Transport and Logistics Training Board

Manpower Update Report
Transport and Logistics Industry
2022

ACKNOWLEDGEMENT

The Transport and Logistics Training Board (TLTB) would like to express its gratitude to the members of the focus groups for their valuable time and insights on the manpower situation in the Transport and Logistics (T&L) Industry. Special thanks go to the CPJobs and CTgoodjobs, which shared with us their database of job vacancies. The views of focus group members and information from major recruitment websites formed an integral part of this report.

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Introduction

Background

The Transport and Logistics Training Board (TLTB) of the Vocational Training Council (VTC) is responsible for determining the manpower demand of the industry, assessing whether the manpower supply matches manpower demand, and recommending to VTC the development of vocational and professional education and training (VPET) facilities to meet the assessed training needs.

A new approach for collecting manpower information is adopted to enhance the effectiveness and better reflects the dynamics of the manpower situation in various industries.

Under the new approach, one full manpower survey is conducted every four years, and this is supplemented by two manpower updates. TLTB completed its last manpower survey in 2018. This 2022

Manpower Update Report is the second manpower update of the industry following the last Manpower Update Report published in 2021.

This 2022 Manpower Update Report comprises:

(a) focus group meetings collecting views from industry experts on the latest developments in the industry, manpower and training needs, recruitment difficulties, and measures to tackle the challenges which the industry is facing; and

(b) desk research analysing online job advertisements including salaries offered, qualifications, experience and skills required by the principal jobs in the Transport and Logistics (T&L) industry.

Objectives

The objectives of the manpower update are:

(i) to examine the latest trends and developments in the industry;

(ii) to explore the job market situation and training needs;

(iii) to identify the recruitment challenges; and

(iv) to recommend measures to meet the training needs and to ease the problem of manpower shortage.

Methodology

Overview

With reference to the 2018 full manpower survey of the T&L industry, this update report aims to provide qualitative descriptions of the recent development of the industry through focus group meetings, supplemented by referring to quantitative data of online recruitment advertisements obtained from desk research.

Focus Group Meeting

Two focus groups were formed through the engagement of industry experts from the following branches:

1. Freight Transport
   - (i) Air Cargo Handling Terminals
   - (ii) Air FreightTransport
   - (iii) Couriers (International)
   - (iv) E-commerce
   - (v) Forwarding Agent
   - (vi) Sea Freight Transport
   - (vii) Ship Management & Chartering
   - (viii) Stevedoring Services
   - (ix) Trucking & Container haulage
   - (x) Warehousing & Cold Storage

2. Passenger Transport
   - (i) Airlines
   - (ii) Local ferry
   - (iii) Public bus and Taxi
   - (iv) Railway
   - (v) River vessel

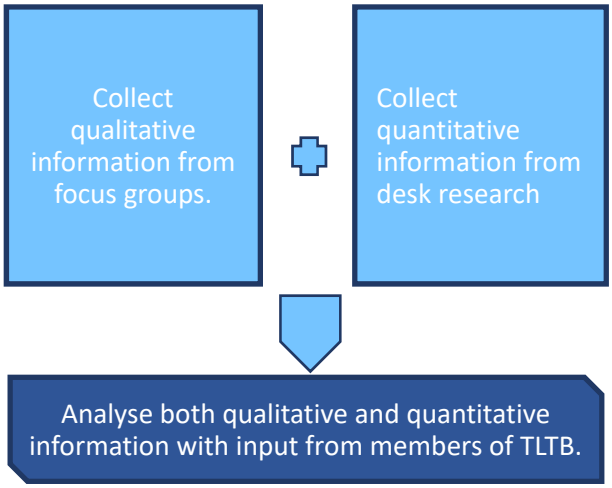
Two focus group meetings were conducted on 5 and 12 January 2022. All members are experienced and knowledgeable practitioners of the T&L industry. A moderator led members to in-depth discussion on topics selected by the Working Party on Manpower Survey of TLTB. The discussions at the meeting were recorded and transcribed to facilitate analysis.

Desk Research

Recruitment records covering the period between Quarter 4 of 2020 and Quarter 3 of 2021 were collected through an employment information system specially developed to capture the relevant data from major online recruitment portals. Some 9 000 recruitment records relevant to the T&L industry were collected during the research period and served as indicative information of the job market trend. The list of related companies under the Hong Kong Standard Industrial Classification (HKSIC) was mapped to remove duplicated records.

Data Analysis

The analysis consists of the following three steps:



Limitations

As this is not a full manpower survey, the findings and recommendations of the focus group meetings are more qualitative in nature, and the report focuses mainly on manpower trends. The information on job advertisements was collected from major recruitment websites and the Labour Department. Other channels, such as head-hunting for managerial positions, were not covered. Since the data collected is a snapshot of a particular period without reference to any historical data, this can serve as reference information supplementary to the findings of focus group meetings.

Findings

Factors Affecting the Development of the Industry

Outbreak of COVID-19

The prolonged pandemic and the COVID-induced cross-border restrictions posed challenges to the local T&L industry in 2021. Cross-boundary passenger transport got a hard hit owing to the stringent quarantine measures, with air passenger transport recorded a decrease of 88%[1] passengers, and land and sea transport, a patronage drop of 94% and 73% respectively in 2021 when compared with the previous year.

Aviation for cargo and passenger traffic have been progressively resuming in late 2021. Local land and sea public passenger transport have also resumed to 85%[2] of the pre-pandemic level. Given the increased vaccinations and the relaxed travel restrictions in most parts of the world, the transport sector is expected to recover further.

[1] Hong Kong in Figures 2021 Edition

[2] Transport Digest December 2021 by Transport Department, HKSARG

Despite the setback in air flights, air cargo performance in Hong Kong, which was less impacted by COVID-19 and benefited from the continued increase in demand for online consumer goods and pharmaceutical products, remained robust with a cargo throughput of 5 million tonnes recorded in 2021, representing increases of 5% and 13%[3] when compared with 2019 before the epidemic and 2020 respectively. The supply chain disruptions due to the shortage of shipments and port congestion found in the first half of 2021 are beginning to ease. The Hong Kong International Airport (HKIA) stood at the world's busiest cargo airport in 2021 according to the Airports Council International, reflecting its ability and continuous role to play as a cargo hub. Among the busiest container ports of the world, Hong Kong remained in ninth place in 2021[4].

Rising Use of E-commerce and Demand for Swift Delivery

Travel and shopping behaviours have changed substantially during the pandemic, owing to the global travel restrictions, work from home (WFH) practices and health concerns. Use of e-commerce and online shopping becomes a new normal of life, and consumers' requirements for sophisticated service and timely delivery are affecting the entire supply chain. The pandemic has also stimulated the global and local logistics demand. People are willing to pay for faster and more reliable logistics services. During the pandemic, shipping companies and freight forwarders shifted high-valued commodities from sea to air freight containers due to the lack of capacity and minimizing uncertainties. Air freight transport was frequently adopted for high-value goods such as fresh or perishable produce, pharmaceuticals, and vaccines, that require special care.

Digitalisation and Technological Advancement

Digitalisation and advancement in technologies across T&L sectors are re-shaping the industry. Technologies not only improve efficiency, but also enhance customer satisfaction. Digital applications installed in vehicles and planes improve performance characteristics such as safety and fuel efficiency. The new technology in transport management system helps businesses increase overall operational efficiency and safety performance. Data analytics tools commonly used by logistics practitioners help analyse tonnes of customer data like orders and shipment information, and diagnose operational issues. Automation technologies, on the other hand, are being adopted to lower costs and improve capabilities.

[3] The Air Traffic Statistics at HKIA Year 2019 – 2021.

[4] Marine Department, HKSAR, Ranking of Container Ports of the World.

Technologies Adopted in Transport Sector

To facilitate a safe and secure environment for passenger travellers, HKIA adopts smart technologies such as the e-Security Gates and e-Boarding Gates. Both facilities use biometrics and touchless technologies to process travellers' travel document information, boarding passes and facial image providing a smooth touchless experience throughout the boarding process while enhancing the passenger identity checks. HKIA also launches the HKIA Cargo Data Platform, a blockchain-enabled community platform that connects key stakeholders along the supply chain, including cargo terminal operators, freight forwarders, truckers and screening facility operators, to enhance operations efficiency, track & trace visibility, and unify communication among different parties.

Land transport operators have also adopted touchless technologies in the stations and facilities, such as touchless lifts with sensors that can detect movements and robotic cleaning technologies to carry out deep cleaning and disinfection.

e-logistics Technologies

In response to customer expectations of swift delivery and the need to handle huge transaction volume generated by the business-to-customer (B2C) mode of business, the entire T&L industry is accelerating the pace of digitalisation with the pandemic as the catalyst which has led to various new technologies development across the sectors. Use of enhanced e-logistics solutions, Internet of Things (IoT), digital technologies, and Artificial Intelligence (AI) are some of the new developments to enhance the operation and create a competitive advantage to cope with the increased demands and expectations from customers, and are vital for supporting the growth of e-business in different sectors.

Enhanced Handling Capacity at HKIA

To further capture the growing demand for air passenger and cargo transport, HKIA is actively taking forward various development projects to enhance both its passenger and cargo handling capacity, including the Three-runway System (3RS) and other infrastructure. 3RS has commenced operation in July 2022. With the full operation of 3RS, HKIA is expected to handle about 120 million passengers and 10 million tonnes of cargo annually from 2035. In addition, 3RS will create a large number of employment opportunities and bring long-term economic and social benefits to Hong Kong.

Special Cargo

A new premium logistics centre (with a gross floor area of 380,000 sqm) is being constructed at HKIA targeting operation commencement in 2023, to capitalise on the rapid growth in e-commence and the according express and small parcel shipments. The DHL Central Aisa Hub is expanding its handling capacity by 50%. The Air Mail Centre will be expanded and expected operate by the end of 2027. HKIA is also working with franchisees to ensure state-of-the-art facilities like dangerous goods and radioactive rooms are equipped to provide proper handling of different types of special cargo, temperature-controlled products, and other high-value products.

Intermodal Freight Transport to/from GBA

To capitalise on the growing demand for intermodal transshipments in the GBA, the Airport Authority Hong Kong (AA) is actively developing an air-sea cargo intermodal handling facility to enhance the efficiency of cross-border air cargo transshipments. The planned Hong Kong International Airport Logistics Park in Dongguan will allow air cargo from the Mainland to be pre-screened, boxed, palletised and received in advance. The cargo will then be seamlessly transported by sea to the air-side sea-air intermodal cargo terminal, to be set up in the restricted area of HKIA, for direct overseas transhipment without duplication of security procedures. International cargo can also be imported into the Mainland using the opposite route. AA commenced a pilot project in late 2021 to establish a full set of upstream and air-sea intermodal operational processes using the existing facilities at HKIA.

Decarbonisation and Increasing Environmental Awareness

The T&L industry places a high emphasis on sustainability. Companies are increasingly held responsible for the environmental and social impact of their operations and supply chain processes.

International Maritime Organization (IMO) has been regulating carbon emissions of the maritime industry and new shipping environmental regulations will come into effect in January 2023, including the Energy Efficiency eXisting ship Index (EEXI) and Carbon Intensity Index (CII). To comply with the regulations, ship owners are expected to invest heavily in replacing old vessels (cruise and freighter) to achieve the 40% and 50% carbon reduction targets in 2030 and 2050 respectively. Locally, the HKSAR Government has been promoting the development of green ships and green ports to encourage the industry to adopt more sustainable maritime practices.

For air transport, the International Civil Aviation Organization (ICAO) includes aspirational goals for reducing the climate impact of the international aviation sector by improving fuel efficiency by two percent annually through 2050 and ensuring carbon-neutral growth from 2020 forward. AA and its key aviation-related business partners have jointly committed to achieving the Net Zero Carbon target by 2050, with a midpoint target of 55% reduction in absolute emissions by 2035 from a 2018 baseline, and making HKIA a green airport. Electrification of airside vehicles, piloting of renewable diesel and other measures have already been taken place to reduce direct emissions. At the same time, airlines introduce a fly greener scheme enabling customers to purchase carbon offsets for carbon-reduction projects.

Locally licensed bus operators support the Government's policy to achieve carbon neutrality by 2050 and are taking forward their electric and hydrogen buses programme in phases. The first Hong Kong designed electric double-decker bus was piloted in June 2022. Others like the third generation of solar-powered buses are under testing where the electricity generated can be used to power the fan of the air-conditioning system in the bus, saving 5-8% of daily fuel consumption on each bus. This solar panel installation has become a standard configuration for newly purchased buses. In the meantime, the government is drafting the hydrogen bus legislation for the public trial launch in 2023. This hydrogen bus is the first public bus powered by a hydrogen fuel cell and battery in the city.

The National 14th Five-Year Plan

The National 14th Five-Year Plan states the Central Government's continued support to Hong Kong to reinforce and enhance its international transport, aviation, maritime and trade centre status; and to actively seize the development opportunities in GBA to better integrate into the overall development of the country.

New Transport and Logistics Bureau

Split from the former Transport and Housing Bureau, the Transport and Logistics Bureau is responsible for the formulation of policies on matters relating to Hong Kong's internal and external transportation, including air services, land transport, maritime transport and logistics. These policies aim at enhancing and consolidating Hong Kong's status as an international transportation centre; an international aviation hub as well as a regional logistics hub.

Impacted by different factors affecting the T&L industry as mentioned above, the industry is undergoing new developments and opportunities.

Manpower Demand

Focus Groups

Facing the global outbreak of COVID-19, focus group (FG) members shared their views on the anticipated changes in manpower demand. The booming e-commerce business model requires a large number of skilled talents with knowledge of e-logistics, data analysis, and on the application of new technologies. Since e-logistics supports businesses of various industries, talents with multi-disciplinary skills would be crucial to the development of the T&L industry.

Sea Freight / Air Cargo Logistics

As the global demand for freight transport rebounds in the wake of the pandemic, the industry faces an urgency to maintain sustaining adequate manpower. The aging workforce together with a continuous need for new blood remains the key challenge to the manpower shortage situation in the industry.

According to the desk research and views from FG members, principal jobs related to frontline cargo operation, both in air cargo and sea freight cargo, at operative and supervisory levels, remains in high demand, and even more acute for those in frontline cargo handling and container loading and unloading under the pandemic. The growth in air freight transport has also generated an increased need for manpower.

Passenger Transport

Work from home (WFH) increased substantially during the pandemic; which has decreased the number of transport on road. The number of passengers had been gradually resumed to normal while the pandemic was under control.

The spread of the coronavirus has posed a serious test for the passenger transport sector. As a result, organisations in the passenger transport sector have had to adjust their mode of operation to reduce operating costs.

FG members expressed that the prolonged pandemic and COVID-induced restrictions on international ports and borders had almost completely halted the operation of the cross-border bus and ferry businesses. As a result, the management's strategy was to reduce the number of services to drive down operating costs. Airlines also restructured manpower and negotiated with HKIA with relief packages and fee reductions to keep the operation cost low.

Digital Transformation

The rapid digital transformation of the T&L industry is inevitable and expected. The industry needs to ensure it has a team of skilled, agile and flexible workforce to adapt to the new digitised environment.

Upskilling employees with competencies, like e-commerce applications, e-logistics, big data analytics, etc. and knowledge of handling special cargo, safety and security will be conducive to operating an efficient and sustainable industry for the new challenges ahead.

Desk Research

Out of some 9,000 recruitment data captured from major online recruitment websites, the respective top five principal jobs with the highest number of recruitment advertisements for freight transport and passenger transport sectors were identified and listed below.

Freight Transport

	Top Five Principal Jobs
1	Frontline Cargo Operation (Clerical/Craftsman/Operative) (27.7%)
2	Frontline Cargo Operation (Executive/Supervisory) (17.8%)
3	Sales & Customer Service (Executive/Supervisory) (11.7%)
4	Sales & Customer Service (Managerial) (5.9%)
5	Technical/Engineering Support (Managerial) (5.6%)

Passenger Transport

	Top Five Principal Jobs
1	Sales & Customer Service (Executive/Supervisory) (7.0%)
2	Frontline Passenger Operation (Executive/Supervisory) (3.5%)
3	Frontline Passenger Operation (Clerical/Craftsman/ Operative) (2.7%)
4	Technical/Engineering Support (Managerial) (2.2%)
5	Sales & Customer Service (Managerial) (2.1%)

The Desk Research finds that Frontline Cargo Operations jobs under Freight Transport, particularly those at the operative level, remain in high demand following the trend of 2021. It coincides with the views of FG members that recruitment difficulties are often found in these jobs due to the high turnover rate and demand for manual work. As regards Passenger Transport, Sales and Customer Service jobs ranked top in demand, while jobs for

those in Frontline Passenger Operation are primarily for local passenger transport. The high staff turnover rate in Sales and Customer Service is another reason behind this.

Descriptions of the above principal jobs and other findings of the desk research are given in Appendix 1.

Training Needs

Technological innovations are reshaping the T&L industry in Hong Kong. FG members suggested the following emerging technologies and skills which are increasingly demanded in-service practitioners and graduates of the T&L industry.

Dangerous Goods Regulations (DGR)

Airlines, freight forwarders, ground handlers and shippers are required to comply with the Dangerous Goods Regulations to enable safe and efficient transportation of dangerous goods. Safety training on DGR should be given to new hires and existing workers on a regular basis, in order to update all relevant workers on the latest industry regulations and procedures and to ensure that dangerous goods shipments are complied with the industry standards to protect the safety of the staff as well as cargo.

Digitalisation at All Levels

T&L employers should consider using dedicated resources to support their staff, including the front-end groups of staff like drivers, couriers, and warehouse workers, to acquire digital knowledge and skills to operate the relevant automated systems, mobile app applications and new technologies. Basic computer skills and software application skills for T&L partitioners are essential to all staff.

T&L Industry-Specific Cybersecurity

The growing pace of innovations and technologies is accompanied by an increasing exposure to cybersecurity threats. With data security being at the top of the list among the challenges faced by most T&L enterprises, they are advised to acquire the knowledge and skills in cybersecurity for the protection of handling, storage, and sharing of proprietary information.

The unique nature of the T&L industry and technologies such as big data, AI, automation, etc. creates a large amount of data, i.e. passenger information data and cargo data, which can expose the industry to cybersecurity risks. Businesses need to continue to raise awareness

about the issue, have proper procedures in place and deploy the right technologies to help identify, block or remediate any malicious attacks.

Investing in skills and capabilities through educational programmes is key to understanding cybersecurity and being protected from cyber threats. Such knowledge and skills are to minimise the risk of cyber attacks and reinstate clients' databases as quickly as possible in a cybersecurity incident. In addition, raising employees' awareness of potential data leakages, data privacy, and cybersecurity vulnerabilities is essential to every T&L organisation in Hong Kong.

Robotic Technology

Automatic Guided Vehicles (AGVs) could move goods to designated mobile racks and carry goods to the picking station. Automatic sorting systems and machines could identify the barcodes/QR codes/RFID of the goods and accurately send them to the delivery points. Some large enterprises in Hong Kong adopt robotic systems and drones to minimise labour-intensive work and perform tasks more efficiently, leading to reduced occupational health and safety risks and operational costs. Relevant training on the operation of those robotic systems and Robotic Process Automation (RPA) is therefore required for their staff members.

Supply chain automation allows employees to devote more attention to inventory management and quality inspection, thus making it possible for companies to better use their human resources on value-added tasks and improve the efficiency and effectiveness of the supply chain.

Dangerous Goods Detection

Dangerous goods (also known as hazardous material or hazmat) are any substances or materials that are capable of posing an unreasonable risk to health, safety, and property. Identifying dangerous goods is the first step to reduce the risks posed by the product with proper packaging, communication, handling, and stowage. The Material Safety Data Sheet from the manufacturer provides information to identify the content classification. Training on DG detection, security screening, motion detection and Safety data sheet identification should be provided to employees for ensuring goods are transported safely and efficiently.

Data Analytics

Customer satisfaction is one of the primary aspects of the T&L industry, and a thorough understanding of the customers' unique requirements and provision of personalised services

is key to businesses. With the use of big data, IoT and analytics tools, data on customers' behaviours and preferences could be collected and analysed fairly affordably. Industry professionals should learn how to interpret and use the data to make informed decisions to tailor services that could meet customers' needs. Moreover, reliable customer service also helps boost the company's brand image.

Lifelong Learning

T&L industry practitioners should have the mindset of lifelong learning as the industry is fast-changing and they need to keep abreast of the latest development in the industry. Training on soft skills, such as Emotion Quotient (EQ) and interpersonal communication skills, to psychologically prepare young talents to handle work pressure and cope with the actual work environment after joining the society is also crucial.

Pre-employment Training Needs and On-the-job Training

For those who join the T&L industry, industry know-how as well as multi-disciplinary skills, including e-commerce applications, e-logistics, big data analytics, digital marketing, mobile applications and Robotic Process Automation (RPA) are recommended. Several jobs in the T&L industry are mostly practical in nature, and employees can learn from on-the-job training. In addition to imparting theoretical knowledge prior to taking up the duties, practical experience is equally important.

Recruitment Challenges

T&L employers are facing challenges in recruiting and attracting talents, and the aging workforce. FG Members shared their views on the possible factors causing the recruitment difficulties.

Limited Number of Young Talents

The birth rate in Hong Kong has generally been low in recent years. Parents prefer children to pursue higher education, and most are under no financial pressure to have them work early to support the family. Occupation with more regular working hours, faster advancement opportunities and better pay and work conditions are preferred also. All these may discourage young talents from choosing the T&L industry as their career.

Labour Intensive Works

Labour-intensive works, particularly in the freight transport sector, require a great deal of physical strength to handle the necessary tasks. Sometimes work shifts are common according to the nature of the work. In addition, workplaces are often located near

airports or in remote areas.

Requirements for Special Training and Certifications

Some jobs have additional training requirements prior to employment, such as operators handling DGs or working at the container terminal. The maritime sector requires employees working on vessels to hold relevant certificates and qualifications. FG members also expressed difficulties in recruiting and retaining motor vehicle trainees, as it would take three to four years for trainees to complete their apprenticeship training. The long training period and job requirements could further limit the pool of readily available workforce and affect recruitment.

Difficulty of Recruiting & Retaining Talents for Some Work-in-shift Duties

The T&L industry has to take care of customers all over the world and in different time zones. Small and medium-sized companies in the industry have to work in shifts to take care of customers' needs, and frontline employees are therefore required to work irregular hours. At the same time, the salary might not be commensurate with shift work requirements. Especially in recent years, the rising handling of dangerous goods added work pressure to the frontline staff. Stresses and work pressure mounted on the frontline has become one of the alarming issues to retaining staff.

Recommendations

To attract talents and to meet the future development of the industry, the following measures involving the joint efforts of training institutions, government, employers, and graduates / employees are recommended.

Training Institutions

E-Commerce and e-Logistics Programmes

With the development of e-commerce and e-logistics, digitalisation is the key to success. The applications of big data, cloud computing, IoT, mobile computing, data analytics, etc. are in place to facilitate the making of informed decisions and revamp the entire logistics operation from B2B to B2C model. Relevant training in applying these technologies is therefore expected to be in great demand.

Institutions should consider offering e-commerce and e-logistics programmes. These programmes provide students with knowledge of the daily operation of the T&L industry during their programme of study

and they would be able to communicate effectively with business partners and work smarter in the workplace in the future. Therefore students who possess this knowledge and skills will become the icing on the cake.

In-service Training

Upskilling and reskilling of industry partitioners are also imperative for the T&L industry. FG members expressed that employers had been looking for support from training institutions to upskill and reskill their existing pool of employees. In particular, in-service training programmes which could assist practitioners in obtaining professional qualifications / licences (DGs handling, compliance, hazardous materials awareness training or forklift truck licence), and frontline passenger operation are most welcome.

Applications of Technology

Training providers should consider updating relevant courses in the module with reference to the advanced/emerging skills identified in job advertisements as they are in demand in the industry, i.e. e-business applications and e-logistics, data analytics, cybersecurity, etc. Use of AR/VR training in providing a real-world environment can also sharpen the skills needed for the workplace.

Government

Attract T&L Companies to Set Up in Hong Kong

The Government should explore further tax incentives to attract more shipping principals, e.g. ship managers, agents, and brokers, to settle in Hong Kong.

It is also suggested enhancing the services and coverage of the Hong Kong Shipping Register to provide faster and more direct support to shipowners of freighters and cruises to promote the Hong Kong Shipping Register.

Subsidies and Incentives

FG members suggested the Government to provide subsidies or incentives to potential driver learners of heavy goods vehicles (HGV), i.e. container truck drivers, to encourage enrolment and ease the manpower shortage and aging problems for this sector.

Retraining

As “Frontline Cargo Operation (Clerical/Craftsman/Operative)” has continued to be the most in-demand job and it is difficult in recruiting new blood to the industry, the Government should introduce new incentives and measures to support the re-engagement of retirees, the participation of women, and the middle-aged so as to expand the available workforce where appropriate. The Government can also encourage the employment of ethnic minorities and rehabilitated offenders, and provide support services to employers and employees.

Job Creation Scheme for the Logistics Sector

The Scheme was one of the job creation schemes established under the Government's Anti-epidemic Fund to help the local logistics sector alleviate the impact of COVID-19. This Scheme aims at providing time-limited financial support to qualified employers, enabling them to provide job opportunities to university graduates of 2018 onwards to work in logistics-related services. It is suggested that the Government should extend the scope of the Scheme to cover graduates of other levels, for instance, Higher Diploma graduates.

Employers

Flexibility in Employment

Employers of the T&L industry may consider offering flexible working hours, working modes (WFH some days in a week), or more part-time posts, targeting different groups of prospective employees, retirees and female workers.

Creation of Learning and Advancement Opportunities

Employers can invest in training for lifelong learners to continue their development in the workplace. The return on investment from doing so may not be immediately apparent, but the industry would suffer if lifelong learning is not encouraged. To keep pace with the change and retain good people, creating learning and advancement opportunities for employees will be part of the organisation's key mission. It is also crucial that employers recognise such needs and support their employees to acquire knowledge and skills related to advanced technologies.

Image of the Industry

Traditionally, the T&L industry has been perceived by the general public as a labour-intensive career. With the application of modern technologies, the image of the industry could be repackaged, e.g. skilled manual workforce in transport and logistics operations could be reshaped with the use of technology. In addition to competitive remuneration packages, some focus group members suggested promoting their trades proactively to students, parents and teachers. The Business-School Partnership Programme (BSPP) promotes possible career opportunities and prospects to secondary school students through school talks and workplace visits.

Earn & Learn Scheme and Apprenticeship

Employers are strongly encouraged to engage apprentices early by participating in the VTC Earn & Learn Scheme to recruit and retain young talents. The Scheme provides a pathway for students to obtain academic training and qualifications while gaining work experience and financial support from the employer and the government. Currently, categories of aviation and logistics are offered under the Scheme, preparing

para-professionals for the fields. Employers can also support the Workplace Learning and Assessment (WLA) by participating in the Pilot Incentive Scheme to Employers (PISE).

Continuous Professional Development

Moreover, employers can increase their support to employees' enrolment in skills upgrading courses, training programmes, workshops, and seminars to acquire knowledge related to advanced technologies to cope with the developing needs of the T&L industry. Moreover, employers may consider supporting their employees to obtain recognised qualifications and licences. For example, employers can encourage or subsidise their employees to obtain Qualifications Framework (QF) recognised qualifications by taking QF-recognised courses or through the Recognition of Prior Learning Mechanism.

Funding Schemes

Employers are recommended to make use of the different government funding schemes, such as the Maritime and Aviation Internship Scheme and Professional Training and Examination Refund Scheme under the Maritime and Aviation Training Fund (MATF), to provide the younger generation with opportunities for an early career exposure to the aviation and maritime sectors, thus encouraging them to join the T&L industry after graduation.

Graduates and Employees

Lifelong Learning

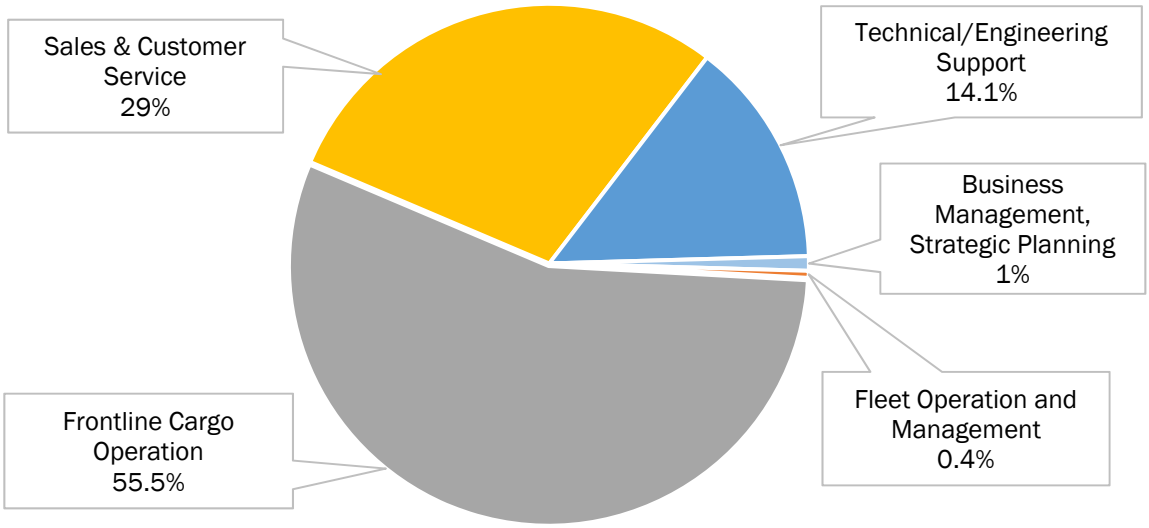
To keep pace with the technology development and the rapidly changing environment, it is vital for practitioners of the T&L industry to embark on lifelong learning journeys throughout their career by attending upskilling or reskilling courses and seminars organised by training institutions, government departments, and professional bodies.

Findings of Desk Research

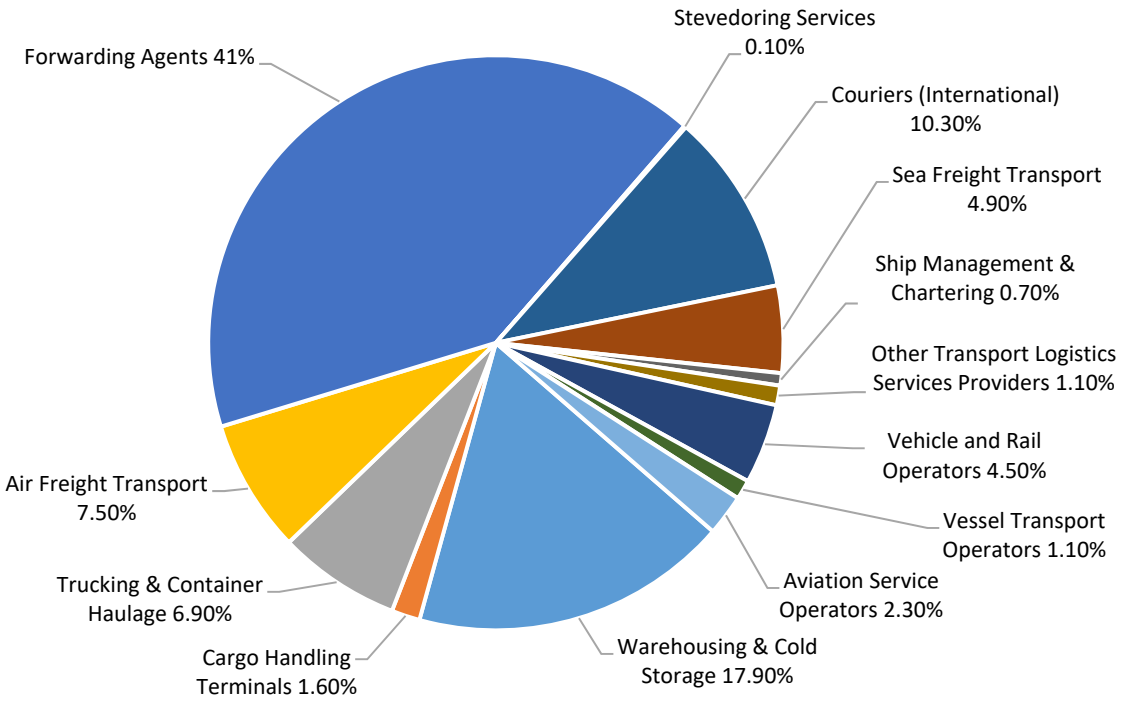
Since the use of online recruitment portals is only one of the recruitment channels, the number of recruitment advertisements captured during the desk research period (i.e. Q4 of 2020 to Q3 of 2021) is presented as supplementary information for reference only. The salary distribution of recruitment advertisements would not be presented here as most advertisements (over 93%) did not state the salary.

Appendix 1(a)

Distribution of Recruitment Advertisements across Job Scopes (Q4/2020 to Q3/2021)



Distribution of Recruitment Advertisements across Industry Branches (Q4/2020 to Q3/2021)



Distribution of Recruitment Advertisements by Principal Job (Q4/2020 to Q3/2021)

	Job Title	%
1	Frontline Cargo Operation (Freight transport, Clerical/Craftsman/Operative)	27.7%
2	Frontline Cargo Operation (Freight transport, Executive/Supervisory)	17.8%
3	Sales & Customer Service (Freight transport, Executive/Supervisory)	11.7%
4	Sales & Customer Service (Passenger transport, Executive/Supervisory)	7.0%
5	Sales & Customer Service (Freight transport, Managerial)	5.9%
6	Technical/ Engineering Support (Freight transport, Managerial)	5.6%
7	Frontline Passenger Operation (Passenger transport, Executive/Supervisory)	3.5%
8	Frontline Cargo Operation (Freight transport, Managerial)	3.2%
9	Frontline Passenger Operation (Passenger transport, Clerical/Craftsman/Operative)	2.7%
10	Technical/ Engineering Support (Freight transport, Executive/Supervisory)	2.3%
11	Technical/ Engineering Support (Passenger transport, Managerial)	2.2%
12	Sales & Customer Service (Passenger transport, Managerial)	2.1%
13	Technical/ Engineering Support (Freight transport, Clerical/Craftsman/Operative)	1.9%
14	Sales & Customer Service (Freight transport, Clerical/Craftsman/Operative)	1.7%
15	Technical/ Engineering Support (Passenger transport, Clerical/Craftsman/Operative)	1.6%
16	Business Management, Strategic Planning (Freight transport, Managerial)	0.6%
17	Technical/ Engineering Support (Passenger transport, Executive/Supervisory)	0.6%
18	Sales & Customer Service (Passenger transport, Clerical/Craftsman/Operative)	0.5%
19	Frontline Passenger Operation (Passenger transport, Managerial)	0.5%
20	Fleet Operation and Management (Freight transport, Executive/Supervisory)	0.2%
21	Business Management, Strategic Planning (Freight transport, Executive/Supervisory)	0.1%
22	Business Management, Strategic Planning (Passenger transport, Managerial)	0.1%
23	Fleet Operation and Management (Freight transport, Managerial)	<0.1%
24	Fleet Operation and Management (Freight transport, Clerical/ Craftsman/Operative)	<0.1%
25	Business Management, Strategic Planning (Passenger transport, Executive/Supervisory)	<0.1%
26	Fleet Operation and Management (Passenger transport, Managerial)	<0.1%
27	Fleet Operation and Management (Passenger transport, Executive/Supervisory)	<0.1%
28	Business Management, Strategic Planning (Freight transport, Clerical/Craftsman/Operative)	0.0%
29	Business Management, Strategic Planning (Passenger transport, Clerical/Craftsman/ Operative)	0.0%
30	Fleet Operation and Management (Passenger transport, Clerical/Craftsman/Operative)	0.0%

Note: As some advertisements required the candidates to support air, sea and land transport operations at the same time and some advertisements did not provide sufficient information, further classification of the principal jobs by air/sea/land transport was not feasible on this desk research exercise.

Education Requirements by Principal Job (Q4/2020 to Q3/2021)

Job Level	Principal Job	Post Graduate	University Degree	Sub-Degree / Higher Diploma / Higher Certificate	Diploma / Certificate / Apprentice-ship	Upper Secondary (F.4 or above)	Lower Secondary (F.1 to F.3) or below	Unspecified	Grand Total
I. Freight Transport									
Managerial	Business Management, Strategic Planning	2	40	2	-	1	-	10	55
	Fleet Operation and Management	-	4	1		-		1	6
	Frontline Cargo Operation	3	117	45	37	26		67	295
	Sales & Customer Service	12	300	40	51	51		83	537
	Technical/ Engineering Support	1	260	107	41	17	18	62	506
	Sub-total	**18**	**721**	**195**	**129**	**95**	**18**	**223**	**1399**
Executive/ Supervisory	Business Management, Strategic Planning	-	7	-	-	-	-	2	9
	Fleet Operation and Management		8	7	2			2	19
	Frontline Cargo Operation	8	348	278	449	290	2	245	1620
	Sales & Customer Service	12	322	148	171	182	-	232	1067
	Technical/ Engineering Support	-	121	49	11	8		22	211
	Sub-total	**20**	**806**	**482**	**633**	**480**	**2**	**503**	**2926**
Clerical/ Craftsman/ Operative	Business Management, Strategic Planning	-	2	-	-	-	-	1	3
	Fleet Operation and Management		-		1		1	-	2
	Frontline Cargo Operation	9	64	150	757	727	91	723	2521
	Sales & Customer Service	1	8	14	60	60	-	10	153
	Technical/ Engineering Support	-	3	42	10	32	11	74	172
	Sub-total	**10**	**77**	**206**	**828**	**819**	**103**	**808**	**2851**
II. Passenger Transport									
Managerial	Business Management, Strategic Planning	-	8	-	-	1	-	3	12
	Fleet Operation and Management		5			-		3	8
	Frontline Passenger Operation		18	3	3			26	50
	Sales & Customer Service		114	13	18	6		41	192
	Technical/ Engineering Support		125	29	7	13		28	202
	Sub-total	**0**	**270**	**45**	**28**	**20**	**0**	**101**	**464**
Executive/ Supervisory	Business Management, Strategic Planning	-	-	-	-	-	-	3	3
	Fleet Operation and Management		2	2				-	4
	Frontline Passenger Operation	4	68	84	61	34	-	64	315
	Sales & Customer Service	-	209	127	101	62		141	640
	Technical/ Engineering Support		27	14	1	2		8	52
	Sub-total	**4**	**306**	**227**	**163**	**98**	**0**	**216**	**1014**
Clerical/ Craftsman/ Operative	Business Management, Strategic Planning	-	-	-	-	-	-	-	-
	Fleet Operation and Management								
	Frontline Passenger Operation		5	12	44	59	11	115	246

	Sales & Customer Service		4	9	11	14	-	11	49
	Technical/ Engineering Support		-	3	24	5	4	107	143
	Sub-total	**0**	**9**	**24**	**79**	**78**	**15**	**233**	**438**
	Grand total	**52**	**2189**	**1179**	**1860**	**1590**	**138**	**2084**	**9092**

Note: Recruitment advertisements with lower education requirements may have other professional qualifications requirements

Appendix 1(d)

Experience Requirements by Principal Job (Q4/2020 to Q3/2021)

Job Level	Principal Job	0 Year / No requirement	1-2 Years	3-4 Years	5-6 Years	7-8 Years	Over 8 Years	Unspecified	Grand Total
I. Freight Transport									
Managerial	Business Management, Strategic Planning	1	4	13	8	9	6	14	55
	Fleet Operation and Management	-	-	3	2	-	-	1	6
	Frontline Cargo Operation	3	15	39	99	40	32	67	295
	Sales & Customer Service	-	101	97	164	41	50	84	537
	Technical/ Engineering Support	23	59	66	89	90	108	71	506
	Sub-total	**27**	**179**	**218**	**362**	**180**	**196**	**237**	**1399**
Executive/ Supervisory	Business Management, Strategic Planning	-	5	-	1	-	-	3	9
	Fleet Operation and Management	1	2	6	2			8	19
	Frontline Cargo Operation	52	637	330	193	23	39	346	1620
	Sales & Customer Service	40	477	167	90	18	17	258	1067
	Technical/ Engineering Support	9	49	49	29	3	3	69	211
	Sub-total	**102**	**1170**	**552**	**315**	**44**	**59**	**684**	**2926**
Clerical/ Craftsman/ Operative	Business Management, Strategic Planning	-	-	-	-	-	-	3	3
	Fleet Operation and Management		1	-	1	-	-	-	2
	Frontline Cargo Operation	144	1169	234	59	1	6	908	2521
	Sales & Customer Service	12	83	12	2	-	-	44	153
	Technical/ Engineering Support	19	47	13	5	-	-	88	172
	Sub-total	**175**	**1300**	**259**	**67**	**1**	**6**	**1043**	**2851**
II. Passenger Transport									
Managerial	Business Management, Strategic Planning	-	-	-	6	-	2	4	12
	Fleet Operation and Management	-			5	-	-	3	8
	Frontline Passenger Operation	-	1		14	7	1	27	50
	Sales & Customer Service	-	7	44	59	39	9	34	192
	Technical/ Engineering Support	1	20	49	53	16	39	24	202
	Sub-total	**1**	**28**	**93**	**137**	**62**	**51**	**92**	**464**
Executive/ Supervisory	Business Management, Strategic Planning	-	-	-	-	-	-	3	3
	Fleet Operation and Management			3				1	4
	Frontline Passenger Operation	4	118	71	34	4		84	315
	Sales & Customer Service	17	285	96	73	22	7	140	640

	Technical/ Engineering Support	2	3	15	17	3	-	12	52
	Sub-total	**23**	**406**	**185**	**124**	**29**	**7**	**240**	**1014**
Clerical/ Craftsman/ Operative	Business Management, Strategic Planning	-	-	-	-	-	-	-	-
	Fleet Operation and Management								
	Frontline Passenger Operation	52	66	33	9		2	84	246
	Sales & Customer Service	7	28	6	-		1	7	49
	Technical/ Engineering Support	18	87	5	21		-	12	143
	Sub-total	**77**	**181**	**44**	**30**	**0**	**3**	**103**	**438**
	Grand total	**405**	**3264**	**1351**	**1035**	**316**	**322**	**2399**	**9092**

Descriptions of Principal Jobs

I. Job Levels

Job Level	Description
Managerial	Head (deputy included) of a department or section of an establishment responsible for getting jobs done of the prescribed area of responsibilities by sub-ordinates according to the company policy, goals and objectives.
Executive/Supervisory	Mainly assist the managerial level in carrying out the prescribed area of responsibilities. Usually are involved in the supervision of the work of the junior level on the spot.
Clerical/Craftsman/Operative	Work under supervision and characterised by office job duties or physical job duties with technical requirements, or to receive/handle/distribute document/cargo.

II. Job Scopes

1. Business Management, Strategic Planning

The upper level of an establishment is in charge of the formulation of strategies, setting of guidelines, targets and steering of performance of the overall business of the establishment. Specifically:

- Business management - Assess the business potential and resources required for developing the business. Ensure the establishment, its business partners and contractors work together and in line with the company goal. Formulate performance indices for the establishment and monitor the progress of the establishment in reaching the target; adjust the policy/strategy if necessary.
- Strategy planning - Establish the local/regional/global operating strategy (such as strategic alliance) for the establishment. Design and develop strategy for logistics solutions that can be offered by the establishment.
- Technology & technique - Assess the current technology and technique in operating the establishment and set policy for introduction/enhancement of new(er) technology and technique.

2. Fleet Operation and Management

The operating arm of an establishment is in charge of maximising the asset/fleet of the establishment. Specifically:

- Fleet management - Manage a fleet to offer a regular/scheduled/liner or

irregular/chartered/tramp service, and design/develop the routing pattern according to senior management's decision. Decide on the timing and (sub-)contractors for maintaining the fleet.

- Fleet acquisition & utilisation - Order/purchase/charter-in/ leasing arrangement for the fleet. Also, deal with sales/ charter-out/leasing out/disposal/suspension/laid up of the fleet when applicable. Control/allocate space of the fleet where applicable.
- Contractors & suppliers - Select and supervise the services provided by (sub-)contractors & suppliers (such as through tendering mechanisms) for maintaining the fleet.

3. **Sales & Customer Service**

The operating arm of an establishment is in charge of finding out the needs of customers, securing the business and serving customers. Specifically:

- Sales & marketing - Assess the market/customers demand/ needs and competitive environment; recommend and implement sales target, customer relationship strategy, marketing strategy and pricing strategy etc.
- Customer service - The business process from initial inquiry, booking, and baggage services to the arrangement of shipments/tickets, and the related procedure and documentation.

4. **Frontline Cargo / Passenger Operation**

The operating arm of an establishment in charge of arranging cargo shipments/passenger transportation according to the needs of customers, specifically:

- Space - Schedule cargo/fleet movements according to space/traffic allocated/conditions.
- Logistics arrangement - Operation processes in receiving, storing, distributing, and releasing of cargoes/tickets and related processes where applicable.
- Contractors & suppliers - Select and supervise the services provided by (sub-)contractors & suppliers for cargo operation/passenger service.
- Safety & security - Ensure the operation complies with mandatory and internal/external requirements.

5. **Technical / Engineering Support**

The operating arm of an establishment is in charge of technical service. Specifically:

- Machinery & equipment - Establish technical indicators and management systems for the operation of machinery and equipment.
- Contractors & suppliers - Select and supervise the services provided by (sub-)contractors & suppliers for machinery and equipment.
- Safety & security - Ensure the operation of machinery and equipment are in compliance with mandatory and in-house requirements.