
THE EFFECT OF SAFETY SHIPPING AT SEA ON SHIP TRAFFIC SAFETY MEDIATED ORGANIZATIONAL COMMITMENT

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ABSTRACT

The ultimate ambition at this research was to conclude the direct and indirect influence of the influence of shipping safety at sea on the safety of ship traffic mediated by organizational commitment (survey on the Tanjung Priok Marine and Coastal Guard Unit in 2020). The design usage of the particular research was not only associated and as the complimentary work under the survey method but also related to the population which was the captain of the Tanjung Priok Marine and Coast Guard Unit. By using the sampling technique, this research has its purposive sampling with a total sample of 66 respondents and by implementing the data collection technique, quantitative questionnaire has been passed the trial and error for its validity and reliability. Under the Research Methodology theorem, this research is implementing the path analysis method with Smart Partial Least Square software ver. 3. The conclusion has indicate that shipping safety at sea has a direct effect on organizational commitment.

Keyword: Shipping Safety, Ship Traffic Security, Organizational Commitment.

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INTRODUCTION

Indonesia, as might as we all aware of, is the largest Archipelagic State in the international community which founded has more than 17,000 islands with the populations of more than 200 million people. Therefore, the sea transportation has played the most significant and important role in Indonesia on serving the mobility of the populations, goods and services both domestically and internationally. Sea transportation also has a role as a supporting facility for the trade, industry and economy sectors as well as other sectors. In addition, sea transportation is also expected to be able to stimulate economic growth for certain regions, especially for areas that have not yet been developed. Another role which is not less important in sea transportation is that the sea transportation has the lifeblood of the eco-sosbudhankamnas, and the performance of the sea transportation would greatly affect the acceleration on national development.

Along with those number of islands and populations, the mobility of ship's movements and the demand for sea transportation's services are roughly high and tend to accumulate more interests annually parallel with the progress of regional development based on regional autonomy called the local government. The growth of sea transportation services, of course, must also be supported by the high level of safety in each and every sea transportation modes operation, therefore people who use sea transportation services would feel comfortable, safe and secure.

So far, in the context of establishment and improvement of the maritime security including the occupational and shipping safety, the United Nations at its conference in 1948 had agreed to establish an international agency that specifically dealt with maritime issues. The agency was first formed under the name of the Inter-Governmental Maritime Consultative Organization (IMCO). Ten years later, in 1958, the organization was finally recognized internationally. It had changed its name into the International Maritime Organization (IMO) since 22 May 1982. On 25 June 2010, this Special Agency of the United Nations established as the International Maritime Organization (IMO), and other major stakeholders in the global shipping and manning industries, had officially acceptance and adopted the tremendous International Treaty of the "Manila Amendment" to the International Convention on Standard of Training, Certification and Watchkeeping for Seafarers 1978 (STCW1978) as amended, and other related regulations. The amendment has arranged to keep STCW 1978 deliver with the latest consensus thereafter its creation and initial application in 1978, and beyond amendments in 1995 (STCW Convention and STCW Code 2017 Edition).

In addition, the Shipping Act Number 17 Year 2008 is the evidence of the implementation and the enforcement of the ratified IMO Convention. The Government Regulation Number 51 Year 2002 concerning shipping, in article 5 paragraph 1, it is stated that every ship is obliged to meet the requirement of Seaworthiness which include ship's safety, ship's manning, management of ship's safe operation, pollution preventive measure from ships, stowage and legal status of ships.

Seaworthiness based on Shipping Act Number 17 Year 2008 is the condition of a ship that delivers the requirement for: ship's safety, pollution preventive measure from ships, ship's manning, stowage and load lines, working and living condition of seafarers and the health of passengers, legality status of ships, safety management and pollution preventive measure from ships and ship security management before sailing related to their own trading area. The legal basis for implementing the Seaworthiness is divided into two, namely based on International Treaty and National Regulation. International Treaty 1. SOLAS Convention 1974 and its amendments. 2. STCW Convention 1978/95 and its Amendments 3. ILO Convention 4. TMS Convention 1969 5. Loadline Convention 1966. National Regulation 1. Shipping Act Number 17 Year 2008 concerning Shipping 2. Government Regulation Number 51 Year 2002 concerning Shipping 3. Government Regulation Number 7 Year 2000 concerning Kepelautan 4. The golden rule of the Minister of Transportation Number PM 70 Year 2013 concerning Education and Training, Seafarer Watchkeeping and Certification 5. The golden rule of the Minister of Transportation Number PM 67 Year 2021 concerning Work Structure and Organization of the Ministry of Transportation 6. Regulation of the Director General of Sea Transportation Number HK.103/2/19/DJPL-16 concerning the Implementation of Seaworthiness of Ships. Fulfillment of all Seaworthiness requirements is evidenced by the issuance of certificates and/or documents by the authorized party, namely the Directorate General of Sea Transportation. Therefore, the Technical Implementation Unit of the Directorate General of Sea Transportation can implement it properly to realize and ensure the safety of shipping in its territory.

The current impact of globalization greatly affects the flow of world trade activities in the waters of Southeast Asia, especially the Sunda Strait as the entrance point for the world's Very Large Crude Carriers bound from the Middle East to the Asia-Pacific region, including Indonesia. The Sunda Strait is a strait through which more than 90,000 ships pass every year to carry various commodities,

wide-ranging from crude oil to finished refinery products from various regions of the Northern-Southern Hemisphere. From this principle of the world's largest economies which concentrated in the Asia-Pacific region has finally effect this route for doing trade between the Middle East, known greatly as the Energy-Rich, and the Africa, known greatly as the Resource-Rich. Thus, none exaggeration doubtly to say that the Sunda Strait is considered as one of the busiest sea lanes as well as functioning as an artery of the world economy.

The impact of the high volume and congested vessel traffic, the number of serious disturbances to the safety of ship traffic and the environment is expected to continue to increase and have a detrimental impact. On the other hand, if the ship chooses to re-routing to avoid the Sunda Strait, it will also result in an increasing in the cost of shipping goods and of course it will cause a raise of price in commodity package. As the matter of a fact, bearing in mind that more additional expensive cost would impact those ships if they are doing the re-routing practice in maritime traffic, especially Tanker Ships, Bulk Carriers and Container Ships. In addition, from the maritime security aspect, the annual report of the IMB (International Maritime Bureau) still states that piracy, including theft and arm-robbery, is still the biggest threat to tankers crossing the Sunda Strait (Maritime Journal, Feb, 2018)

To improve maritime safety and security, protect the marine environment, and maintain the sovereignty of Indonesia's territorial waters, it also has a very important role in relation to international shipping and has become the focus of attention of the International Maritime Organization (IMO). Existing natural barriers with potential collisions or groundings can result in pollution of the marine environment. However, shipwrecks are not the only danger in the Sunda Strait. Over the years it became a center of piracy which experienced a marked increase in the 2000s. Haze from regional forest fires has also caused poor visibility for ships sailing in the Sunda Strait, the region's weather has also been a factor in several accidents.

That is why, Tanjung Priok Port is an international port that serves national and international shipping with a very high frequency of ship visits, hence making Tanjung Priok Port as one of the largest supporting sectors for the Indonesian economy with a reach of more than 60%.

Therefore, Tanjung Priok Port is expected to be an example of other ports in the Unitary State of the Republic of Indonesia as an economic barometer for the shipping sector. The following is the arrival productivity data at Tanjung Priok Port, which shows an increase from 2017 to 2018.

Tabel Produktivitas Tanjung Priok			Tabel of Tanjung Priok Productivity			
No	Uraian Description	Satuan Unit	2018	2017	Pertumbuhan Growth	
1	Kapal Ship	Unit	15.284	14.470	814	5,63%
		GT	160.558.455	141.808.185	18.750.270	13,22%
2	General Cargo	Ton	6.641.100	5.523.390	1.117.710	20,24%
	Bag Cargo	Ton	644.118	258.259	385.859	149,41%
	Curah Cair Liquid Bulk	Ton	2.575.394	1.871.980	703.414	37,58%
	Curah Kering Dry Bulk	Ton	8.038.889	7.079.437	959.453	13,55%
	Lain-Lain Others	Ton	4.245.360	4.254.029	(8.670)	(0,20%)
3	Peti kemas Containers	Box	4.851.146	4.423.117	428.029	9,68%
		TEUs	6.743.523	6.079.762	663.761	10,92%

Figure 1. Tanjung Priok Productivity

Source: LAKIP Kemenhub 2019

To find solutions to problems in the Sunda Strait, Indonesia's interests in the Sunda Strait also need to be studied, particularly in the terms of balancing the risk of increasing maritime traffic with the contribution of user countries to the protection of maritime traffic and the environment. As maritime traffic is expected to be greater amongst the sustainable development goals, the risk of disruption to maritime traffic safety will also increase in the future. From an ecological point of view, collisions and contact with land have a high probability of polluting the marine environment through oil spills from tankers. The continuing impact of this is the disruption of the sustainability of the marine environment, local fisheries, coastal community lifestyles, and border conflicts cannot be ruled out, all of which require significant resources to resolve.

Based on data from Tanjung Priok Class I Marine and Coastal Guard Base Realization in Quarter I there were 3 (three) reports that occurred in February, the KMP ship fire. BSP I in the waters of Merak Besar Island and fishing boat fire in Muara Baru Harbor, in March there was a fire on the fishing boat Riki Baru in the waters of the Kepulauan Seribu, for the second quarter there was no sea transportation accident, in the third quarter 1 (one) incident occurred in August, the ship's name was TB. Buana Nusantara 7 in Wilper Merak, Banten and in the fourth quarter there were no sea transportation accidents. Thus, the total number of marine transportation accidents has reached 4 (four) reports and the performance achievement against the target is 80%. In The 2019 Performance Agreement, the target specified is 2 (two) reports, but in realization there are no reports of security disturbances on the ship.



Figure 2. Marine Transportation Accident Report 2019
Source: LAKIP Kemenhub 2019



Figure 3. Security Disturbances in Sea Transportation Modes 2019
Source: LAKIP Kemenhub 2019

The person in charge of port security according to Shipping Act No. 17 of 2008 is the Port Security Committee under the coordinating of the Harbour Master. The Port Security Committee consists of KPLP, National Police, Navy, PT. Pelindo, terminal security guards and so on. Terminal Nusantara Pura Tanjung Priok on a hazard map/record of the estimated threat of illegal labour

workers, theft, cubis and extortion. In addition, the Nusantara Pura Terminal on the Vital Objects as the national security under the susceptibility map is in the first place with vulnerable points for entrance and exit of the passenger terminal, cadets and piers, parking lots. Estimates of existing threats are commotion among passengers due to scramble to board the Pelni ship, smuggling of alcohol and drugs, congestion during embarkation and debarkation, fire and terror/sabotage.

In order for the terminal to comfortably support economic, commercial and tourist activities, the terminal must be free from any security incidents and, to ensure such conditions, security measures must be implemented at the terminal facilities, in particular by minimizing disruption or transportation. Conduct intensive supervision of visitors, prospective passengers and crew as well as merchandise entering the terminal area. The level of security is very important so that it becomes one of the things that shows the success of a public service where in the end customer loyalty is expected.

Based on the golden rule of the Ministry of Transportation Number KM 65 of 2002 concerning of Work Structure and Organization of the Class I Tanjung Priok Marine and Coastal Guard Units, it is described as follows: The duties of the Tanjung Priok Class I Marine and Coastal Base Office are technical implementing units within the Ministry of Transportation under and is responsible to the Minister of Transportation through the Directorate General of Sea Transportation who has the task of carrying out guarding, saving, securing and controlling activities as well as enforcing regulations in the field of shipping in Sea and Coastal waters.

The Readiness and the Organizational Commitment of Seafarers at Tanjung Priok Class I Marine and Coastal Guard Units in dealing with disasters to support shipping safety at Tanjung Priok Port is increasing along with economic developments and the trend towards globalization, national and international flows, ships, international sea transportation through Indonesian territory which requires guaranteed availability of Search And Rescue operation in case of an accident and incident occurred at Tanjung Priok Port. Without this, however, the Tanjung Priok Port is classified as a "black zone" for shipping. The status of a "black zone" could have a negative impact on Indonesia's international economic and political relations.

To ensure the safety of the ship and its cargo when the voyage begins, the Master of the Ship needs a ship's pilot who knows the traffic so well before begin the voyage. Shipping activities are one of the efforts to ensure the safety of ships including passengers and cargo while boarding the ship. For Indonesia to carry out command control in the waters of the Sunda Strait, Indonesia needs to increase the institutional capacity of the command by developing command aid facilities and infrastructure that meet the requirements to support ship navigation services in the waters of the Sunda Strait. In addition, it is necessary to increase the latest navigation resources in terms of knowledge and skills in the field of navigation so that official pilots can carry out their duties in order to maintain navigation safety during the transit.

The safety of fishing vessel is also the most important part which is always expected to be greater amongst the sustainable development goals in food and agriculture security. For the crew and captain, this point does not have to be done in any different approach. On the other hand, the roles that can be fostered to ensure the safety of marine fisheries is the captain of ports and fishing ports throughout the archipelagc state. Both sides are at the cutting edge of ship safety. In order for this role to function optimally, all parties involved must be able to comply with Job Creation Act

Number 11 of 2020 and Government Regulation Number 27 of 2021 concerning Implementation in the Marine and Fisheries Sector which is according to what had been said by the Director General of Capture Fisheries at the Ministry of Maritime Affairs and Fisheries (DJPT KKP) Muhammad Zaini, According to the gap research carried-out by previous research (Felayati et al., 2019) said that the human factor is the cause of ship accidents, (Rudianto et al., 2014) said that competence and discipline affect crew performance fleet of ships on a voyage, (Thamrin, 2015) revealed that training can improve the skills and quality of ship crews if carried out properly.

Maritime Transport Law which is famously named with Shipping Act No. 17 of 2008 stipulates that sea transportation security includes transportation security in port waters, as well as the protection of the marine environment. The safety of transportation by water is a prerequisite for the navigation and navigation of ships. To ensure the safety of water transportation, the government is responsible for planning, procurement, operation, maintenance and monitoring. The maritime navigation and telecommunications assistance system complies with international regulations, as well as the determination of maritime routes and upstream.

According to (Siswantara, 2015) the basic principle of marine safety stipulates that ships wishing to sail must be in a seaworthy condition. This means that the ship must be able to naturally handle various falls or natural events in the shipping world. In addition, it is important to transport cargo around the world and protect the safety of the cargo and its crew. To be suitable for a ship, the ship's structure and engine must be in good condition.

(Lasse, 2014) says: "A boat that endangers the safety of navigation must be able to follow every regular movement because it is equipped with engines, propellers, oars, anchors, moorings, communication equipment and crew, all of which meet the necessary approval requirements". According to (Soewodo, 2013), marine transportation safety (maritime safety) is now a condition of ships that depends on the captain of the ship.

According to (Umar, 2001), ship safety covers a very wide spectrum of aspects, including the following topics:

1. Ship safety concerning the construction, equipment and maintenance of ships, including aspects of container safety;
2. Ship tonnage measurement;
3. Ship's manning;
4. Prevention of marine pollution from ships.

The usage of shipping safety indicators are

1. Ship safety and security in the waters
2. Maritime environmental protection
3. Shipworthiness and navigation

Based on the narrative above, it might be synthesized that shipping safety is the fulfillment of maritime safety and security requirements in the context of transportation in waters, ports and the marine environment, namely the condition of the fulfillment of ship factors that meet requirements and outside factors of the ship that affect shipping safety.

In the recognition of international relations, the study of security is strongly influenced by the vision of realism. Where security studies examine things such as threats and the use of military force to counter these threats. The main actor in security studies is the State, which is assumed to

be a rational actor in its behavior that interacts in its efforts to assert its national interests (Viotti & Kauppi, 2019). The pattern of actions and interactions of actors in international relations is also growing. International relations actors, which now involve not only states but also non-state actors, make maritime security even more complex.

The discussion on security in international relations is divided into traditional security and non-traditional security. In this work the researcher will focus on traditional security. The traditional notion of security in international security studies is a concept that uses "use of force" and is defined as "use of military force by States" that dominates threats to a country militarily (Buzan & Hansen, 2009).

When identifying the concept of maritime security according to (Bueger, 2015), three things must be kept in mind, namely (1) "semiotics", which is intended to represent different meanings when examining the relationship between maritime security and other concepts, (2) "Securitization", a framework that provides a means to understand how various threats to maritime security are included, and (3) a theory of security practice that aims to understand what actions are taken in the name of maritime security.

According to the National Police for the Tentrem Kerta Raharja (TTKR) quoted by (Brotodiredjo, 2012), "safe" is defined as containing four main indicators, namely: feeling free from physical and psychological disturbances (security); feeling free from worry (surety); feeling free from risk (safety); and a feeling of inner and outer peace. These four elements create enthusiasm for work and ultimately material and spiritual welfare of the community is achieved.

Based on the narrative above, it is synthesized that sea transportation security or ship traffic security is a condition that is free from threats, disturbances, fears and risks/dangers that can cause public unrest both naturally and mentally. (Griffin, 2014) reveals that terminology of an Organizational Commitment is a behavior and the reflection of which an individual or employee knows and it is bound by his or her organization. (Mehmud et al, 2015) have said that with the respect of specific Commitment can only be developed if employees can find their expectations and fulfill their needs from the Organization. (Langton et al., 2013) states that Commitment is a condition in which an employee sided with an exclusive Organization and its goals and intends to maintain membership in their Organization.

(Sopiah, 2016) states that Organizational Commitment is a condition where employees believe and want to achieve Organizational goals that will permanently stay or will not leave the Organization. (Baron, 2012) also mention that Organizational Commitment is the degree to which employees who are not only exist inside the Organization but also want to be permanent as members, which in it contains the behavior of loyalty and willingness of employees to work apherically for the Organization where the employee worked.

(Zurnali, 2010) also support the previous statement and has said that Organizational Commitment is a psychological state that has character reference of employee interactions with the Organisation that suggest whether employees are permanently stay with the Organization or not. (Kaswan, 2015), however, make a different consideration about the Organizational Commitment that should have been trusted to be the level of employee dedication to the Organization where he or she works and have the willingness to work on behalf of or for the benefit of the Organization. Kaswan had said that Organizational Commitment constitutes of three indicators:

1. Affective Commitment. Shows a strong exquisite desire from all staff to conform the existence of their additional values, therefore their goals and desires remaining in the Organisation can be realized. Affective Commitment can only be appear and positively related in an Employee through: their age, their individual characteristics, their Organisational structure, their task importance, their diverse skills, others feedback from executives including the implementation of in management knowledge and best practices. Employees with affective commitment are tend to stay in an Organisation because they have full self-confidence in the Organization's Vision and Mission.
2. Continuous Commitment. By all means that one Commitment is based on concern for the loss of something achieved by the organization in its process, for example: the salaries, facilities and so on. The Commitment that might be the cause of obligation's sustainability is including the age, the job's position and the institutional differences as well as different achievements. This Commitment is reduced because the various facilities and benefits received by Employees are reduced.
3. Regulatory Commitment. Demonstrate the employee's moral and value responsibility which must remain in the Organisation. The deal part of the particular Commitment is social-economic demands resulting from personal experience in dealing with other people. In the beginning of permanent adherence, such role models or the owner of the Organisational just based on the remuneration, social, cultural or religious rewards.

METHOD

The methodology used in this study is a quantitative method. The population is taken from all stakeholders, especially the skipper Tanjung Priok Marine and Beach Guard Unit which amounted to 191 people in 2019 for the western part of Indonesia from 400 captains throughout Indonesia sampling in this study using random samples (random sampling) sampling using the formula from Taro Yamane or Slovin 66 sample skipper Tanjung Priok Marine and Beach Guard Unit. After the questionnaire data collection was completed, the Likert scale weight score was used to convert the data into quantitative data. In this study, the data is processed and presented in graphical form, and SmartPLS (Sekaran & Bougie, 2016).

RESULTS AND DISCUSSION

Based on the data obtained through the distribution of questionnaires and the results of calculations with smartPLS 3.0, as well as checking the results of the hypotheses made, as follows:

1. The effect of shipping safety at sea on Organisational Commitment

The effect of shipping safety on Organisational Commitment is 0.894 with the results of testing the first hypothesis showing that ship safety at sea has a direct effect on Organisational Commitment at the Tanjung Priok Marine and Coastal Guard Unit in 2020. This explains that the research results obtained are in line with previous research that the safety of marine transportation at sea has an impact on organizational commitment. The security factor is important because it is closely related to performance and subsequently to agency performance. The more safety devices there are, the less likely an accident is to occur, where safety refers to protecting one's physical well-being from injury related to organizational obligations. This marine

transportation safety guideline is the obligation of agencies related to the quality of occupational health and safety of employees and their operations in carrying out business processes and activities. The agency is committed to a healthy and safe workplace, prevention of occupational accidents and diseases, and prevention of environmental pollution.

2. The influence of shipping safety at sea on the safety of ship traffic

The effect of shipping safety on ship traffic security is 0.488, which is supported by the results of the second hypothesis testing which finds that shipping safety at sea has a direct effect on ship traffic security at the Tanjung Priok Marine and Coastal Guard Unit in 2020. This explains that the research results obtained are in accordance with previous studies that the safety of shipping at sea has an influence on the safety of ship traffic. Reliable and well-maintained equipment will make it easier for the captain to carry out each of his work. If the organization has the right equipment with adequate quantity and quality, then the safety of the shipping will increase and vice versa if the organization is not supported with adequate equipment, the captain will have difficulty in carrying out his work and in the end the performance or productivity of the Organisation will be low.

3. The Influence of Organisational Commitment on ship traffic safety

The influence of Organisational commitment on ship traffic safety is 0.501 which is supported by the results of the third hypothesis testing which finds that Organisational Commitment has a direct influence on ship traffic security at the Tanjung Priok Marine and Coastal Guard Unit in 2020. This explains that the research results obtained are in accordance with the research conducted that organizational commitment can affect the safety of ship traffic. The captains who have the expertise, skills and abilities are expected to be able to operate the ship safely, comfortably and safely as regulated in the STCW convention and the International Safety Management Code (ISM Code). These skippers, at least have been proven by certificates of expertise and skills issued by the government of the flag country. If the expertise and skills of the captains are judged to have not met the requirements, the management must try hard to find a replacement that is in accordance with the expertise and skills needed to crew the ship that will sail.

4. The effect of shipping safety at sea on the safety of medicated ship traffic Organisational Commitment

The effect of shipping safety on ship traffic security mediated by Organisational Commitment is 0.447 which is supported by the results of the fourth hypothesis testing finding that Organisational Commitment mediates the effect of shipping safety at sea on ship traffic security at the Tanjung Priok Marine and Coastal Guard Unit in 2020. This shows that the research results obtained are in accordance with explaining that Organisational Commitment mediates the effect of shipping safety at sea on the safety of ship traffic. Organisational Commitment is said to have an influence on shipping safety, because discipline shows an attitude of obedience of a personnel to the rules or regulations that apply in the agency, namely joining the agency on the basis of conviction, not an element of coercion. If a personnel has a high attitude of obedience to all applicable rules or regulations, then this condition will affect the safety of the voyage in carrying out their duties. Ship safety is the next variable that is considered to have a significant influence on shipping safety. This is because with the existence of high ship security in each

personnel, these personnel will carry out their main duties and functions properly in accordance with their respective fields of duty. This makes the safety of the ship a significant influence on the safety of shipping.

CONCLUSION

Based on the discussion above, it can be concluded that shipping safety at sea has a direct effect on Organizational Commitment at the Tanjung Priok Marine and Coastal Guard Unit in 2020. Shipping safety at sea has a direct effect on the safety of ship traffic at the Tanjung Priok Marine and Coastal Guard Unit in 2020. Organisational Commitment has a direct influence on the safety of ship traffic at the Tanjung Priok Marine and Coastal Guard Unit in 2020. Shipping safety at sea has an indirect influence on the safety of ship traffic which is mediated by Organisational Commitment at the Tanjung Priok Marine and Coastal Guard Unit in 2020.

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