



Journal of Economics and Business

Anwar, Syaiful. (2020), The Governance of the Surabaya's West Shipping Channel. In: *Journal of Economics and Business*, Vol.3, No.4, 1464-1471.

ISSN 2615-3726

DOI: 10.31014/aior.1992.03.04.292

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

The *Journal of Economics and Business* is an Open Access publication. It may be read, copied, and distributed free of charge according to the conditions of the Creative Commons Attribution 4.0 International license.

The Asian Institute of Research *Journal of Economics and Business* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Economics and Business, which includes, but not limited to, Business Economics (Micro and Macro), Finance, Management, Marketing, Business Law, Entrepreneurship, Behavioral and Health Economics, Government Taxation and Regulations, Financial Markets, International Economics, Investment, and Economic Development. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Journal of Economics and Business* aims to facilitate scholarly work on recent theoretical and practical aspects of Economics and Business.



ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide



The Governance of the Surabaya's West Shipping Channel

Syaiful Anwar¹

¹ Faculty of Defense Strategy, Indonesia Defense University, Bogor, Indonesia.
Email: morolawe7760@yahoo.com.au

Abstract

The governance regarding shipping safety in the Surabaya's West Shipping Channel is very important because it affects the smoothness of movement of ships, which carry goods and passengers to the ports in Surabaya City. Due to the frequent occurrence of ship accidents in the channel, there is a possibility that these were caused by several factors related to the governance in the shipping channel. The required data was obtained from relevant informants, while other supporting information was obtained by direct observation in the field. Then the data was analyzed using descriptive qualitative method. From this analysis, it was found several findings concerning the factors causing the accident of ships in the shipping channel, namely: the technical condition of the ships, the level of professionalism of the ship's crews, natural factors, the condition of navigation aids, and installation of infrastructures in the sea. The next findings were about things that have not been achieved by the government, such as law enforcement regarding the ships' maintenance, education and training for the ship's crew especially in handling ships' accidents at sea, law enforcement regarding the installation of undersea infrastructures, and the installation of proper navigation aids along the shipping channel.

Keywords: Accident, Channel, Governance, Safety, Shipping, Surabaya

1. Introduction

The safety of shipping is a very important issue because it will be very helpful in conducting shipping of various ships that pass certain waters from one place to another. This issue is important to discuss because it involves a variety of influential factors, such as shipping lanes and their navigation aids, ships and their crews and the cargoes they carry, provisions regarding international and national security and safety, and weather conditions within and above the shipping lanes. Safety of shipping is so important because it will smooth the flow of transportation of goods and people from one place to another. Conversely, if shipping safety is not adhered to properly, it will potentially cause accidents at sea or undesirable matters events humans, as well as those concerning ships such as: leaking, drifting, aground, construction damage, engine failures, exploding, sinking, burning, upside down, and collision.

Surabaya West Shipping Channel (SWSC) is a very important channel, because this channel is the only access to the entry of ships to several seaports in Surabaya, especially to Tanjung Perak port, and the Indonesian navy fleet base. Geographically, SWSC is located between latitude $65^{\circ}0'00''\text{S}$ - $7^{\circ}15'00''\text{S}$ and longitude $112^{\circ}35'00''\text{E}$ - $112^{\circ}45'00''\text{E}$ in the working area of Tanjung Perak Port, Surabaya (see Figure 1). The condition of this channel is very narrow and shallow when compared to the high intensity of passing ships. The density of SWSC is due to the fact that Tanjung Perak port is currently the busiest port in Indonesia, based on the port authority, Pelindo III Ltd data on the number of container loading and unloading activities in seven Provinces of Indonesia (Pratama, 2019).



Figure 1: Surabaya West Shipping Channel (Harbormaster of Tanjung Perak Port [HTPP], 2015).

Shipping operations are tending to increase from year to year in SWSC. The number of ships going through the shipping channel in 2016 amounted to 10 780 ships originating from domestic and 1 640 vessels originating from abroad, in 2017 it increased to 19 362 ships domestically and 1 640 ships abroad, while in 2018 it increased again to 20 489 domestic ships and 1 761 foreign ships (HTPP, 2019). By paying attention to these figures, it is of course necessary to have good governance of the shipping channel so that it is possible to increase shipping security and safety in SWSC.

Suboptimal governance of the shipping lane has the potential to cause ship accidents in the form of sinking vessels, burning ships, collision ships and aground vessels, which of course affects the traffic from ships entering and exiting the shipping channel. Some examples of cases of ship accidents at SWSC involving a ship owned by the Government of Indonesia that sank because it collided with MV Iris in bouy 11, Gresik waters, in May 2000. At that time the ship owned by the Government was about to get out of the Port of Tanjung Perak in Surabaya, while MV Iris was about to enter the port. In general, indicators of suboptimal governance in the Surabaya channel are evident from existing ship accident data. The vessel accident data in 2018 are five ships, with details of one ship catching fire, three ships aground, and one ship sinking. While the number of crews who died was three. The types of ship that had an accident in the shipping channel can be explained: two motor boat, two motor sailboat, one tug boat, and one barge. The cause of the accident from the ships is due to human factors, technical factors, and natural factors (HTPP, 2019).

The smoothness of shipping in the shipping channel is often constrained by the lack of optimal governance of SWSC, which in this study is classified as the governance of shipping traffic in the channel which includes coordination among stakeholders as the users of the channel facilities; the handle of the navigation hazards along the channel in the form of unassembled shipwrecks, as well as installation of underwater installations; and the implementation of training related to shipping safety in SWSC. The current stakeholders in SWSC are ship owners, the Harbourmaster of Surabaya Port and Pelindo III Ltd, Surabaya. Therefore, the Researcher is interested in conducting research by taking the title "Governance of Surabaya West Shipping Channel in Improving the Safety of Shipping". Based on the above consideration, the research problem can be formulated in two research questions as follows: (i) What is the cause of the accident that occurred at SWSC?; and (ii) How is the governance of SWSC in improving the safety in the shipping channel?

2. Method

This study uses the qualitative method based on the philosophy of post-positivism or interpretive, used to examine the condition of natural objects, where researchers are as key instruments, so this research method is often referred to as the naturalistic method (Sugiyono, 2017). This research was carried out at the Surabaya Harbourmaster Office, Director General of Sea Transportation Surabaya, and Pelindo III Ltd, Surabaya. The field research was conducted in June 2019, while the writing of the research report was conducted in July to October 2019. The primary data was obtained from six informants, who came from the Tanjung Perak Harbourmaster Surabaya, the Navy Fleet II Headquarters, the Surabaya Naval Base V, and Pelindo III Ltd, Surabaya. The technique used in the selection of informants was purposive sampling, meaning that the technique for determining data sources first considers some criteria that are relevant to the research problem, not randomized (Sugiyono, 2017).

In this study, the Researcher set the object of research, namely the shipping governance of Surabaya's western shipping channel which includes coordination among stakeholders using channel facilities; handling navigation hazards along the path in the form of unassembled wrecks and underwater installation; and the implementation of training related to shipping safety at SWSC. For the data collection, the Researcher used interviews with informants, and observations in the field about the SWSC security policy process that was being carried out, how the decision making flow, and the evaluation process of security activities that had been carried out. While the data validity test included tests of credibility, transferability, dependability, and conformability, by doing triangulation techniques, and completing the data with supporting data. This study used the qualitative method, so the data analysis technique used was descriptive qualitative analysis using a non-statistical research approach (Bungin, 2011).

3. Results

3.1. Surabaya West Shipping Channel

Surabaya West Shipping Channel (SWSC) is located between $6^{\circ}50'00''\text{S}$ - $7^{\circ}15'00''\text{S}$ and $112^{\circ}35'00''\text{E}$ - $112^{\circ}45'00''\text{E}$ in the working area of the Tanjung Perak port of Surabaya. SWSC is the main shipping gateway to the Port of Tanjung Perak and surrounding areas before heading to the anchorage area or rede (Figure 2). SWSC has a width of 100 meters and a depth of minus 9 meters low water spring (LWS). In addition to only allowing a one-lane crossing, this condition causes the SWSC capacity that is available to only 27 thousand ship movements. Even though, the realization of the number of ships passing through SWSC in 2013 reached 43 thousand movements. This limitation also caused the channel not to be passed by ships with a draft of more than 8.5 meters.

The density of shipping traffic in SWSC is caused by two main factors, namely the existence of the Indonesia Navy Fleet Base and the Tanjung Perak port of Surabaya. The position of the fleet base as the center of sea defense operations in the Surabaya region and has the largest combat vessel operations in Indonesia. Most military vessels, both the Indonesian Navy Ships and foreign military ships that pass through the central territorial waters of Indonesia, carry out a re-provision of logistics at the fleet pier and automatically increase the density of ship traffic in SWSC.



Figure 2: Layout of Surabaya West Shipping Channel (HTPP, 2015).

The density is also caused by the position of the Port of Tanjung Perak Surabaya as the busiest port in Indonesia. Based on data from Pelindo III Ltd, the number of containers entering Tanjung Perak port in the first semester of 2018 was recorded at 16 310 containers. Then in the first semester of 2019 it jumped to 35 550 containers. The number of visits to the Port of Tanjung Perak continues to increase from year to year, a significant increase in ship visits with an average increase of 9% per year and is predicted to continue to increase in line with the need for sea transportation. The peak of the increase in visits during the last 5 years (2014-2018), occurred in 2018 with the number of ships entering 20 072 units and out of 20 489 units (see Table 1) (HTPP, 2019).

Table 1: Data of Ship Operations Year 2014 – 2018 (HTPP, 2019)

No	Description	Year				
		2014	2015	2016	2017	2018
1	Letter of Sailing Approval:	12	11	10	19	20 489
	▪ Domestic	325	321	780	362	1 761
	▪ International	1 817	2 127	1 631	1 640	
2	Incoming Ship:	12	13	10	19	20 072
	▪ Domestic	431	396	924	044	1 636
	▪ International	1 831	132	1 656	1 812	
3	Ship Out:	12	13	10	19	20 489
	▪ Domestic	325	383	780	362	1 761
	▪ International	1 817	130	1 631	1 640	

3.2. Sea Accidents that Ever Occurred in SWSC

Accidents at sea, which involve ships crossing SWSC, occur frequently. In the 2013-2018 period, there have been 15 ship accidents at sea. These accidents took the form of a sinking ship, a burning ship, a collision ship, and a wrecked ship (see Table 2). As for the accidents, when viewed in more depth, it could be caused by human factors, ship technical factors, or the sea channel conditions. Sea accidents that can be categorized as events caused by human factors in the 2013-2018 period were 12 times (HTPP, 2019). These accidents caused the ship collision, run aground, or burned. The factors of human error are: carelessness caused by overconfidence, because the ship crews have crossed the channel many times, the lack of knowledge and experience of the crew members on matters relating to the safety of shipping, emotional factors of the ship crews when the ships sail in the channel.

Table 2: Data of Ship Accidents in SWSC for the Period 2013 – 2018 (HTPP, 2019)

No	Types of Accident	Ship Name	Types of Ship	Gross Tonnage	Description
1	Col	KM. Jaya Manggala	MB	698	Not sink
		KMP. Selat Madura II	MB	209	Not sink
2	Col	Isa Winner	MB	7 145	Not sink
		KM. Segoro Mas	MB	2 999	Not sink
3	Col	MV. Vinales Ocean	MB	15 884	Not sink
		MV. Atro 2	MB	25 072	Not sink
4	Col	KM. Tanto Hari	MB	5 931	Sink, has been lifted up
		MT. Sirius	MT	2 090	Not sink
5	Col	KM. Journey	MB	2 772	Sink, has been lifted up
		KM. Lambelu	MB	14 649	Not sink
		Fatima II	MB	4 909	Not sink
6	Agr	KM. Elegance	MB	2 486	Aground
7	Col	MT. Navigator A.	MT	18 311	Not sink
		MV. Leo Perdana	MB	27 104	Not sink
8	Bur	KM. M. Sumbawa	MB	3 256	Not sink
9	Col	KM. M. Kampar	MB	6 626	Not sink
		MV. Princess Royal	MB	43 649	Not sink
10	Bur	KM. New Glory	MB	2 354	Not sink
11	Sin	KM. W. Sejahtera	MB	9 786	Sink, has been lifted up
12	Col	KM. Georgia S.	MB	5 532	Not sink
		KM. Intan Daya 9	MB	2 998	Not sink
13	Bur, Sin	KM. Ise Baru	MB	668	Sink, has not been lifted up
14	Agr, Sin	KM. KTC 1	MB	2 200	Sink, has been lifted up
15	Bur	KM. G. Samudra	MB	3 497	Aground

Notes: Col: Collision; Bur: Burned; Agr: Aground; Sin: Sink; MB: Motor Boat; MT: Motor Tanker.

Sea accidents that can be categorized due to of the ship technical conditions are 4 events, in the period 2013-2018. In general, the ships that experienced the accidents sank into the water in the channel. These ships are generally classified as old, so they cannot sail with adequate reliability. Accidents at sea can also be caused by factors related to the conditions of the channel. These factors include: the danger of navigation by the existence of shipwrecks,

the installation of underwater installations that do not meet the standards set by the government. At present there are still 25 wrecks that have not been lifted in the waters of SWSC. Even though the removal of shipwrecks is the responsibility of the Harbormaster and the ship owners, it is often constrained by the very expensive lifting costs. At present, the conditions of several underwater installations in the form of pipes and cables at SWSC are very dangerous for shipping (HTPP, 2019). Natural conditions such as shallow and narrow channel also interfere the scouting of ships when crossing the channel. This is faced with the traffic of ships at SWSC. To overcome this shipping obstacles, various dredging efforts have been made for SWSC by the Government. The success of this dredging had a positive impact on the development of the channel from the beginning with a width of 100 meters and a depth of about -9.5 meters LWS to a width of 150 meters with depths reaching -13 meters LWS. So that it has enough depth to accommodate larger ships (HTPP, 2019).

Investigation of ship accidents is very useful as an evaluation of shipping governance policies in SWSC. The investigation was carried out jointly by several related parties, including the manager of SWSC, and the ship owners involved in the accidents. The results of the investigation are then used by the management and the ship owners in determining improvement efforts. From these reports it can be concluded that the following efforts are needed: (i) providing operational standard for the ship scouting operations; (ii) strict regulations regarding obligations for ship passing, specifically ships with GT 500 or more, are required to use the scouting services of ships provided by the ship's management or officers who have attended education and training as ship scouts; (iii) periodic seafaring safety training for ship crews is required; (iv) installation of transponders/bacon is needed in each buoy in SWSC so that they can be monitored by radar; (v) optimal utilization of AIS (Automatic Identification System) on ships is required; (vi) periodic socialization of national and international regulations on shipping safety in SWSC is required; (vii) it is necessary to increase the number of ship scouts by educating more ship scouts; (viii) joint SAR training is needed, particularly for saving of burning ships; (ix) informing of the position of shipwrecks and underwater installations in SWSC is required; (x) law enforcement is required in terms of installation of underwater installations in SWSC, such as subsea pipelines of oil, gas and water.

4. Discussion

The governance of SWSC is carried out by the Surabaya Main Harbormaster Office, which carries out the Safety and Security functions of Shipping which includes the implementation, supervision and law enforcement in the field of water transportation, ports, and maritime environmental protection at ports. This organization is led by a Harbormaster who is a government official at the port appointed by the Indonesia Transportation Minister. The tasks of the Tanjung Perak Main Harbormaster include: (i) implementation of supervision and fulfillment of ship seaworthiness, ship safety certification, prevention of pollution from ships, and determination of the legal status of ships; (ii) conducting inspection of ship safety management; (iii) implementation of shipping safety and security supervision related to the loading and unloading of dangerous goods, special goods, hazardous and toxic waste, refueling, order of embarkation and debarkation of ship passengers, construction of port facilities, dredging and reclamation, worthiness of sailing and seafaring traffic order in port waters, and shipping channel, scouting and attracting ships, as well as the issuance of Sailing Approval Certificate; and (iv) conducting vessel accident inspection, fire prevention and suppression in port waters, handling disasters at sea, implementing maritime environmental protection and law enforcement in the field of shipping safety and security (GOI, 2008).

In this section, the governance carried out by the Surabaya Harbormaster will be discussed in more detail by breaking it into four main elements of governance, namely: planning, organizing, directing, and controlling (Choliq, 2011). The planning carried out by the Tanjung Perak Main Harbormaster includes the issuance policy of the Sailing Approval and its role in shipping security and safety in SWSC. The policy to fulfill the ship's requirements before sailing in the issuance of the Sailing Approval Letter refers to the provisions contained in the 2014 printed SOLAS 1974 (IMO, 2014), which contains provisions relating to the ship condition, whether the hull, machinery, navigation equipment, or the goods loaded. In addition, before the permission to sail is given by the Harbormaster Surabaya, the ship owners or operators of the ships, for certain types and sizes, must meet the requirements of safety management and prevention of pollution from ships mentioned in Article 169 Paragraph (1) of the Law of the Republic of Indonesia Number 17 Year 2008 about Shipping. Ships that have met the

requirements for safety management and prevention of pollution from ships as referred to in paragraph (1) above, are given certificates. Safety Management Certificate as referred to in Paragraph (1) above is in the form of Document of Compliance (DOC) for companies and Safety Management Certificate (SMC) for ships. Thus it can be concluded that the planning carried out by the Surabaya Harbormaster Office is in accordance with the theory of shipping safety in order to support the smooth running of the ships passing through SWSC.

Organizing carried out by the Surabaya Harbormaster is carried out by governing organizational resources systematically in carrying out the planning based on the leaders' predetermined policies. Organizing is carried out effectively by involving internal units of the organization, as well as other related organizations, especially Pelindo III Ltd, and the ship owners, especially the Naval Fleet II Headquarters. The presence of the Main Harbormaster with the mobilization of the organizational resources is in accordance with the theory and policies of Shipping Safety rules, specifically Law No. 17 of 2008 concerning Shipping, Article 116 Paragraph (1) "Shipping safety and security includes the safety and security of transportation in waters, ports, and also protection of maritime natural environment" and Paragraph (2) "The implementation of shipping safety and security as referred to in Paragraph (1) is carried out by the Government". Thus it can be concluded that the organization has fulfilled the established rules, namely by regulating existing organizational resources, developing the professional fields of each related party, increasing understanding of the responsibilities of each party on an ongoing basis, maintaining the presence of the government in the shipping area SWSC, and assist the implementation of sailing carried out by SWSC users.

The directing carried out by the Surabaya Main Harbormaster is guided by the ISM Code, specifically in the issuance of DOC and SMC certificates. For the Indonesian-flagged vessels, both DOC and SMC are issued by the Indonesian Government (IMO, 2014), while for foreign-flagged vessels, the certificates are issued by the country of origin. Both certificates are valid for 5 years. As for the shipping safety, the Harbormaster is guided by code 2 in ISM, which is the Safety and Environmental Protection Policies. In addition to carrying out controlling activities, the Harbormaster also conducts scouting training and is accompanied by the provision of Scout Certificates. The problems lie in the limitations in this kind of scout training rarely involving Navy personnel so that it affects the quality of the Navy's scout personnel in scouting their ship movement in SWSC. These limitations are caused partly because there are no creative ideas resulting from technology advancement products in the 2018 Transhub Challenge competition which was applied in the field. In the competition, there were several ideas of sea transportation modes, one of which became the second winner of the competition, namely Concecure, an informative application that helps with the administration of ship sailing approval certificates which is based on the consideration of difficulties in the process of issuing the approval certificates. Thus it can be concluded that the directing effort carried out by the Surabaya Harbormaster has not been fully satisfactory, so it has not been able to fully support the shipping operations of the SWSC users.

Controlling in the shipping governance in SWSC is a form of supervision towards the achievement of objectives of SWSC users based on defined order, where the Harbormaster does so by referring to Law Number 17 of 2008, Article 207, which explains that a harbormaster also takes part in search and rescue effort of a ship if the ship has an accident or disturbance when carrying out sailing activities. Control over shipping governance has been attempted on the directing phase that has been implemented previously. But even though it has been implemented optimally, the controlling still has limitations, which are caused by the danger of navigation in the form of shipwrecks and the installation of cables or underwater pipes. The controlling effort is still constrained because the relevant parties, especially the Naval Fleet II, do not have a tugboat and its crews in adequate quality and quantity. Another obstacle is the ship safety training that is still carried out by each stakeholder, which is still sectoral in nature and not yet combined. With reference to these things, it can be concluded that the controlling effort carried out is not yet fully in accordance with the basic functions of control, so it has not fully supported the implementation of shipping in SWSC.

The causes of ship accidents are several factors, namely: ship condition, channel condition, human condition, and natural condition. Ship condition factor includes the ship's physical condition where most of the ships are already old. The channel condition includes navigation hazards caused by the existence of shipwrecks, and underwater installation that does not meet the standards set by the government. Human condition factor includes the crews' carelessness caused by feelings of overconfidence, lack of knowledge, and emotional factors. Ship accidents at

SWSC are currently dominated by human condition factor. Natural condition factor includes the depth and size of the channel which is shallow and narrow, therefore frequently disrupt the ship scouting when crossing the channel. The shipping governance in SWSC currently has gone through four stages in accordance with management theory, namely; planning, organizing, directing, and controlling. The policies issued by the leadership element of each maritime stakeholder in the basic functions of planning, organizing, are in accordance with the theory of shipping safety in order to support the smooth running of the ships passing through SWSC, so that it is stated that shipping governance at SWSC, in terms of planning and organizing SWSC governance has been achieved. As for the basic functions of directing, and controlling, they are not yet fully in accordance with the management theory, so SWSC governance in terms of directing and controlling has not been fully achieved, there are still some weaknesses.

Acknowledgments

In this opportunity, I would like to express my gratitude and appreciation to several parties who have supported the research. They are the Indonesian Defense University staff, which have provided moral and material support, Pelindo III Ltd, and Officials from the Harbormaster of Surabaya Port, who have provided the information needed for this research. I also express my gratitude and appreciation to several officials from the Faculty of Defense Strategy, Indonesian Defense University, for their assistance in preparing this article.

References

- Bungin, B. (2011). *Penelitian Kualitatif*. Jakarta: Kencana Predana Media Group.
- Choliq, A. (2011). *Pengantar Manajemen*. Semarang: Rafi Sarana Perkasa.
- Government of Indonesia [GOI]. *Law Number 17 Year 2008, concerning Shipping*.
- Harbormaster of Tanjung Perak Port [HTPP]. (2015). *Annual Report*.
- Harbourmaster of Tanjung Perak Port [HTPP]. (2019). *Annual Report*.
- International Maritime Organization. 2014. *Safety of Life at Sea, 1974*.
- Pratama, A. M. (2019). *Arus Peti Kemas di Pelabuhan Tanjung Perak Melonjak 218 Persen*. Retrieved from <https://money.kompas.com/read/2019/08/05/061400626/arus-peti-kemas-di-pelabuhan-tanjung-perak-melonjak-218-persen>
- Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung: Alfabeta.