



# Analysis Of The Crew's Understanding Of Safety Equipment On The MV ATHENA

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**Abstract.** Work safety equipment is specially designed to protect against workplace injuries and hazards. It is essential that all crew members on board consistently use and pay attention to safety equipment to prevent accidents. This research was conducted on the MV Athena, a vessel owned by Global Freight Shipping Co. Ltd., over one year from January 13, 2023, to January 14, 2024. Primary data was collected directly at the research site through observations with officers and ship crew, focusing particularly on the deck crew. Supporting literature related to the research topic was also reviewed. The findings indicate that a lack of awareness and understanding of safety equipment on board can lead to work accidents on ships.

**Keywords:** Safety, Accident, Understanding, Using.

## 1 Introduction

In the workplace, tasks can be completed either individually or collaboratively within an organization or group. This collaborative effort ultimately produces products and services, whether in shipping companies or other industries. All companies expect their employees to perform their roles to the best of their ability while fostering safe working conditions. These safety measures are intended to ensure that employees can work effectively without compromising their well-being. Workplace safety initiatives aim to establish a secure work environment and prevent all types of accidents.

Working on a ship involves significant risk, so it is essential for workers to follow established work procedures and prioritize safety at all times. Additionally, each crew member must be equipped with personal protective equipment (PPE), including helmets, safety shoes, gloves, safety harnesses, and other safety gear. This equipment is vital to ensure crew safety and reduce the risk of workplace accidents.

Despite the inherent risks of working on a ship, many crew members still take their safety for granted, often neglecting to use safety equipment and not fully understanding the work procedures established by the company. This oversight can be hazardous. For instance, a crew member not wearing a safety helmet faces a much higher risk of serious injury if struck by a hard object compared to someone wearing proper protection. Such incidents raise concerns about why many crew members disregard safety protocols and

overlook the importance of personal protective equipment in ensuring their safety on the job.

The sinking of the Titanic on its maiden voyage marked a pivotal moment in maritime safety, leading to the establishment of numerous regulations to protect lives at sea. Once hailed as the largest and safest ship of its time, the \*Titanic\* disaster was largely attributed to inadequate safety measures and poor handling of the ship's emergency protocols by the crew. This tragedy underscored the need for prioritizing safety in the maritime industry, prompting maritime nations to convene and create global conventions focused on safety standards to prevent such incidents in the future.

## **2 Literature Review**

### **2.1 Understanding Analysis**

According to Wiradi (2006: 103), analysis is an activity encompassing several tasks, including understanding, distinguishing, categorizing, and organizing items based on specific criteria. This process aims to uncover the meaning and relationships within the elements analyzed.

### **2.2 Understanding**

Widiasworo (2017: 81) defines understanding as the ability to integrate or connect new information into a "complete picture" within the mind. This involves associating new information with previously learned knowledge stored in our brain's memory, creating a cohesive framework of understanding

Understanding is a psychological process related to an abstract or physical object, such as a person, situation, or message, in which a person can use concepts to model that object. Understanding is the relationship between the knower and the object of understanding.

## **3 Research Methods**

Quantitative research involves extensive use of numbers throughout the stages of data collection, data interpretation, and presentation of results. After administering a questionnaire, data is gathered and analyzed, often using a Likert scale to assess responses systematically.

In making or completing this thesis, concrete data is needed as material for analysis in writing the main material and problems. The method used to obtain the researched data according to the author's experience while carrying out marine practices is as follows:

1. Field method (field research), namely research carried out by conducting direct inspection of the object being studied. Data and information are collected through:

- a. Observation, namely conducting direct inspections or observations in the field when the author carries out sea practices on the MV ATHENA.
  - b. Interview, namely collecting data by holding questions and answers directly with ship officers and ship crew members.
  - c. Raise, namely by making a questionnaire and asking the respondents, namely the officers on the ship and the helmsman on the ship.
2. A literature review, or library research, involves studying relevant literature, books, and writings related to the issue at hand. This approach helps to establish a theoretical basis for discussing solutions to improve the implementation of bridge guard duties, which often face operational challenges.

## 4 Results And Discussion

In line with the research title, "Analysis of the Crew's Understanding of Safety Equipment on the MV ATHENA," the author aims to provide readers with a general overview of the research object. This will help readers gain a clear understanding of the conditions and events related to safety equipment usage on board the MV ATHENA.

In this study, the author focuses on the MV ATHENA, a container ship originally named MV PUNTA ARENAS CHALLENGER. The ship was built in Japan in 1999 and is constructed from steel.

The MT ATHENA, previously known as the MT PUNTA ARENAS CHALLENGER, is operated by Global Feeder Shipping Co. Ltd., based in Dubai. Before it was acquired by Global Feeder Shipping Co. Ltd., the ship was part of a fleet of 26 container ships and was operated by Sea Change Maritime Pte. Ltd., a shipping company based in Singapore. During this time, the vessel was still called Punta Arenas Challenger and was primarily used for container loading. After its acquisition by Global Feeder Shipping, the ship's name was changed to MV ATHENA, and it now operates in the Ocean Going shipping area.

In conducting research, the author used quantitative data collection techniques in two ways, namely questionnaires and observation. In collecting questionnaire data, samples are needed as objects to obtain research data. The following are the respondents used as research samples by the author.

### 4.1 Questionnaire Technique

In this technique, the author looks for data about the knowledge of the watchmen, namely the officer and crew, to understand procedures regarding safety equipment on the ship.

**Table 1.** Name Of Crew Mv Athena.

No	Name	Date Of Birth	Nationality	Rank
1	Yevgeniy	11-Jul-89	Ukrainian	Master

2	Nishant Mhatre	04-Jan-86	Indian	Ch. Officer
3	Abelardo Casas	05-Okt-76	Philipino	2nd. Officer
4	Valerii Zamiatkin	27-Sep-97	Ukraine	3rd. Officer
5	Le Van Trung	23-Apr-86	Vietnam	Ch. Engineer
6	Nguyen Ductrieu	24-Aug-86	Vietnam	2nd. Engineer
7	Moh Faisal Azam	18-Jul-94	Bangladeshi	3rd. Engineer
8	Ihor Ruban	11-Sep-99	Ukranian	4th. Engineer
9	Virnando	17-Nov-63	Indonesian	Eng. Electrician
10	Kamruzzaman	10-Feb-60	Bangladeshi	Boatswain
11	Anand Salil	03-Apr-97	Indian	Ab 1
12	Ilyas Sapada	06-Jun-79	Indonesian	Ab 2
13	Lowelvalles	07-Seb-74	Philipino	Ab 3
14	Saurabh Deepak	27-Nov-95	Indian	Os
15	Dhiraj Pratap	11-Dec-95	Indian	Oiler 1
16	Fernando	18-Dec-85	Sri Lankan	Oiler 2
17	Md Ashik Ali	11-Nov-98	Bangladeshi	Oiler 3
18	Yash Vijay	22-Apr-03	Indian	Wiper
19	Kushi Ramol	27-Apr-00	Indian	Fitter
20	Oskar	27-Okt-67	Indonesian	As. Electrician
21	Riyas Mohd	15-Aug-90	Indian	Ch. Cook
22	Amandeep Jamwal	12-Feb-96	Indian	Steward

**Table 2.** Crew data working on MV. Athens based on position level.

Position Level	Total	Percentage
Officer	8	32 %
Crew	16	64 %
Cadet	1	4 %
Total	25	100 %

*Source: data that has been processed*

**Table 3.** Respondents' responses regarding understanding of safety equipment on the MV ATHENA.

No.	respondent's response	Classification						To tal	Percenta ge
		Office rs	Perc enta ge	crew	Perce ntage	cade t	Perce ntage		
1.	Very Understand	8	100 %	-	-	1	100%	9	32.%
2.	Understand	-	-	4	16 %	-	-	4	16%
3.	Understand	-	-	5	20 %	-	-	5	20 %
4.	That's enough to understand	-	-	7	28 %	-	-	7	28 %
	Don't understand yet	-	-	-	-	-	-	-	-
	TOTAL	8	100 %	16	100 %	1	100 %	25	100 %

Source: MV ATHENA, year 2023

The data presented above was collected through a questionnaire administered to the entire crew of the MV ATHENA. The questionnaire consisted of 10 true or false (B-S) questions, where each correct answer earned a score of 10 points. The highest possible score was 100, and the lowest score recorded was 30, based on the responses from the crew members.

The following is the distribution of the values for the level of understanding of the ship's crew:

$$\text{Mean} = (\text{Highest value} - \text{Lowest value}) : 2 \tag{1}$$

$$\text{Mean} = ( 100 - 0 ) : 2 = 50$$

$$\text{Standard deviation} = (\text{Highest value} - \text{Lowest value}) : 6 \tag{2}$$

$$\text{Standard deviation} = ( 100 - 0 ) : 5 = 16.7$$

$$1. \text{ Mean} - 1.5 \text{ sd} = 50 - (1.5 \times 20) = 20$$

$$2. \text{ Mean} - 0.5 \text{ sd} = 50 - (0.5 \times 20) = 41$$

$$3. \text{ Mean} + 0.5 \text{ sd} = 50 + (0.5 \times 20) = 60$$

$$4. \text{ Mean} + 1.5 \text{ sd} = 50 + (1.5 \times 20) = 80$$

So the following categorization of levels of understanding is obtained

$X \leq 20$ : Don't understand

$20 < X \leq 40$ : Don't understand yet

$40 < X \leq 60$  : Fairly Understand

$60 < X \leq 80$  : Understand

$80 < X$  : Very Understanding

From the data presented in the table, it is clear that 100% of the officers on board have a very good understanding of safety equipment, indicating excellent knowledge in this area. On the other hand, among the ship's crew, 32% have a good understanding, 20% have a moderate understanding, and 28% have a limited understanding of safety equipment. This suggests that while some crew members are familiar with safety equipment, there is still a significant portion of the crew (28%) who lack sufficient understanding. Therefore, efforts are needed to improve the understanding of safety equipment among the ship's crew, ensuring better overall safety awareness and compliance on board the MV ATHENA.

## **5 Conclusions And Recommendations**

### **5.1 Conclusion**

Success in safety efforts can be best achieved when we understand the factors that contribute to work accidents. By identifying these factors, we can determine the necessary steps to prevent accidents caused by human error or other factors on ships. It is crucial to understand the dangers of work accidents, as they pose significant risks to the safety of life on board. Ensuring that both the ship and its crew operate safely is essential for maintaining a secure and efficient work environment at sea. With proper safety measures, training, and awareness, the risks of accidents can be minimized, leading to safer operations.

Based on the results of the research and discussion regarding the importance of understanding and operating life safety equipment for crew members on the MV ATHENA, the researchers concluded that the majority of the crew on board the vessel still lack sufficient knowledge on how to properly use or operate the safety equipment. This lack of understanding can be attributed to the absence of proper training or socialization before the crew members began their duties on the ship. Shipping companies need to implement training programs and safety drills to ensure that all crew members are well-informed and prepared to handle safety equipment in case of an emergency.

### **5.2 Suggestion**

1. It is best to hold training for ship crew regarding safety on board the ship, as well as holding safety meetings to evaluate safety deficiencies on board the ship.
2. It is best to carry out routinely and periodically scheduled safety drills by requiring all crew to take part in the safety drills.

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