

## THE UNDERCURRENT OF SHIP MANAGEMENT COMPANY IN MALAYSIA: A CASE STUDY

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### ABSTRACT

Shipping industry faces several challenges across the globe. The issues are at Environmental conditions, technical failures, human errors, and cargo related factors etc. In order to explore those challenges in Malaysia, a study was conducted in SeaOffFarer industry. The study followed qualitative case study methodology to explore and explain the issues. The outcomes of the study provide better insight into the risk factors pertaining to shipping industry.

### RESEARCH BACKGROUND

Shipping is one of the risky industries in the world (Solmaz, 2020). Environmental conditions, technical failures, human errors and cargo related factors are the main factors causing accidents on ships (Veluplay G.K., 2020). This case study focuses on a ship management company, known to be a premier provider of marine and offshore solutions. Located in the heart of city in Malaysia. For the purposes of this case study, it will be identified as **SeaOffFarer** throughout the narration of this paper. **SeaOffFarer** was founded in 2006 and had since being witnessed as a ship management company capable in offering premier services to its clients. Among the services provided include complete technical and crewing management services, planned maintenance system, safety management system. Other services offered include surveys, towage, ship repair, docking, boarding and transportation, among many other ship management related services. This ship management company is also a member and agent of Malaysia Shipowners' Association (MASA), capable of obtaining DSL certificate to foreign flagged

vessels trading in Malaysian waters. **SeaOffFarer** is among the many ship management companies in Malaysia that assume a significant role in the integrated maritime transportation system. However, just as how every organization including multinational companies experience challenges amid Covid19 pandemic, **SeaOffFarer** is also not spared from organizational crisis.

## **PROBLEM STATEMENT**

Some top challenges facing the shipping industry currently such as the requirement in fulfilling International Maritime Organization (IMO) CO2 emissions regulations, financing issues in adapting Environmental, social and governance (ESG), the capability in adopting climate goals through climate alignment initiative such as The Poseidon Principles, Safety Management Systems will need to document compliance, head hunting for suitable leader in navigating the shipping business, embracing new technologies, and capital market issues (Charles, 2020). The turbulence facing the shipping industry has been a long-standing issue, citing Malaysia Shipowners Association (MASA), which highlighted the shipping industry in Malaysia has been overwhelmed by rising operating costs, including higher fuel and manning costs and poor market conditions (BorneoPost, 2013). The climate of the shipping industry is further enflamed by the rage of Covid19 pandemic, causing disorderliness leading to port congestions, disordered supply chain, shortage and stranded of shipping crew, insurance conundrums due to the disruption of shipping and logistics, and legal disputes (TheMaritimeExecutive, 2020). However, scarcity of research is apparent to understand the tacit factors influencing the ship management company's performance failures. This study aims to explicate the problem, which is the frequent vessel downtime, by using fishbone analysis and offer applicable strategies in addressing the issues raised.

## **METHODOLOGY**

This study assumes relativist ontology, citing Guba & Lincoln, 2005) with the assumptions that there exist multiple, socially constructed realities unguided by natural laws (Yasir, 2019). Based on epistemological stance of interpretivism which is subjective epistemology (Yasir, 2019), this study serves to obtain understanding of the social phenomenon under study and acknowledge the importance of participant's subjectivity as part of this process (Yasir, 2019). The complexity of phenomena and rare events such as corporate failures, justify for a case study (Boodhoo, 2009). This will help to elucidate how events occur, therefore will provide useful insights for business organizations (Boodhoo, 2009).

Ethical aspects were given considerations, whereby the privacy and confidentiality of organization and individuals participated in the study remain protected during and after the completion of research process, which explain the use of SeaOffFarer as the fictitious name replacing the actual name of the ship management company operated in Malaysia. Corresponding with this study's interpretive stance along with abductive research logic, the empirical material focused on the experiences of actors, which helped in explaining the process that potentially led to the issue raised, highlighting the vessel downtime frequently experienced by shipping companies.

Themes generation and coding is the most recognized and used analysis method for qualitative empirical material (Yasir, 2019). These qualitative empirical materials were obtained through informed consent before conducting the recorded interviews. Subsequently, the fishbone diagram was chosen among others because it is a common tool used for a cause-and-effect analysis to identify a complex interplay of causes for a specific problem or event (Mohammed, 2020). There are a total of seven transcriptions of audio recording from the interviews conducted. The excerpts will be shown in the analysis section.

### **APPLYING FISHBONE DIAGRAM IN THE CONTEXT OF SHIP MANAGEMENT COMPANY**

Known as Ishikawa diagrams or cause-and effect diagram, and widely known as Fishbone Diagram, is a graphical technique to indicate several causes of a specific event or phenomenon (Coccia, 2020). This study firstly conducted by identifying the six classic variables as proposed by Ishikawa (1968) which are equipment, people, process, material, environment, and management (Fajar, 2019). The issues faced by SeaOffFarer can be dissected into six-point analysis, in line with Ishikawa's proposed six variables.

Firstly, issues may derive from **people**. The nature of maritime transportation that is constantly exposed to collision, explosion, external hazards, machinery failure, fire, flooding, handling equipment failure (Burcu, 2020) requires every crew on the vessel to be highly competent, and with extreme emphasis on high level of accuracy of work output. Issues with people also involve with the work culture of offshore and onshore crew. Given the high risk high reliability nature of shipping activities, the work culture leans heavily towards maritime safety. Second, the **work processes**, including standard operating procedures (SOP) are simplified and must be easily comprehensible by each and every crew on board in order to achieve safe, consistent and targeted

result. Thirdly, **equipment's** in a shipping company are referred to the whole main and essential equipment onboard the ship. Fourthly, the **materials** involved in a shipping company include deck and engines spares, hand tool and wrenches, hoses, and couplings, valves and pipefitting, lifting slings, shackles, wire ropes. Fifthly, **management** in a shipping company, on the other hand, are referred to onshore and shipboard management system, also considered as what is commonly known as key performance index (KPI). Ship management company, as the name proposed, is operated by independent companies as in the case of SeaOffFarer, and manages ships for the ship owner. Lastly, **environmental factors**, such as wave conditions are factors which restricts offloading operations and leads to downtime in Malaysian waters (Patel, 2020). Figure 1 illustrates the first stage of fishbone analysis by placing the six main variables specific to ship management company.

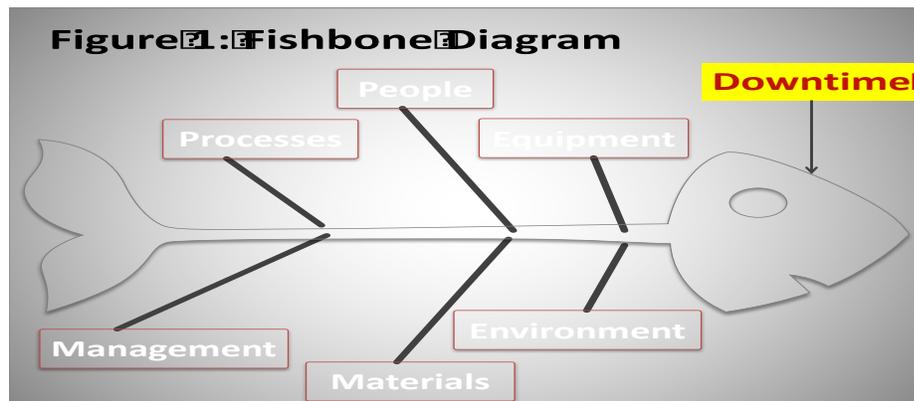


Figure 1: 1<sup>st</sup> Stage

The second stage is by plotting the 7 empirical materials transcribed from the recorded conversations obtained from the research participants onto the fishbone diagram, which is illustrated in Figure 2. The following are excerpts from the research participants that will be plotted into the fishbone diagram.

**Research participant 1:** *“Vessel down time caused by break down of main machinery onboard. The root causes could be poor planned maintenance, lack of spares, poor enforcement system, poor communication, and feedback from the vessel, etc on the technical and human operation issues”.*

**Research participant 2:** *“Over spending in operational cost that already has been budgeted and accounted for. The huge cost involved is normally for unforeseen breakdown of the essential equipment, poor planning and coordination of spares, emergency engagement of contractors with open quotation, poor trouble shooting methods and wrong expertise used for wrong job, poor quality of seafarers, etc”.*

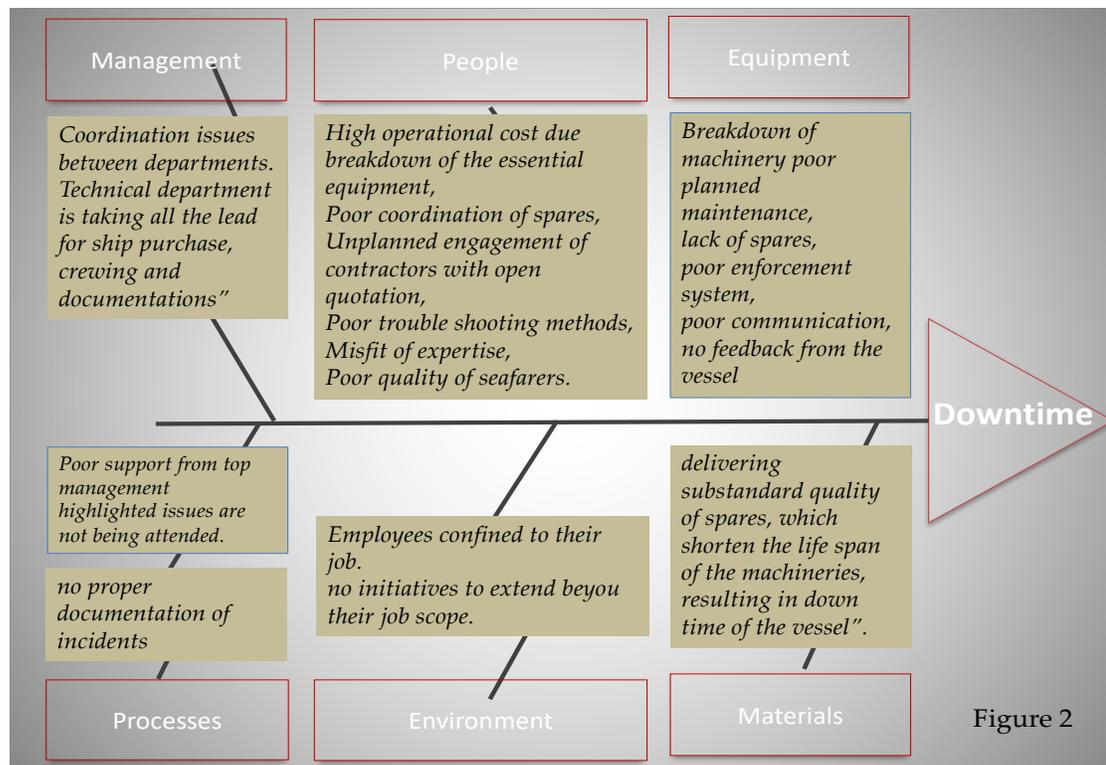
**Research participant 3:** “There were times, due to cost cutting initiatives and non-availability of ready spares in the market, SeaOffFarer resort to delivering substandard quality of spares, which shorten the life span of the machineries, resulting in down time of the vessel”.

**Research participant 4:** “There were coordination issues between technical department with other departments. Technical department is taking all the lead for ship purchase, crewing and documentations”. With only one person to do the various job functions, it’s not likely for one person to manage the various workload.

**Research participant 5:** “In technical side, SeaOffFarer could see that most of key staffs are limiting the job scope to their territory without bother to do more. This is limiting the company to progress further”.

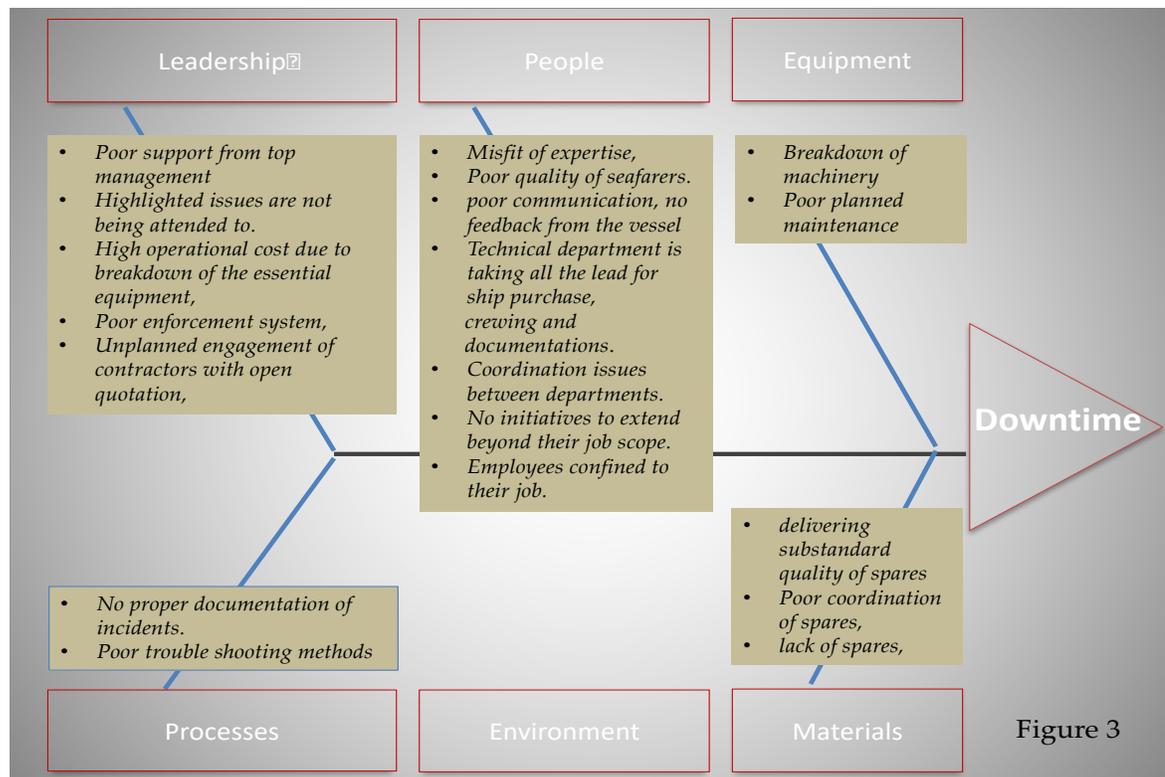
**Research Participant 6:** “The support from top level management is difficult as the highlighted issues are not being solved at high level” - In order for company to perform and progress well, SeaOffFarer needs company team members to share the workload equally and come out improved and efficient system for all team members”.

**Research participant 7:** “There is no proper documentation to the statistic of incidents captured for case study to prevent recurrence and also serve as learning curve for sea staffs in other vessels for better operational improvement”.



**Figure 2: Stage 2 Analysis**

Stage 2 analysis (Figure 2) displays all the main excerpts that have been plotted in the fishbone diagram. The completion of the stage 2 analysis will enable a view of some mismatches between the issues raised and the variables being plotted. Based on Figure 3 as shown below, the plotting is further refined by narrowing the elements that are most fitting for each of the six elements. For example, coordination issues between department should be moved to processes; poor support from management should then be moved to management; high operational cost due to breakdown and unplanned engagement of contractors with open quotation should also be moved to management; employees confined to their job with no initiatives to perform beyond their job scope should be plotted under processes.



**Figure 3: Stage 3 Analysis**

The completion of stage 3 analysis (Figure 3) will allow a graphic understanding of the issues that are mainly concentrated in people, followed by leadership issues, materials, processes, and equipment. The following section provides an elaboration on the analysis findings.

## CRITICAL ANALYSIS

This section provides a critical analysis, supported with most recent literatures to explain the rationale of the issues raised by the research participants. Discussion includes refining the causes and effects to vessel downtime, which lead to only five elements, arranged in ascending order of their concentration, which are equipment, processes, materials, leadership, and people. Discussions are as follows:

### **Equipment**

Maintenance is defined by the causes that motivate actions of maintenance initiate, which has evolved from corrective maintenance to preventive maintenance, up to condition-based maintenance (CBM), an approach that initiate maintenance according to the status of the component, monitored with methods ranging from visual inspections to continuous sensor-based analysis with real-time process data (Veronica, 2020). The main objective of maintenance is to minimize the frequency of failure in equipment that will lead to vessel downtime (Veronica, 2020). Therefore, the breakdown of machinery and poor planned maintenance leading to vessel downtime as the main concerns raised by the research participants are legitimate.

### **Processes**

Maritime safety is defined as a situation in which the threat of a marine casualty that could cause harm to a person or damage to either the environment or property is kept to an acceptable level (Dorota, 2020). Research participants' concerns over no proper documentation of incidents and poor trouble shooting methods are also justifiable as it is mandatory for shipping industry to conform to International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management Code – ISM Code), which was adopted by the International Maritime Organization (IMO) and is mandatory to be complied by all ship operators (Dorota, 2020). It was reported that enhanced safety-related training, trusting relationships among crewmembers, safety-oriented culture, and feedback on reported near-misses positively related to a higher reporting frequency (Nermin, 2020). Seafarers' challenges in identifying near-miss events was found to be one of the major barriers to efficient near-miss reporting at sea (Nermin, 2020). Reporting culture is also discouraged due to fear of blame, getting someone into trouble, guilt, and embarrassment (Nermin, 2020). Therefore,

SeaoffFarer had compliance issues as the seafarers were not following the standard operating procedures outlined.

### **Materials**

The concerns raised by the research participants with regards to the poor quality of vessel spare parts that they believed to be the cause of the vessel downtime are also valid. The challenges in managing spare parts in the context of shipping industry can be observed from the issues of storage which may incur additional warehouse cost, degradation issues, demand prediction problem (Kian, 2019). The unavailability or poor quality of spare parts can lead to long machine downtimes or disruptions in the relevant production or service system (Kian, 2019). Therefore, the conventional forecasting methods that SeaOffFarer is adopting are suggested to be inefficient, as it ignores the condition of the shipping system in which spare parts are used, subsequently leading to poor demand forecast and disorganized management of spare parts (Kian, 2019).

### **Leadership Issues**

It was claimed that several changes to the structure of the shipping industry, that influence employees' deviant behavior, such as the rise in ship owners' use of ship management company, ship owners' ability to source seafarers from cheaper labour supply countries, downsizing which lead to the bare minimum requirement of seafarer, and from permanent to contract work arrangement (Helen, 2020). Research participants' concerns such as poor support from top management whereby their grievances were not being attended to may be relevant to the issue of SeaOffFarer, being the ship management company's responsibility in managing the seafarer, therefore the ship owner has no direct relationship with those on board the vessels they own (Helen, 2020). Downtime or failure of any part of the ship will likely to increase the operational cost (Burak, 2020), which corresponds with research participants' concerns over *high operational cost due to breakdown of the essential equipment*. Another concern is the poor enforcement system, which could relate to leadership issues, such as inaccurate safety management, poor financial management, unauthorized engagement of contractors with open quotation, insufficient training which are often associated with the failure of leadership to establish safety culture (Kim, 2017).

### **People**

Juggling between requirements and satisfaction of the crew with the corporate interests of the ship makes a ship management company's role increasingly challenging (ATPI , 2018). SeaoffFarer appeared to be experiencing human

resource issues involving people and work culture. Under Flag of Convenience (FOC), FOC registries do not impose restrictions on nationality of seafarers, therefore allowing ship owners and ship management companies to employ seafarers of any nationalities from labour supply countries (Lijun, 2021). It was also observed that shortages of qualified seafarers have been a dominant concern (Lijun, 2021). Given these fact, the misfit of expertise, poor quality of seafarers, poor communication between crew and management, seafarers confining job to their own, unwillingness to extend beyond their job scope is explicable. Further, SeaOffFarer is also experiencing coordination issues between departments that indicate communication and teamwork is hindering the smooth operational activities. However, the need to create a safety work culture as a condition for sustainable shipping, including the safe operation of ships in the environment (Dorota, 2020), emphasize the crucial need to address these people issues including unskilled labour issues to mitigate any forms of miscommunication that could eventually lead to vessel downtime.

It is worth investigating whether SeaOffFarer falls to the group of ship management companies that are inclined to recruit seafarers from cheap labour supply countries, as seafarers from these countries are often associated with disputed labour standard and substandard training qualities (Lijun, 2021). It is also justifiable to understand the nature of seafaring profession that is physically demanding, harsh and dangerous (Lijun, 2021). The seafarers often are deprived of adequate sleep to the point of fatigue (Lijun, 2021). According to Pollard et al (1990), downsizing has a negative impact on seafarers' fatigue, which in turn adversely impacts on occupational health and safety (Helen, 2020). Therefore, unfair workload distribution experienced by the SeaOffFarer's technical department crew may lead to work intensification that could compromise the safety not just the seafarer but the vessel as a whole.

## **STRATEGIC INTERVENTIONS**

The gravity of the issues faced by SeaOffFarer are organized in ascending order, in which SeaOffFarer is confronted with maintenance issues, followed by compliance issues, subsequently spare parts issues. Discussion is then focused on two main issues that SeaOffFarer will need to pay extra attention, which are leadership issues and people issues. The way forward in addressing the challenges experienced by SeaOffFarer is by revisiting these five areas. The following are some proposed interventions that could be referred to as guidelines:

## **Maintenance**

SeaOffFarer is suggested to ascertain which approach of maintenance that is currently being practiced, and to determine the feasibility and suitability of preventive, corrective, or condition-based maintenance in addressing the problems of machineries breakdown. This will help to improve the rapidity and exactness in their maintenance decision making (Veronica, 2020). SeaOffFarer may consider implementing maintenance onboard ship using maintenance management software. A planned maintenance system (PMS), which is now known as computerized maintenance management system (CMMS), which is a software solution allows operating personnel to plan, perform and document the maintenance procedures for system onboard at time intervals in accordance with the manufacturer requirements (Dragoş, 2020).

## **Compliance Issues**

The seriousness of non-compliance in work processes especially in high risk and safety-centric work condition such as shipping industry can never be compromised. A near-miss management system in shipping provide valuable instruments for enhancing safety onboard vessels (Nermin, 2020). Citing Oltedal (2011) highlighting the role of ship management companies in managing crew whereby ship owners had lost control over the evaluation of qualification, competency and training of the crew selected to man the ship (Yogendra, 2015). SeaOffFarer as a ship management company will need to revisit the work processes to incorporate standardized and comprehensible work processes with enforcement on safety culture. This will help in ensuring that every crew regardless of nationalities being recruited is able to comply.

## **Management of Spare Parts**

SeaOffFarer may consider adopting a more effective asset management strategy that combines advanced data analytics with maintenance and operational experience to reduce unplanned downtime (Subrat, 2020). This should help in addressing the non-availability, and late arrival of spare parts that are causing the vessel downtime.

## Leadership Issues

In one study conducted in Hong Kong reported the effects of national culture and leadership style on safety performance in bulk shipping companies. Study outcome indicated captain's leadership skills as an important factor affecting seafarers' safety behaviours (Chin-Shan, 2016), with transformational leadership being positively related to safety behavior (Chin-Shan, 2016). Citing Bass and Avolio (1997), transformational leadership advocates on individualized interaction, bring about better exchange quality and greater concern for welfare (Chin-Shan, 2016). This will help to address the issue faced by SeaOffFarer, with the presumption that SeaOffFarer employs crew of multi nationalities. In the selection process for potential top management position, including Captain, SeaOfffarer may consider transformational leadership skills as part of the criteria to be possessed by the potential leader candidate during the recruitment process. With the selection of suitable leadership, SeaOffFarer will not only address the poor enforcement system, but will enable SeaOffFarer to better manage any forms of unauthorized engagement of contractors, that could jeopardize the need in adhering to safety compliance.

## People Issues

Given the automation that is gradually taking place which had allowed redistribution of operational duties between machines and human, (Steven C. M., 2020), the number of crew operating in one vessel has reduced dramatically. This situation is relevant to what research participant 4's statement, which is, "*....with only one person to do the various job functions, it's not likely for me to manage the various workload.*" SeaOffFarer will need to revisit the work processes so as not to impact on the crew's work-rest balance.

Some suggestions from the research participants, that should be taken into considerations include:

- To enhance and upgrade superintendent's skill set and competency level by internal and external training.
- To provide continuous and regular training to all crew to ensure competency level achieve standardized level.

- There should not be double standard in terms of safety. To ensure all crew including all management levels adhere to the standard operating procedures outlined.
- To revisit the work processes, including preventive and planned maintenance system that must be stringently followed.
- It is imperative for superintendent in-charge to walk around and maintain frequent ship visit. This will not only help by understanding the actual situations onboard, but also to offer a powerful message to all seafarers in terms of top management's concern with seafarers' performance, but also their overall well-being. This will help in elevating communication barriers given the multi nationalities of seafarers.
- There were poor design issues that were not being repaired due to non-compliance of reporting procedure.

## **CONCLUSION**

It is undoubted that shipping industry is lagging behind in terms of digitization. However, the issues faced by SeaOffFarer, which encompasses the overall management of people, machineries, spare parts, safety compliance issues, and most of all, leadership issues may justify the need, as suggested by Alexandros (2020), for remote monitoring of shipping and vessel digitization that could be applied in a gradual way beginning from areas of critical importance. Myriads of factors shipping industry is facing now that persuades a more effective management of shipping. Therefore, with safety as the background, SeaOffFarer should seriously consider moving towards digital transformation as a way of reducing cost with the objective of increased profits, but also systematically managing the efficiency and monitoring of the operational activities of the vessel and people.

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