

ANALYSIS OF AIR CARGO EXPORT HANDLING AT PT. JASA ANGKASA SEMESTA (JAS) IN PANDEMIC OF COVID – 19

Sabillah Kartika^{1*}, Azra Rayhan A², Wynd Rizaldy³, Aswanti Setyawati⁴

^{1,2,3,4} Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia

*Corresponding Author: sabillahkartikaa@gmail.com

Abstract. Cargo is all goods sent by air (airplane), sea (ship) or land (container truck) to be traded, both between regions or cities within the country or between countries (international) known as export-import activities. The air cargo business is an important business for the global air transportation industry. That is, the process of handling air cargo is important for airports or cargo handling agents that provide cargo handling services. PT. Jasa Angkasa Semesta (CAS Destination JAS Airport Services) is one of the cargo companies in Indonesia that provides ground services for Cathay Pacific, Malaysian Airlines, Lufthansa, and Singapore Airlines. As part of the land handling services provided, the company also expanded its business in Indonesia to become a cargo and warehouse handling service. The COVID-19 pandemic encountered by the whole world today has a huge impact to all industrial sectors, include the aviation industry. The purpose of this study is to determine differences in cargo handling at PT. Jasa Angkasa Semesta before and during the COVID-19 pandemic, comparison of cargo handling at PT. Jasa Angkasa Semesta with other airports in West Java, Indonesia and to analyze the handling of air export cargo during the pandemic COVID-19 at PT. Jasa Angkasa Semesta. The study was conducted using interview data collection as primary data and cargo volume statistics before and during the pandemic as secondary data, also using qualitative descriptive method.

Keywords: Cargo Handling, Export, COVID-19.

Introduction

Cargo handling is a service activity for cargo/goods (in and out) through the airport, including loading-unloading, transfer them from aircraft to storage (cargo warehouse), arrange and store the goods as well as deliver to the owner, or otherwise, receive the goods from the owner, arrange in a storage area (cargo warehouse), transfer from storage to aircraft and arrange in an aircraft compartment room [1]. Cargo airlines offer a very basic service to transport goods between different airports at a certain price, very similar to the service provided by passenger airlines. But the world of air cargo is more complex than it is for passengers [2].

In the era of globalization and free market, the flow of domestic and international goods are increased because the trade area and the consumer's need for quality products at competitive prices are limitless. For international cargo air freight companies, this situation is a huge opportunity. With so many companies engaged in the field of international air cargo handling, the competition would be tighter [3]. This is also triggered by the emergence of various issues related to the condition of security, global health, and the outbreak of the global Coronavirus 2019 or better known as COVID-19.

On 2 March 2020, it was confirmed that the COVID-19 case had entered Indonesia and influenced Indonesian economy significantly. Problems have also affected the tourism sector as the Indonesian government decided to restrict all flights, include export and import trade [4]. PT. Jasa Angkasa Semesta, which is engaged in international cargo handling, becomes one of the companies that are still handling exports and imports of goods during the COVID-19 pandemic, to encourage economic activity to continue.

The government issued regulations on the provisions of goods that could be sent during the COVID-19 pandemic. The provisions are explained through PM 18 of 2020 Article 16 Part Three on the Control of Transportation of Goods (1) Transportation Control which transports goods as referred to in article 9 is carried out on the transportation of goods other than the transportation of goods that transport essential goods. (2) Important and essential goods as intended in paragraph (1) consist of; a. medical, health, and sanitation goods, b. staple goods, c. food and beverage goods, d. goods/circulation of money, e. fuel oil/gas fuel, f. goods for the distribution of raw materials for manufacturing and assembling industries, g. goods for export and import, and h. shipment [5]. Also mentioned in PM 18 of 2020 article 17 paragraph (1) is permitted to use passenger compartments to transport cargo provided that (b) is used to transport logistical support for handling and prevention of COVID-19 [5].

To respond to the government regulations that have been issued, cargo companies in Indonesia must also experience changes in performance. During the implementation of the Large-Scale Social Restrictions (PSBB) in Indonesia, the number of goods that could be imported or exported decreased. Therefore, airlines must be able to overcome these problems by adjusted its activity to the regulations in force to save the company from the possibility of greater losses.

With those regulation applied, analytical research conducted to compare the cargo handling at PT. Jasa Angkasa Semesta before and during the COVID-19 pandemic, and also to compare the export cargo handling at PT. Jasa Angkasa Semesta (which based in Soekarno Hatta Airport) with cargo activities at Kertajati Airport in West Java, Indonesia during the COVID-19 pandemic. After all, analyzes are carried out, conclusions and suggestions are given to improve the efficiency of handling export cargos at the company.

Literature Review

According to Mankiw, et.al (2012, p. 184) exports are goods and services that are produced domestically to be sold abroad [6]. Meanwhile, according to (Purnamawati & Fatmawati, 2013, p. 12) the meaning of export is the activity of selling goods/services from custom areas by the applicable laws and regulations [6]. According to IATA (2005: 50), cargo is defined as all goods that are transported or will be transported by airplane using Airway Bill/SMU (Surat Muatan Udara) but do not include posts or other items contained in international postal convention and baggage accompanied by a passenger ticket or baggage check [7]. According to Suharto Abdul Majid and Eko Probo D. Warpani (2009: 95), cargo is all goods sent by air (airplane), sea (ship) or land (container truck) to be traded, both between regions or cities within the country and between countries (international), known as export-import activity [7]. A pandemic is an epidemic that occurs on a scale that crosses international boundaries, usually affecting people on a worldwide scale [8].

World Health Organization (WHO) announced the status of a global pandemic for Corona Virus Disease 2019 (COVID-19). In health terms, a pandemic means an outbreak of a disease that attacks many victims, simultaneously in various countries. While in the case of COVID-19, WHO, as the world health agency declared this disease as a pandemic because all citizens of the world have the potential to be infected with this disease [9]. According to the World Health Organization, Coronavirus is a group of viruses that can cause disease in animals and humans. Several types of Coronavirus are known to cause respiratory infections in humans ranging from cold or coughs to more serious ones such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) [10]. A new type of Coronavirus has been found to cause COVID-19. In addition, according to the World Health Organization, COVID-19 is an infectious disease caused by a newly discovered type of Coronavirus. This is a new virus and a disease that had not been known before the outbreak, found first in Wuhan, China, in December 2019 [10].

Research Methods

The method used in this research is a qualitative descriptive method, regarding to the analysis of export cargo handling at PT. Jasa Angkasa Semesta. In the literature, the term air cargo loading is used ambiguously for different sub problems appeared during the load planning process for a flight [11]. The research was conducted in directly observation at PT. Jasa Angkasa Semesta, Soekarno Hatta International Airport, Cengkareng, West Java and PT. Jasa Angkasa Semesta, Halim Perdanakusuma International Airport, East Jakarta from March 2020 until May 2020.

The type of this research data is divided into two; they are primary data and secondary data. Primary data is data obtained directly from the source and recorded for the first time, while secondary data is data collected from other people with its own purpose and has a categorization or classification according to their needs (Nasution, 1996, p. 143). Primary data in this study was obtained directly by conducting an interview with PT. Jasa Angkasa Semesta which was considered as a company which potentially provides relevant information. While secondary data collected was in the form of literature and documents, as well as data that was taken in the field in the form of reading material and research reports obtained.

Discussion and Result

PT Jasa Angkasa Semesta Tbk (JAS Airport Services) is Indonesia's leading ground and cargo handler. With over 35 years of experience, JAS Airport Services provides comprehensive ground and cargo handling services, airport hospitality services and airport assistance services, supported by more than 30 operators (90% international) and more than 150 shippers and recipients of goods, and operated in 10 big companies in Indonesia.

Air cargo is traditionally considered as a by-product of passenger air transport [12]. The air cargo handling process is a core business process at the airport regardless of whether they provide space to handle their services or involve special cargo handling companies. This is a complex process because of the activities that go together at the time of arrival and departure; on the air and land, the physical handling, and handling of documentaries [13]. Delivery process of goods between cities and countries continues to be carried out as the export and import businesses are included in the list of businesses that has got the government's permission to operate during PSBB. In this period, PT. Jasa Angkasa Semesta still handles international cargo shipments even though the volume is not as much as normal condition, as for the items handled and prioritized such as foodstuffs, medical devices, and pharmaceuticals.

Handling of cargo at PT. Jasa Angkasa Semesta during the COVID-19 pandemic has fulfilled the SOP's and protocols that have been determined, in addition, during COVID-19 pandemic there are several passenger aircraft used to transport cargo. The cargo itself is placed in the passenger cabin. This is chosen to empowered passenger aircraft which is restricted to operate until an undetermined limit time.



Figure 1.
Cargo is placed in the passenger cabin.
Source: AirCargo News (2020)

Early March 2020, the number of export cargo service in PT. Jasa Angkasa Semesta decreased. Before the pandemic, they could serve 100 tons of cargo/day, but during the pandemic they only serve 30-50 tons of cargo exports per day.

International Air Transport Association (IATA) revealed that in March 2020, data on air cargo transportation tended to decline. In global demand measured by Cargo Ton Kilometers (CTK), demand dropped by 15.2% compared to the previous 12 months. While in global capacity, cargo transportation dropped by 22.7%.

COMPARISON OF OPERATING AND NON-OPERATING AIRCRAFT													
BEFORE PANDEMIC COVID-19 (2019 - FEB 2020)													
No	Flight	Aircraft Type	DOP							Out	Freq	Total	
1	SINGAPORE AIRLINE												
1	SIA 962/963	A359	1	2	3	4	5	6	7	20	7	140	
2	CATHAY PACIFIC												
2	CPA 777/776	B773	1	2	3	4	5	6	7	17	7	119	
3	CATHAY PACIFIC CARGO												
3	ASIANA AIRLINE												
4	AAR 761/762	A359	1	2	3	4	5	6	7	20	7	140	
4	EMIRATES												
5	UAE 356/357	B773ER	1	2	3	4	5	6	7	17	7	119	
5	EVA AIR												
5	EVA 237/238	B773ER	1	2	3	4	5	6	7	17	7	119	
6	PHILIPPINES AIRLINES												
6	PAL 535/536	A321	1	2	3	4	5	6	7	5	7	35	
7	QANTAS AIRWAYS												
7	QFA 041/042	A333	1	2	3	4	5	6	7	15	6	90	
8	QATAR AIRWAYS												
9	QTR 954/955	A359	1	2	3	4	5	6	7	20	7	140	
9	TURKISH AIRLINES												
10	THY 056/057	B773ER	1	2	3	4	5	6	7	17	7	119	
10	OMAN AIR												
10	OMA 849/850	B789	1	2	3	4	5	6	7	17	7	119	
11	ALL NIPPON												
11	ANA 871/872	B789	1	2	3	4	5	6	7	17	7	119	
12	ETHIAD AIRWAYS												
12	ETD 474/475	B789	1	2	3	4	5	6	7	17	7	119	
13	CHINA EASTERN AIRLINES												
13	CES 5069/5070	A332	1	2	3	4	5	6	7	15	7	105	
14	SAUDI ARABIAN AIRLINES												
14	SVA 816/817	B773	1	2	3	4	5	6	7	17	7	119	
15	FLYNAS												
15	KNE 980/983	B744	1	2	3	4	5	6	7	17	2	34	
16	JETSTAR ASIA AIRWAYS												
16	JSA 201/202	A320	1	2	3	4	5	6	7	5	7	35	
17	CEBU PACIFIC												
17	CEB 559/560	A320	1	2	3	4	5	6	7	5	7	35	
18	K-MILE AIRLINES												
18	KMI 804/801	B73F	1	2	3	4	5	6	7	12	3	36	
19	MALAYSIA AIRLINES												
19	MAB 721/720	A332	1	2	3	4	5	6	7	15	7	105	
20	RAYA AIRWAYS												
20	RMY 1021/1022	B76X	1	2	3	4	5	6	7	9	4	36	
Total Estimated Cargo Loading												1662	ton/week
DURING PANDEMIC COVID-19													
No	Flight	Aircraft Type	DOP							Out	Freq	Total	
1	SINGAPORE AIRLINE												
1	SIA 962/963	A359	1	2	3	4	5	6	7	20	7	140	
2	CATHAY PACIFIC CARGO												
2	CPA 3241/3242	B74Y	1	2	3	4	5	6	7	30	1	30	
3	ASIANA AIRLINE												
3	AAR 761/762	A359	1	2	3	4	5	6	7	20	7	140	
5	EVA AIR												
5	EVA 237/238	B77W	1	2	3	4	5	6	7	17	7	119	
6	QATAR AIRWAYS												
6	QTR 954/955	A359	1	2	3	4	5	6	7	20	7	140	
7	ALL NIPPON												
7	ANA 871/872	B789	1	2	3	4	5	6	7	17	7	119	
8	ETHIAD AIRWAYS												
8	ETD 474/475	B77W	1	2	3	4	5	6	7	17	7	119	
9	CHINA EASTERN AIRLINES												
9	CES 5069/5070	A332	1	2	3	4	5	6	7	17	7	119	
10	CARGOLUX AIRLINES INTERNATIONAL S.A												
10	CLX 7947	B74Y	1	2	3	4	5	6	7	30	1	30	
11	K-MILE AIRLINES												
11	KMI 804/801	B73F	1	2	3	4	5	6	7	12	3	36	
12	MALAYSIA AIRLINES												
12	MAB 721/720	A330	1	2	3	4	5	6	7	15	7	105	
13	RAYA AIRWAYS												
13	RMY 1021/1022	B76X	1	2	3	4	5	6	7	9	4	36	
Total cargo/week												1133	ton/week
Details :													
Aircraft Capacity		Payload		Payload		Payload		Payload		Payload		Payload	
Pax Aircraft		In Ton Full		With Pax		Bag		Cargo 1/2		Cargo 1/2		Cargo 1/2	
Airbus A320/1		20		10				5					
Airbus A333		40		30				15					
Airbus A359		53		40				20					
Boeing 738		20		10				5					
Boeing 747		45		35				17					
Boeing 767		28		18				9					
Boeing 777		46		35				17					
Cao													
74F		135		135				68					
73F		23		23				12					

Figure 2.
Comparison of Operating and Non-Operating Aircraft.
Source: Elaborated by Authors

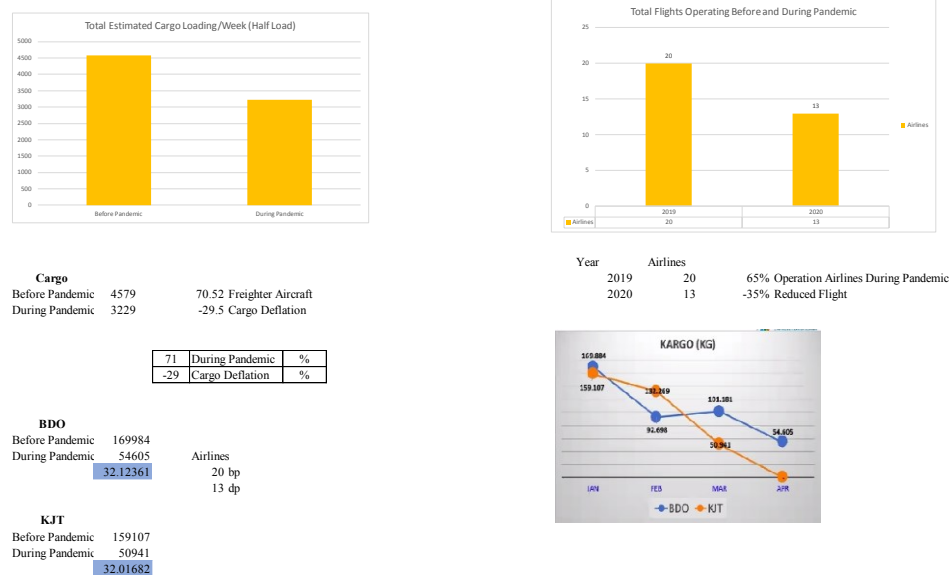


Figure 3.
Comparison of Operating and Non-Operating Aircraft.
Source: Elaborated by Authors

The graphics above show the percentage of exports cargo handled by PT. Jasa Angkasa Semesta for the last 4-5 months or during the pandemic, tonnage differences in the handling of export cargos and the number of active flights handled by PT. Jasa Angkasa Semesta nowadays, and also how much of the average cargo handled before the pandemic. This study confirms this primary data using secondary data that is obtained in flight schedules and statistical data on the webinar (web-based seminar) as well as the Badan Pusat Statistik (BPS).

Conclusion

Air cargo export handling influenced cargo transportation speed [14]. As a result of the pandemic and the enacted of PSBB on early March 2020, this led to a reduction in the number of flights handled by the warehouse of PT. Jasa Angkasa Semesta. It handled 20 flights before the COVID-19 pandemic and only 13 flights during the pandemic or decreased by 35%. This pandemic also has an impact on the depression in estimated cargo handled by PT. Jasa Angkasa Semesta's warehouse operated at Soekarno Hatta Airport, which is decreased by 28% and the total amount of depression of both Kertajati Airport and Husein Sastranegara are by 28%. So, the average of depression in these 3 airports is 30.6%. This condition quite represents other airports condition in Indonesia.

As for the comparison of handling export goods before and during the pandemic which has the most significant difference is when almost all passengers aircraft are used as cargo transport aircraft, because there are no passengers are allowed to be carried. Passenger cabins are loaded by cargo with requirements that have been regulated by the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), and in National Regulation No. 18 which mentions that passenger configuration aircraft can be used to transport cargo inside the passenger cabin, nonetheless it is restricted to carry cargo and passengers together at the same time [15]. While under normal condition or before the pandemic, this has never been done.

Recommendation for PT. Jasa Angkasa Semesta is to remain cautious against the current outbreak and it always complies with health protocols that have been regulated by the government. This company should continue to show its great value as a leading company in ground handling services industry in Indonesia and serve the exporters and importers by providing good service and quality.

References

- [1] Logistik, A. (2018). *Cargo Handling*. <https://www.asalogistik.co.id/cargo-handling/>.
- [2] Brandt, F. (2017). *The Air Cargo Load Planning Problem*. October, i–166. <https://doi.org/10.5445/IR/1000075507>
- [3] Siahaan, J. (2011). Layanan Kargo Udara Internasional di Bandar Udara Soekarno Hatta. *Warta Ardhia*, 37(2), 100–113.
- [4] Riki, O., & Margana, R. (n.d.). *Artikel Dampak Virus Corona (Covid-19) Terhadap Perdagangan Ekspor-Impor Indonesia*. 6–8.
- [5] *PM 18 Tahun 2020.pdf*. (n.d.).
- [6] Handayani, & Sarjiyanto. (2019). *EKSPOR PADA PERUSAHAAN INTERNASIONAL FREIGHT FORWARDER (Study Kasus pada PT. MSA Kargo Surakarta)*. 7(1), 58–71. <https://doi.org/10.7454/jvi.v7i1.122>
- [7] Jonar, A. N. (2016). “Mengenal Pengiriman Barang via Cargo Udara.”
- [8] Wikipedia. (2020). *Pandemi*. Wikipedia. <https://id.wikipedia.org/wiki/Pandemi>
- [9] Indonesia, A. (2020). *Yuk, Pahami Lebih Jelas Arti Pandemi pada COVID-19*.
- [10] Organization, W. H. (2020). “*Apa itu coronavirus? Apa itu COVID-19?*”
- [11] Brandt, F., & Nickel, S. (2019). The air cargo load planning problem - a consolidated problem definition and literature review on related problems. *European Journal of Operational Research*, 275(2), 399–410. <https://doi.org/10.1016/j.ejor.2018.07.013>
- [12] Dewulf, W., Meersman, H. and Van de Voorde, E. (2019), "The Strategy of Air Cargo Operators: About Carpet Sellers and Cargo Stars", *Airline Economics in Europe (Advances in Airline Economics, Vol. 8)*, Emerald Publishing Limited, pp. 167-199. <https://doi.org/10.1108/S2212-160920190000008008>
- [13] Drljaca, M. (2017). Air Cargo Handling Process. ZIRP 2017: International Conference on Traffic Development, Logistics & Sustainable Transport New Solutions and Innovations in Logistics and Transportation, 2000, 81–88.
- [14] Bai, Y., & Li, W. H. (2010). Capability evaluation of air cargo export handling system using stochastic Petri net. *2010 International Conference on Logistics Systems and Intelligent Management, ICLSIM 2010*, 3(Mc), 1589–1593. <https://doi.org/10.1109/ICLSIM.2010.5461238>
- [15] Publik, P., Sektor, D. I., & Darat, P. (2014). *Kementerian perhubungan*. 1(8), 3811308.