maintenance – It is critical for the drivers to understand the preventive maintenance as a key factor in the overall lifespan of the vehicle and a significant part of their job.

3. Competency in Core Soft Skills – This is the most difficult to train for it deals with the company, most employees lack professionalism, alignment with company values, and good moral conduct.

4. Knowledge, skills and attitude – Majority of drivers are lacking in all these three areas. Typically, the drivers have the basic skills of driving but do not have the knowledge of driving which includes proper driving etiquette, reading road signs, and understanding right of way. The current system of certification lacks the rigid sanctions and violations to enforce good behavior.

VI. Way Forward

1. The logistics and transportation industry is both experiencing positive and negative waves. It has been contributing to the country's economic growth due to the influx of outsourcing, e-commerce and globalization. Yet, it is lagging compared to its neighboring Asian countries. Several literature mention that improving the capabilities can contribute to improving competitiveness. Improving human resource capabilities through proper education and training can help address some of the issues and concerns in the industry, and thereby helping improve the competitiveness of the Philippine transport and logistics industry.

2. On the issue of lack of personnel in the transport and logistics sector, especially in the specialized jobs such as machine operators and drivers, TESDA can address this through increasing the supply base of graduates and certified workers. Increasing the supply base can be done by actively promoting TESDA's training programs, as well as the employment and career opportunities in the sector. TESDA should also be ready to provide additional scholarships in the event of an increase in participation to the TVET training programs for the sector.

3. As to the lack in competencies and skills, TESDA has to make sure that its training programs are aligned with the specified requirements of the transport and logistics sector by ensuring that the competency standards and TRs for the relevant qualifications are truly addressing the requirements of the sector. TESDA also needs to ensure that the conduct of training is consistent to the standards to produce quality and competent graduates. The training programs should provide opportunities for the trainees to learn about and gain competencies essential to industry such as professionalism, alignment with company values, and good moral conduct. TESDA has to ensure the infrastructure (assessment centers and assessors) for the conduct of assessment and certification of graduates and existing workers.

4. For jobs and occupations that require standardized TVET trainings and/or certifications in the sector but are not yet available, TESDA should pursue consultation with the relevant sector players to define these qualifications. There are some jobs that have evolved, as well as new jobs that have emerged due to the impact of the Fourth Industrial Revolution to the transport and logistics sector. New technologies such as Internet of Things (IoT), Internet platforms, 3D printing and autonomous vehicles are already being applied in the sector and TESDA should be able to study how knowledge and skills in these technologies will be incorporated in the TVET training programs. Ultimately, TESDA's competency standards/TRs, curricula and assessment should remain relevant and responsive to the evolving sector's needs and requirements.

5. TESDA's involvement in the MRAs and MRSs for the logistics industry will be beneficial not only to the Philippines, but also to its ASEAN neighbors. The MRAs and MRSs facilitate skills mobility, which is a critical component for the successful implementation of the ASEAN Economic Community (AEC).[50] Skill is an important economic resource, and skills mobility can contribute to the efficient allocation of resources within the ASEAN community, promote better employment opportunities, and address job-skills mismatch. Thailand, Vietnam, and Philippines agreed to pursue recognition of skills in the logistics industry.

[50] http://apskills.ilo.org/news/we-need-stronger-commitment-on-skills-mobility-to-realize-the-aec

References:

Adrian,M. (2019) PUV Modernization: Here's what you need to know. https://www.imoney.ph/articles/jeepney-puv-modernization-program/

Ambisyon Natin 2040 is represents the collective long-term vision and aspirations of the Filipino people for Themselves and for the country for the next 25 years which was launched by NEDA in the Philippines

Asian Development Bank. Transport Sector Assessment Strategy and Road Map. Retrieved from: https://www.adb.org/sites/default/files/institutional-document/33700/files/philippines-transport-assessment.pdf

Australian Industry Standards (2018). Transport and Logistics Industry. Retrieved from http://www.australianindustrystandards.org.au/wp-content/uploads/2018/02/TLI-Key-Findings-Paper2018V5Web.pdf

Bayan Academy. Action Programming and Resource Allocation for TESDA's 2018-2022 National Technical Education and Skills Development Plan (NTESDP) Final Report.

Beltran, B.B.M. (2019). How logistics keeps the world turning. Retrieved from: https://www.bworldonline.com/how-logistics-keeps-the-world-turning/

Burt, David, et al. Cyberspace 2025, 2014. Presented in World Economic Forum: A logistics revolution: the circular economy. Retrieved from: http://reports.weforum.org/digital-transformation/a-logistics-revolution-the-circular-economy/

Business World. (2019) How Logistics keeps the world turning. Retrieved from https://www.bworldonline.com/how-logistics-keeps-the-world-turning/

Business World. (2018) on the upgrade. Retrieved from https://www.bworldonline.com/on-the-upgrade/

Business World (2018) Improving the local logistics industry. https://www.bworldonline.com/improving-the-local-logistics-industry/

Bloomberg (2019). Philippines Logistics and Warehousing Market is Expected to Reach PHP 1,100 Billion in Terms of Revenues by the Year 2024: Ken. Retrieved from https://www.bloomberg.com/press-releases/2019-05- 23/philippines-logistics-and-warehousing-market-is-expected-to-reach-php-1-100-billion-in-terms- of-revenues-by-the-year-2024-ken

CEVA Logistics (2019). Q1 2019-Ground Transport Asia Pacific. Retrieved from https://www.cevalogistics.com/market-update/ground-apac-q119

Damicis, J. (2018). Recent and Emerging Trends in Transportation and Logistics. Retrieved from https://www.camoinassociates.com/recent-and-emerging-trends-transportation-and-logistics

Factor, M.F (2019) Ph seafarers need lifeline or sink amid global rivals. Retrieved from: https://globalnation.inquirer.net/177879/ph-seafarers-need-lifeline-or-sink-amid-global-rivals

Forbes Insights. Logistics, Supply Chain and Transportation 2023: Change at breakneck speed. Retrieved from http://info.forbes.com/rs/790-SNV-353/images/Penske_REPORT-FINAL-DIGITAL.pdf

Global Logistics Market 2018-2022. Retrieved from https://www.technavio.com/report/global-logistics-market-analysis-share-2018

Global Market Insights (2019) Retrieved from https://www.globenewswire.com/news-release/2019/06/20/1871695/0/en/Automotive-Logistics-Market-to-hit-170bn-by-2025-Global-Market-Insights-Inc.html

Human Resource Development in Logistic Services for ASEAN Member States (2014). Training Material on 'Transport Operations Management". Retrieved from https://www.asean.org/storage/images/2015/september/transport-facilitation/batch-1/Transport-OperationsManagement/Transport%20Operation%20Management_ASEAN%20disclaimer.pdf

KEN Research. Retrieved from https://www.kenresearch.com/automotive-transportation-and-warehousing/logistics-and-shipping/philippines-logistics-warehousing-market/204159-100.html

Knight Frank. The future of Asia Pacific's industrial and logistics markets. Retrieved from https://www.knightfrank.com/bloghttp:/2018/06/26/the-future-of-asia-pacifics-industrial-and-logistics-markets

Liddasan, H. and Castro,J. (2009) "Philippine Intermodal Logistics System and Policies. Presented in the Philippine Multimodal Transportation and Logistics Industry Roadmap.

Long Yue, W., Taylor, M. & Tseng, Y.Y. (2005) The role of transportation in logistics chain. Retrieved from https://www.researchgate.net/figure/Overview-of-Logistics-System-source-BTRE-2001_fig3_281230908

Ministry of Commerce and Industry Government of India. Retrieved from https://www.indiaservices.in/transport

Mordor Intelligence. North America Freight and Logistics Market-Segmented by, Function by End-User, and Geography-growth, Trends and Forecast (2018-2023). Retrieved from https://www.mordorintelligence.com/industry-reports/north-american-freight-logistics-market-study

Mordor Intelligence. Philippine Freight & Logistics Market. Retrieved from https://www.mordorintelligence.com/industry-reports/philippines-freight-logistics-market-study

Netherlands worldwide. Transport and logistics in Vietnam. Retrieved from https://www.netherlandsworldwide.nl/countries/vietnam/doing-business/key-sectors/logistics Research and Market. Asia-Pacific Contract Logistics Market 2017-2018 & 2019-2025. Retrieved from https://www.globenewswire.com/news-release/2019/06/25/1873927/0/en/Asia-Pacific-Contract- Logistics-Market-2017-2018-2019-2025.html

Philippine Institute for Development Studies (PIDS). Improving the Local Logistics. April 25, 2018. Retrieved from https://www.pids.gov.ph/pids-in-the-news/2406. Philippine Statistics Authority (PSA). 2016 Annual Survey of Philippine Business and Industry (ASPBI) - Transportation and Storage Sector For All Establishments: Final Results. Retrieved from https://psa.gov.ph/content/2016-annual-survey-philippine-business-and-industry-aspbi-transportation-and-storage-0

Philippine Statistics Authority (PSA). 2016 Annual Survey of Philippine Business and Industry (ASPBI) - Transportation and Storage Sector for All Establishments: Final Results. Retrieved from https://psa.gov.ph/content/2016-annual-survey-philippine-business-and-industry-aspbi-transportation-and-storage-0

PSA. (2019). Gross National Income and Gross Domestic Product. Retrieved from https://psa.gov.ph/nap-press- release/sector/Transportation,%20Storage%20and%20Communication

PSA (2019) 2018 Survey on Overseas Filipinos. Date Retrieved from https://psa.gov.ph/statistics/survey/labor- and-employment/survey-overseas-filipinos

PR Newswire. Philippine Freight Forwarding Markets, 20122017&2018-2023. Retrieved from https://www.prnewswire.com/news-releases/philippines-freight-forwarding-markets-2012-2017--2018-2023-300859891.html

Raeber, M.K. (2019) Opportunities abound in PH logistics industry. (Inquirer.net). Retrieved from https://business.inquirer.net/271348/opportunities-abound-in-ph-logistics-industry

Research and Markets. (2019) Global logistics markets, 2011-2018 & 2019-2024. Retrieved from https://www.globenewswire.com/news-release/2019/07/19/1885194/0/en/Global-Logistics-Markets-2011-2018-2019-2024.html

Raeber,M.K.(2019) Opportunities abound in PH logistics industry. Inquirer.net. Retrieved from https://business.inquirer.net/271348/opportunities-abound-in-ph-logistics-industry

Sood, J (2016) India ranks third on world emerging markets logistics index: Agility. Retrieved from https://www.livemint.com/Politics/r5NYNiNSXQvutKHKyY43wN/India-ranks-third-on-world-emerging-markets-logistics-index.html

Sourcefit is an online recruitment working with global companies in various industries. Retrieved from https://www.sourcefit.com/logistics-transport-outsourcing/

The Philippine Multimodal Transportation and Logistics Industry Roadmap (2017)

United Nations. Department of Economic and Social Affairs. Retrieved from https://www.un.org/development/desa/en/news/population/world-population-prospects-2019.html

Vitasek K (2013). Supply Chain Management Terms and Glossary. Council of Supply Chain Management.

Winnesota. The Rise of On-Demand Economy. Retrieved from https://www.winnesota.com/ondemandtransportation#one

World Bank LPI 2018. Retrieved from https://www.worldbank.org/en/news/infographic/2018/07/24/logistics-performance-index-2018

World Economic Forum. Seven Trends Driving Change in Logistics. Retrieved from http://reports.weforum.org/digital-transformation/digital-trends-in-logistics/

World Economic Forum. A logistics revolution: the circular economy. Retrieved from http://reports.weforum.org/digital-transformation/a-logistics-revolution-the-circular-economy/

Vasgustha, P. (2019). Future and Growth of Transportation Market by 2020. Entrepreneur India. Retrieved from https://www.entrepreneur.com/article/326552

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