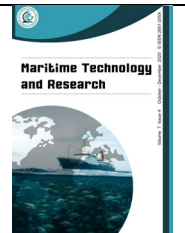




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Research Article

## Factors influencing seafarers' human rights preservation onboard

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| Article information   | Abstract   |
|---|--|
| Received: December 24, 2024<br>Revision: March 9, 2025<br>Accepted: April 1, 2025                                       | Seafarers often face significant threats to their rights and safety due to harsh working conditions, long periods of isolation, and inadequate legal protections. Asian seafarers, especially those from Bangladesh, are also affected. This study identifies the criteria or factors influencing the preservation of human rights for seafarers and evaluates the current situation of Bangladeshi seafarers onboard through an analysis of key categories including physical and working conditions, employment and social welfare, health and safety, crew well-being and social support, and regulatory compliance and enforcement. The Best Worst Method (BWM), a multi-criteria decision-making (MCDM) approach, is used to rank 19 sub-factors to assess the current state of human rights preservation for seafarers on board. Compared to other MCDM approaches, the BWM offers more consistent weighting rules, requires fewer pairwise comparisons, and provides more dependable findings, with fewer expert inputs. The research findings indicate that accommodation standards, monthly wages, personal protection equipment, food and catering, and maximum/minimum working hours are being effectively maintained onboard. The challenges faced in preserving human rights onboard include, safe working environment, compliance and enforcement (MLC, ILO, National Laws and Regulations), seafarers, their families and allies' security, equal gender opportunities, and the prevention of accidents and injuries. The study's findings can provide guidance to ship owners, ship management firms, policymakers, and other relevant entities in safeguarding and improving the preservation of human rights for this vital workforce. |
| <b>Keywords</b>   |  |
| Seafarer;<br>Human rights;<br>Best worst method;<br>Multi criteria decision making;<br>Employment rights;<br>Bangladesh |  |

### 1. Introduction

The maritime industry is essential for transoceanic trade, and seafarers are indispensable in enabling it (Bagoulla & Guillotreau, 2016). According to Couper (2000), seafarers are essential for the functioning of this industry. They exercise authority over the world's oceans and dedicate a significant amount of time away from their residences to ensure the seamless operation of maritime transportation. This maritime labor is comprised of individuals from various countries, including Asian countries like Bangladesh, Philippine, Indonesia, China, etc. (Islam et al., 2019). However, the safeguarding of the human rights of seafarers is a matter of concern nowadays (Zhang et al., 2019). The maritime industry encounters significant challenges in safeguarding the human rights of seafarers (Zhang et al., 2019). Mariners frequently encounter perilous situations due to the hard realities of life on the ocean, including protracted isolation, demanding working conditions, and restricted access to legal safeguards (Zhang, 2016). In the last two decades, the Asian maritime industry has flourished.

Over 50,000 seafarers from Bangladesh have been employed on different international ships since the beginning of the 20th century (Islam et al., 2019). Maritime workers from Bangladesh and other Asian countries face specific threats to their safety and rights on the job (Galam et al., 2024).

Moreover, seafarers are already at a high risk of harm due to the unpredictable nature of their job (Jensen & Oldenburg, 2019). The human rights preservation of seafarers also includes structural problems, like cultural prejudices (Zhang et al., 2019), which keep people in the industry exploited and unequal, as well as regulatory gaps and weak enforcement procedures (Thomas et al., 2003).

In light of these circumstances, and given the increasing emphasis on safeguarding the human rights of seafarers, it is crucial to examine the elements that impact the protection of these rights (Guillot-Wright, 2017), especially during times when motivated and skillful seafarers are in high demand (Bagoulla & Guillotreau, 2016). While research on seafarers' human rights preservation exists, limited attention has been given to identifying the key factors influencing their protection onboard. This study seeks to fill that gap by identifying and analyzing the factors that impact the safeguarding of seafarers' human rights in the maritime industry. This involves examining the related literature, existing laws, regulations, and practices within the maritime industry that strive to safeguard the rights of seafarers. Additionally, the study investigates the current situation of human rights preservation of Bangladeshi crews onboard. To achieve this objective, the study utilizes the Best Worst Method (BWM) which is a multi-criteria decision-making (MCDM) approach. This method is used to uncover and rank the specific variables that protect the human rights of seafarers. With the aim of illuminating the safeguarding of human rights in the marine sector, this study seeks to offer guidance for endeavors that guarantee equal treatment for all seafarers, irrespective of their nationality or citizenship.

The study's primary constraint is the localized study group. In addition, the BWM approach depends on the opinions of experts, which might be biased, and which may lead to inconsistent results if the experts are not properly selected based on their knowledge and background. The study examines the previous literature regarding the safeguarding of seafarers' human rights in the subsequent section. The next three sections after the literature review are dedicated to methodological analysis, analysis, and findings and discussion. Finally, the study finishes with a conclusion.

## **2. Literature review**

Since the concept of careers began, seafarer human rights conditions have often been suboptimal. Both the pre-employment and post-employment preservation of human rights are critical to ensuring equal treatment of seafarers' rights (Abucay, 2023). This includes criteria such as the wages paid, accommodation and food, lodging and recreational conditions, health and safety, control of drug and alcohol abuse, entitlement to leave, social protection, and welfare services available to seafarers and their families. The literature review section of this study discusses post-employment or onboard human rights protection linked to pertinent regulatory frameworks, aiming to identify the pertinent criteria that impact seafarers' human rights.

### **2.1 Seafarers' human rights regulatory framework**

The regulatory framework prioritizes all aspects of ship workers' rights, human dignity, and welfare to prevent disruptions to their working or resting conditions. The International Labor Organization (ILO) sets out principles and agreements for protecting the rights and interests of seamen (Hubilla, 2009). ILO Convention No. 147 dictates recruitment and placement expectations for the maritime sector. Unreciprocated, immoral, and ill practices, such as forced labor, modern slavery, and exorbitant agent fees, are prohibited from use, to create a discriminatory and ethical recruitment process. Similarly, adhering to these principles require employers and agencies to uphold responsibility and transparency in the hiring process of seafarers (Hubilla, 2009). The ILO also expects the maritime sector actor to adhere to its standards, which encompass seafarers in various fields such as wages, work hours, leave days, and contractual elasticity. Moreover, the ILO

established a minimum job requirement for seafarers that protects their rights and welfare (Hubilla, 2009).

To keep pace with ILO requirements, international conventions establish the human rights of maritime crew members, with the Maritime Labor Convention (MLC) initiating the process in 2006 (Pan, 2021). The MLC 2006 is a comprehensive convention that describes minimum standards and guidelines for the implementation of a maritime career, the working-living space, the status of social protection, and health care, as well as sanctions and incentives for seafarers (Pan, 2021).

Title 1 of the MLC, 2006, outlines many of the fundamental requirements set forth that are specific to seafarers to serve onboard a ship (Exarchopoulos et al., 2018). The requirements outlined in this title are relevant to ensuring minimum age, medical certification, training and qualifications, and recruitment and placement, thereby improving their protection and safety while at sea. Title 2 encompasses numerous other employment conditions for seafarers, such as fair employment agreements and wages, as well as provisions for work and rest hours, entitlement to leave and repatriation, seafarer compensation for the ship's loss or foundering, sufficient manning levels, career and skill development, and opportunities for seafarers' employment (Exarchopoulos et al., 2018). Title 3 of the MLC, 2006 aims to guarantee adequate accommodation, recreational activities, food, and catering services on ships (Exarchopoulos et al., 2018). This title describes the state of accommodating facilities, the availability of recreational leisure areas, and the quality and variety of meals offered to seafarers to ensure their physical and mental well-being at sea (Wang, 2015). Title 4 of the MLC 2006 addresses medical care onboard ship and ashore, health and safety protection, accident prevention, access to shore-based welfare facilities, and social security (Wang, 2015). This title outlines the standards for medical services and access to them on ships, as well as health and safety measures and welfare facilities, including short-term social security measures to ensure seafarers receive comprehensive help and protection. Title 5 of the MLC 2006 provides guidance on complying with and enforcing all convention provisions. This title recommends that the flag state, port state, and labor inspectors take charge of verifying compliance with MLC standards, conducting inspections, and punishing any violation through efficient and effective enforcing systems (Wang, 2015).

## **2.2 Seafarers' human rights preservation**

For seafarers' human rights protection, the qualifying requirements for entering the industry are vital (Shan & Zhang, 2021). This involves ensuring that there is no discrimination, and to be clear and fair, as claimed by Shan & Zhang (2021). Employment should be fair and provide an equal opportunity to all applicants who wish to work as seafarers (Couper, 2000). Abucay (2023) provides an argument on the importance of maintaining the global requirements of qualifications for the safety and professionalism of seafarers. In this regard, defining the qualifying requirements of seafarers at different levels (such as management, operation, and support), the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW Convention) was adopted on July 7, 1978, and entered into force on April 28, 1984 (Petrinović et al., 2016). Haines (2021) identified seafarers' physical health as a significant criterion because it determines their ability to work when onboard. International recruiting standards also play a vital role in protecting the rights of seafarers in the process of employment and jobs (Haines, 2021). McConnell (2016) mentioned that seafarers' identity documents (SID) align more closely with the current international standards for travel documents and passports that facilitate repatriation in case of contractual disputes or emergencies. Galicia (2021) examined the relevance and effectiveness of legal measures implemented via the MLC's instruments and national labor laws to protect seafarers from abuse and deception during recruitment.

Crews receiving fair compensation while on board supports the overall quality of seafarers' lives (Zhang et al., 2019). However, the wages of seafarers held hostage by pirates fall short of providing adequate protection, even after the 2018 amendments to the MLC 2006, though they

represent a step forward (Zhang et al., 2021). According to Zhang (2016), seafarers should receive trade union protection and a fair monthly wage that is commensurate with the demands and hazards of maritime work in order to prevent wage theft or exploitation. The working and living conditions onboard have a considerable effect on seafarers' lifestyle and productivity (Tetemadze et al., 2021). In addition, Męczkowska-Christiansen & Królikowska (2019) stated that the prevailing belief is that the seafaring industry remains unsuitable for women due to the stereotype of seafarers as men, despite other industries having progressed beyond this perception. This gender stereotyping, along with widespread discrimination in many sections of the seagoing industry, is a significant concern. Abucay (2023) asserts that maintaining a work environment that is safe, hygienic, and comfortable is crucial for maintaining the physical and mental well-being of seafarers. Additionally, providing healthy and culturally appropriate food options can boost their morale (Salazar et al., 2019). Zhang (2016) stated that a high-quality food program and catering on board should be provided according to the seafarers' needs and tastes. Comfortable cabins and facilities are also an advantage for the seafarers' all-round maintenance, as cited in the study by Solanki (2007). Seafarers must be shielded from health and safety risks that could result in accidents and injuries at sea. In this regard, to provide relevant workplace safety and minimize the risks of infection on board the ship, the World Health Organization (WHO) provides "the guidance on the safe and effective use of personal protective equipment". (Mgeladze & Surmanidze, 2021). The right of seafarers to leave is crucial, as it allows them to maintain a life away from work and maintain contact with their families and homes. Moreover, Jensen et al. (2013) focused on social security, insurance, and pension systems which provide financial support in the event of unemployment, permanent disease and/or disability, death, pregnancy, or retirement. Couper (2000) argued that seafarers and their families also require comprehensive and social security coverage.

Numerous studies have addressed the human rights challenges that seafarers face. However, only a handful of these studies have taken into account the Bangladesh context, which serves as a significant source of seafarers. Reports suggest that placement service agencies are employing fraudulent tactics against Bangladeshi seafarers, an issue that remains understudied (Islam et al., 2019). Furthermore, despite the existence of a legal framework, protecting Bangladeshi seafarers' human rights remains unpracticed.

The issue of safeguarding human rights in the marine industry is a complex matter (Widd, 2008). Globalization and digitization have significantly impacted the maritime industry (Askari & Hossain, 2022). Moreover, the globalization of the maritime labor market has intensified competition (Hossain et al., 2024) and posed new challenges among international seafarers (Tetemadze et al., 2021). Ensuring the proper preservation of seafarers' human rights has become increasingly crucial in maintaining their motivation (Slišković, 2023) and reducing their stress levels (Carotenuto et al., 2012) while serving onboard vessels.

Therefore, the goal of this study is to identify the factors that impact the protection of human rights for seafarers working in the maritime industry. Additionally, the study delves into the current state of human rights preservation for Bangladeshi crews working onboard. Thus, relevant literature has been reviewed to determine the primary categories which address seafarers' human rights preservation criteria (**Table 1**).

### 3. Data collection and methodology

This research is quantitative research where, basically, a range of numeric data is gathered and systematically analyzed (Ahmad et al., 2019).

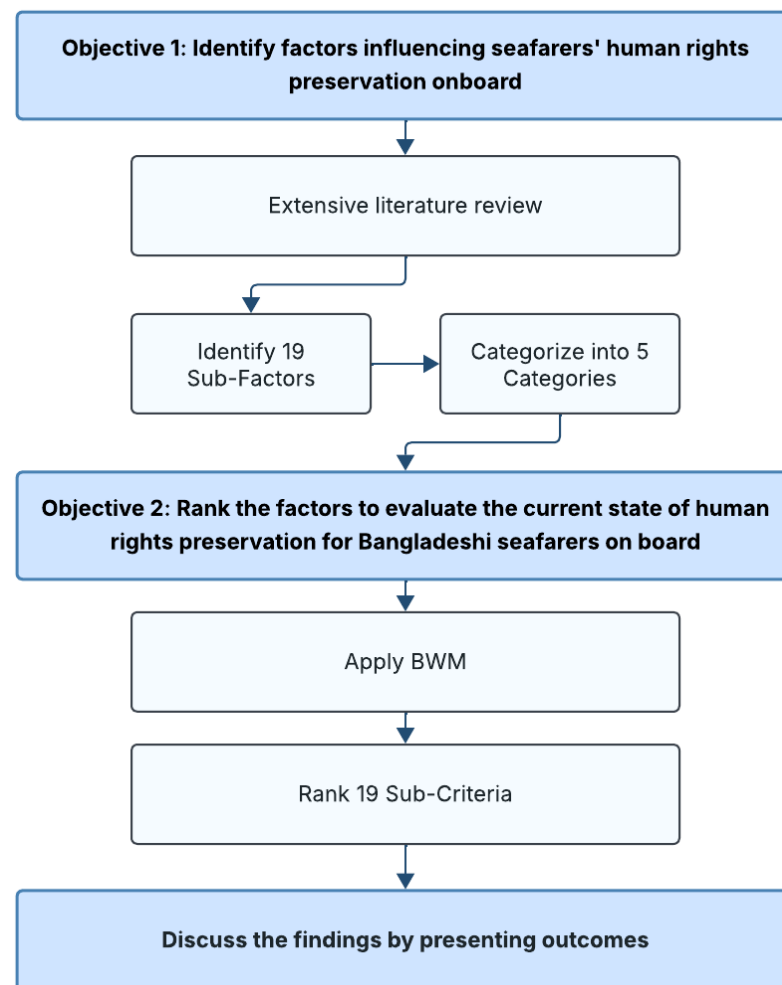
This study has two specific objectives, which are:

- To identify the factors influencing seafarers' human rights preservation onboard.
- To rank the factors to evaluate the current state of human rights preservation for Bangladeshi seafarers onboard.

**Table 1** Primary categories of seafarers' human rights preservation onboard.

| Category                              | Description   |
|---------------------------------------|---|
| Physical and working conditions       | Seafarers are required to devote a significant portion of their time to being at sea, due to the nature of their occupation (Zhang, 2016). Seafarers' physical conditions are adversely affected by challenging situations such as inclement weather and rough sea conditions (Akindehin et al., 2015). Providing adequate accommodation and a proper working environment will enable them to live a tranquil life while at sea (Sarinass & Casañare, 2022).  |
| Employment rights and Welfare         | To establish a proper working atmosphere for seafarers, it is imperative to eliminate such things like bullying (Galiccia, 2021), foster equal gender opportunities (Couper, 2000), guarantee fair compensation, and develop strong social security systems (Solanki, 2007). However, seafarers should receive provisions for authorized absences, compensated time off (Haines, 2021), and benefits for both maternity and paternity leaves, as practiced in other organizations (Jensen & Oldenburg, 2019). The monthly wage should be proportionate and fair in comparison to other jobs, considering their level of expertise and duties (Zhang et al., 2019). Government legislation should include provisions protecting the employees' freedom to organize unions, participate in work-related endeavors, and undertake industrial actions without encountering any kind of bias or retaliation (Tetemadze et al., 2021).  |
| Health and safety                     | Adherence to occupational health and safety standards helps in creating a safe working environment for seafarers. This involves conducting risk assessments, creating safety policies and rules, training staff to mitigate any dangers they may be exposed to, and requiring compliance with international health and safety standards like SOLAS and ISM regulations (Balbaa, 2005). To help seafarers maintain their mental, emotional, and physical health while at sea and ashore, they must be provided with social security, benefits, medical care, health insurance, and more (Dutt, 2015). Moreover, they also should be provided with appropriate and safe equipment (Akindehin et al., 2015) because personal protection equipment is crucial for seafarers' safety during work (Shan & Zhang, 2021).   |
| Crew well-being and social support    | The most crucial thing to be focused on in the maritime industry is the well-being of the crew. The ship owners have a responsibility to provide them with foods which includes nutrition for their health (Zhang, 2016), comfortable places to live, and network support to get connected with the outer world for communicating with their loved ones (Xie, 2018). Financial stability can be attained by receiving competitive wages and prompt salary disbursements, and utilizing banking services and remittance systems (Widd, 2008). Shipowners must comply with the obligation to remunerate their employees with the national minimum wage, as well as any relevant overtime, bonus, or allowance (Galani, 2016). Insurance is also crucial for safeguarding sailors against potential financial devastation resulting from illness, injury, disability, or loss of income (Galani, 2016). In order to instill a sense of confidence among sailors and their families, it is imperative for the shipowners to incorporate comprehensive medical, disability, life, and repatriation insurance into their plan (Tetemadze et al., 2021). |
| Regulatory compliance and enforcement | It is important to set the maximum working hours to avoid exhaustion, errors, and hazards for the health, safety, and well-being of sailors (Zhang, 2016). All parts of maritime business, from shipowners and operators to crewing agencies and employees, should comply with and enforce them in order to keep the marine industry safe, secure, and fair for all players (Hubilla, 2009). The insurance and identity documents of seafarers must be approved and confirmed by specialized organizations, in accordance with international standards (Sarinass & Casañare, 2022).   |

To identify the factors or elements that influence the safeguarding of human rights of seafarers onboard, an extensive literature review was conducted. Additionally, to investigate the current situation of human rights preservation of Bangladeshi crews onboard, the Best Worst Method (BWM) was used, which is a multi-criteria decision-making (MCDM) approach (Rezaei, 2015); BWM was used as it performs better than other MCDMs. BWM uses an integer scale from 1 to 9, which lessens comparison complexity. This method was applied to rank the specific variables that protect the human rights of seafarers. The findings were then presented and discussed. **Figure 1** indicates the research process flow diagram.



**Figure 1** Research process flow diagram.

Data both from primary and secondary sources was collected. The extensive literature review involved examining the related documents, scholarly articles and books containing relevant data, existing laws, regulations, and practices within the maritime industry that strive to safeguard the rights of seafarers. Several published articles prior to the year 2000 were excluded from this study, as they have already been cited in recent research, and the primary goal was to focus on the present scenario. Then, the relevant factors influencing seafarers' human rights preservation onboard were identified, finalized, and categorized.

To collect primary data for the BWM analysis, seafarers were interviewed. The participant poll comprised 57 Bangladeshi seafarers who actively participated in the survey. To ensure that the 57 participants had relevant subject-matter knowledge, a purposive sampling method was used. This approach reduces decision-making biases by intentionally selecting respondents who possess the necessary knowledge and experience to provide valuable opinions (Patton, 2002) (**Table 2**).

**Table 2** Detailed list of respondents.

| Years of experience | Number of respondents |
|---------------------|-----------------------|
| 1 - 3               | 8                     |
| 5 - 7               | 18                    |
| 7 - 10              | 15                    |
| 10 - 14             | 13                    |
| 15 and above        | 3                     |
| <b>Total</b>        | <b>57</b>             |

### 3.1 Formation of the Best Worst Method

After the extensive literature review, the Best Worst Method (BWM) was applied in the study. Applications of BWM are used in different maritime related context, such as logistics performance (Rezaei et al., 2018), port governance model selection (Munim et al., 2020), etc. BWM was introduced by Rezaei (2015) in 2015, and uses pairwise comparison to identify the weight of the decision criteria. In recent years, this simple way of application method has gained significant attention among academics and researchers. BWM offers more consistent weighting rules, necessitates fewer pairwise comparisons, and produces more dependable findings with less expert inputs compared to other MCDM approaches (e.g., AHP) (Hossain et al., 2024). Here are the steps of BWM that are followed:

The first step was identification of criteria. In this article, the decision criteria were identified through the extensive literature review.

In the second step, the best (most important or most desirable) and the worst (least important or least desirable) criteria were determined.

The third step was giving the importance of the best decision criterion over other criteria, using the importance giving scale from 1 to 9. The result of the best to another vector will be similar to the below:

$$A_B = (a_{b1}, a_{b2} \dots \dots a_{b6})$$

Where  $a_{Bj}$  indicates the importance of the best criteria ( $B$ ) over the criteria  $j$ .

The fourth step was giving the importance of all other criteria over the worst criterion. The result of others to worst vector will be similar to the below:

$$A_W = (a_{1w}, a_{2w} \dots \dots a_{6w})$$

Where  $a_{jw}$  indicates the importance of the criteria  $j$  over the worst criterion  $W$ .

The last step, step five, determines the optimal weights. The optimal weights of the criteria are the one where, for each pair  $wB/wj$  and  $wj/wW$ ,  $w_b/w_j = a_{Bj}$  and  $\frac{w_j}{w_w} = a_{jw}$  is obtained. To find the optimal weight, the min-max model was used in the research.

Subject to,

$$\min_j \max \left\{ \left| \frac{w_B}{w_j} - a_{Bj} \right|, \left| \frac{w_j}{w_W} - a_{jW} \right| \right\}$$

$$\sum_j w_j = 1$$

And  $w_j \geq 0$  for all  $j$ .

## 4. Analysis and findings

In this study, more than 25 criteria were explored to find the crucial factors influencing the preservation of seafarers' human rights. Through an extensive literature study, 19 sub factors under 5 categories were finalized, as shown in **Table 3**. The analysis section is divided into 2 subsections: the first subsection deals with the finalization of sub factors, and the second subsection deals with the Best Worst Method.

### 4.1 Finding the sub factors based on literature review

Through an extensive literature review, 19 sub factors were finalized under 5 categories which influence the preservation of the seafarers' human rights. The output of the finalized sub-factors is presented in **Table 3**.

**Table 3** Finalized categories and sub factors.

| Categories                            | Sub factors  | Used literature   |
|---------------------------------------|--|---|
| Physical and working conditions       | 1. Physical conditions of seafarers<br>2. Accommodation standards<br>3. Safe working environment   | (Akindehin et al., 2015);<br>(Sarinan & Casañare, 2022);<br>(Zhang, 2016)   |
| Employment rights and welfare         | 1. Trade union protection for Bangladeshi seafarers<br>2. Monthly wages<br>3. Rights to leave<br>4. Social security<br>5. Equal gender opportunities<br>6. Prevention of harassment and bullying | (Galicia, 2021); (Couper, 2000); (Solanki, 2007);<br>(Haines, 2021); (Jensen & Oldenburg, 2019); (Zhang et al., 2019); (Tetemadze et al., 2021) |
| Health and safety                     | 1. Occupational health and safety<br>2. Prevention of accidents and injuries<br>3. Personal protective equipment   | (Balbaa, 2005); (Dutt, 2015);<br>(Shan & Zhang, 2021);<br>(Akindehin et al., 2015)  |
| Crew well-being and social support    | 1. Food and catering<br>2. Seafarers' and their families and allies' security<br>3. Financial security<br>4. Insurance coverage  | (Zhang, 2016); (Xie, 2018);<br>(Tetemadze et al., 2021);<br>(Widd, 2008); (Galani, 2016)  |
| Regulatory compliance and enforcement | 1. Compliance and enforcement (MLC, ILO, national laws and regulations)<br>2. Issuance and content of seafarers' identity documents<br>3. Minimum/Maximum working hours                          | (Zhang, 2016); (Hubilla, 2009); (Sarinan & Casañare, 2022)  |



#### 4.2 Finding the weights of the factors based on the Best Worst Method

According to the outlined stages of BWM, the specialists selected the most favorable and unfavorable indicators. Subsequently, the preference for each criterion was calculated using the best and worst matrix, followed by the construction of indicators and the assignment of final weights. The ranks and weights assigned to these sub-factors represent the present condition of human rights protection for Bangladeshi seafarers onboard. The responses collected from the participants were analyzed using Jafar Rezaei's excel format. Rezaei (2015) is the founder of BWM.

As shown in **Table 4** and **Figure 2**, within the category of physical and working conditions, the criterion of Accommodation standards (0.73) upholds the highest weight, indicating it being the most preserved human right for seafarers onboard. The physical conditions of seafarers (0.20) and a safe working environment (0.07) are lower ranked. Due to the decreased weights, safe working environment onboard is not adequately maintained sometimes, according to the survey.

**Table 4** Outcome of physical and working conditions category based on BWM.

| Category                        | Sub factors                      | Weights | Rank |
|---------------------------------|----------------------------------|---------|------|
| Physical and working conditions | Accommodation standards          | 0.73    | 1    |
|                                 | Physical conditions of seafarers | 0.20    | 2    |
|                                 | Safe working environment         | 0.07    | 3    |
|                                 | Total                            | 1.00    |      |

On the contrary, **Table 5** and **Figure 3** display the results for the employment rights and welfare category; the most weighted criterion here is monthly wages (0.39), giving significant attention to human rights for seafarers on board. The next most weighted factors are the following: the rights to leave (0.23), social security (0.15), protection of trade unions (0.11), and the prevention of bullying and harassment (0.08). When compared to other criterion weights, equal gender opportunities rank last, with a score of only (0.04); as it is not well preserved onboard, this needs proper attention.

**Table 5** Outcome of employment rights and welfare category based on BWM.

| Category                      | Sub factors                           | Weights | Rank |
|-------------------------------|---------------------------------------|---------|------|
| Employment rights and welfare | Monthly wages                         | 0.39    | 1    |
|                               | Rights to leave                       | 0.23    | 2    |
|                               | Social security                       | 0.15    | 3    |
|                               | Trade union protection                | 0.11    | 4    |
|                               | Prevention of harassment and bullying | 0.08    | 5    |
|                               | Equal gender opportunities            | 0.04    | 6    |
|                               | Total                                 | 1.00    |      |

The results for the health and safety category are displayed in **Table 6** and **Figure 4**. Personal protective equipment (0.67) was given the highest weight, highlighting its crucial role in ensuring seafarers' safety. Occupational health and safety (0.25) also received substantial attention. Prevention of accidents and injuries (0.08) was less emphasized, suggesting that accident prevention measures may need strengthening.

**Table 6** Outcome of health and safety category based on BWI.

| Category          | Sub factors                           | Weight | Rank |
|-------------------|---------------------------------------|--------|------|
| Health and Safety | Personal protective equipment         | 0.67   | 1    |
|                   | Occupational health and safety        | 0.25   | 2    |
|                   | Preventions of accidents and injuries | 0.08   | 3    |
|                   | Total                                 | 1.00   |      |

Detailed information regarding the outcome of crew well-being and social support category is shown in **Table 7** and **Figure 5**. Following the examination of the weights, the category comprises four sub factors that serve as the basis for the weights, which include the following: food and catering (0.45), security for seafarers, their families, and allies (0.1), financial security (0.225), and insurance coverage (0.225). Food and catering scored a high weight compared to others, whereas security for seafarers, their families, and allies scored the least weight, making it the least preserved human rights on board.

**Table 7** Outcome of crew well-being and social support category based on BWI.

| Category                           | Sub factors                                     | Weights | Rank |
|------------------------------------|---|---------|------|
| Crew well-being and social support | Food and catering                               | 0.45    | 1    |
|                                    | Financial security                              | 0.225   | 2    |
|                                    | Insurance coverage                              | 0.225   | 2    |
|                                    | Seafarers', their families and allies' security | 0.1     | 3    |
|                                    | Total   | 1.000   |      |

Finally, the results for the category of regulatory compliance and enforcement are described in **Table 8** and **Figure 6**. Three sub-factors fall under this umbrella. The most weighted sub criterion for protecting crew members' human rights is the minimum/maximum working hours (0.64). Next comes the matter of compliance and enforcement (0.25), which includes matters such as the issuance and content of identity certificates for seafarers weighed second, and national laws and regulations (0.11) weighed third.

**Table 8** Outcome of regulatory compliance and enforcement category based on BWI.

| Category                              | Sub factors  | Weights | Rank |
|---------------------------------------|--|---------|------|
| Regulatory compliance and enforcement | Minimum/maximum working hours  | 0.64    | 1    |
|                                       | Issuance and content of seafarers' identity documents                | 0.25    | 2    |
|                                       | Compliance and enforcement (MLC, ILO, national laws and regulations) | 0.11    | 3    |
|                                       | Total  | 1.00    |      |

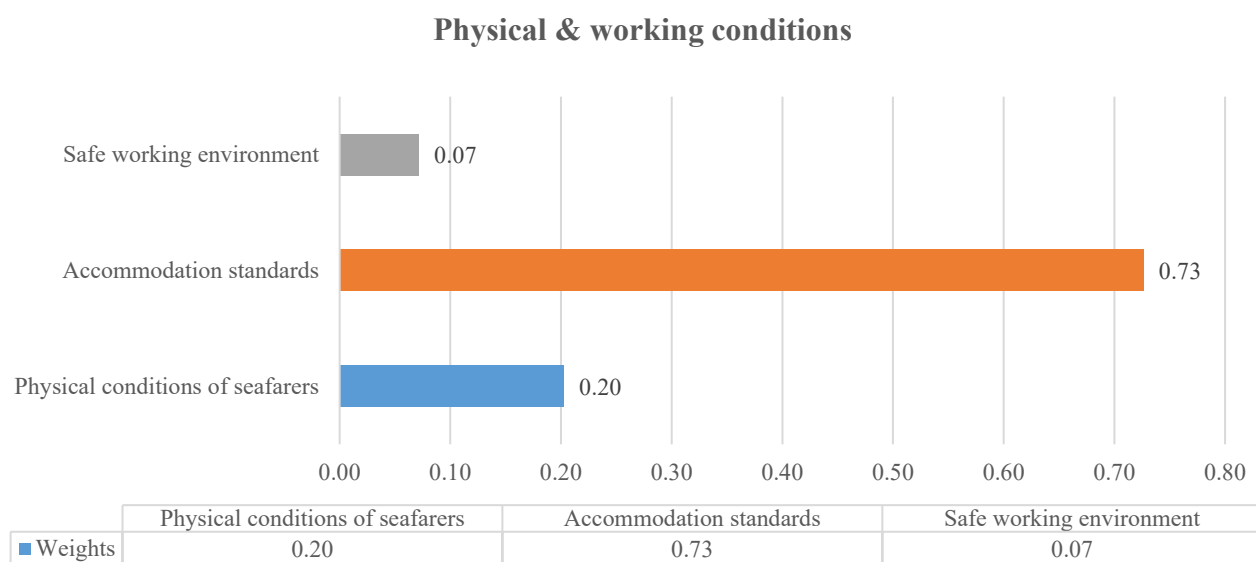
## 5. Discussion

Seafarers include a distinct population of individuals (Lee, 2013) who primarily engage in labor and reside on the open sea. These individuals are citizens of almost every country worldwide (Lee, 2013). However, due to the nature of their work, they are not only isolated into a unique group

that exists on the fringes of society, but they are also subjected to numerous foreign laws and jurisdictions (Zhang et al., 2019). This can result in their rights being infringed upon (Zhang et al., 2019). While they may seem to be people who are entitled to the same safeguards as land laborers, difficulties occur when these rights are not universally guaranteed across various legal regimes (Chang & Khan, 2023). Hence, it is imperative that seafarers be provided with unequivocal guarantees for their entitlements, irrespective of the destinations of their journeys, and their human rights must be preserved (Zhang, 2016). The key findings for preservation of seafarer's human rights are discussed below.

### 5.1 Physical and working conditions

The physical and working conditions directly reflect the issues seafarers experience at work. **Figure 2** of the study findings shows the most preserved human right under this category is *accommodation standards*. Researchers have identified the elements that affect the health of seafarers over the past two decades. Among them, the physical working environment, accommodation standards, and safe environment were emphasized, along with other elements (Li et al., 2022). According to Chang and Khan (2023) and Kolcubaşı and Erginer (2020) seafarers must be provided with accommodations that comply with living standards, as well as nutrition filled food. The *physical conditions of seafarers* is the second most preserved right onboard in this category. Seafarers' physical well-being reflects their capacity for flawless work performance (Galicia, 2021). Based on respondents' rankings, *safe working environment* was ranked lower, as it is being somewhat preserved, and there is still room for improvement to ensure better working conditions. The adverse working circumstances of the marine profession exert a detrimental influence on the physical and mental (Sampson & Ellis, 2019) well-being of seafarers. This leads to a scarcity of skilled mariners (Yildirim et al., 2022). Poor working conditions are a major issue that is faced by sailors onboard and which must be addressed (Galicia, 2021).



**Figure 2** Physical and working conditions category BWM analysis

### 5.2 Employment rights and welfare

The enactment of the Maritime Labor Convention 2006 has greatly enhanced the rights of seafarers (Mantoju, 2021). **Figure 3** displays the research results of the employment rights and welfare category. In this category, *monthly wages* was highly weighted, showing significant attention. Seafarers usually receive a higher salary than other typical jobs in Asian countries (Song et al., 2021). However, there is a security concern regarding the safety of wages from pirates at sea, addressed by

the MLC 2018 amendments (Zhang et al., 2021). These findings align with the results obtained in prior research. If seafarers are not adequately compensated, their human rights will not be upheld, leading to a decrease in motivation in their work (Mitroussi & Notteboom, 2015). The respondents selected the *rights to leave* as the second most preserved human right upheld under this category. Seafarers are mandated to possess this entitlement due to persistent inclement sea conditions (Talley, 2007). In addition, there is a possibility of encountering medical and other personal emergencies while on board (Talley, 2007). *Social security* was ranked as the third position, while *trade union protection* was ranked fourth. Both these rights are being moderately preserved, allowing room for improvement. Joining a trade union is a fundamental right of a seafarer (Zarie & Barati, 2021) and, among all other rights, the social security rights of a seafarer must be preserved by the shipowners according to the Maritime Labor Convention 2006 (Purnomo et al., 2020). The recent 2018 amendments of MLC 2006 take this a step forward in terms of safeguarding the social security of seafarers (Zhang et al., 2021). *Prevention of harassment and bullying* is another fundamental human right for seafarers, which was ranked as sixth under this category, requiring improvement, as it is seen as a challenge on board. However, the survey reveals that *equal gender opportunities* is the most neglected right under this category. Seafaring is a traditionally male-dominated profession (Dževerdanović-Pejović, 2017), characterized by a robust professional culture that highly esteems hands-on expertise (Österman & Boström, 2022). Women and minority groups are more vulnerable to bullying and harassment in these types of work contexts (Österman & Boström, 2022). Moreover, priority to another gender often leads to limited policies addressing gender-specific challenges, such as maternity rights, equal pay, and workplace harassment prevention. Gender equality remains limited for Asian seafarers and needs necessary attention for improvement.

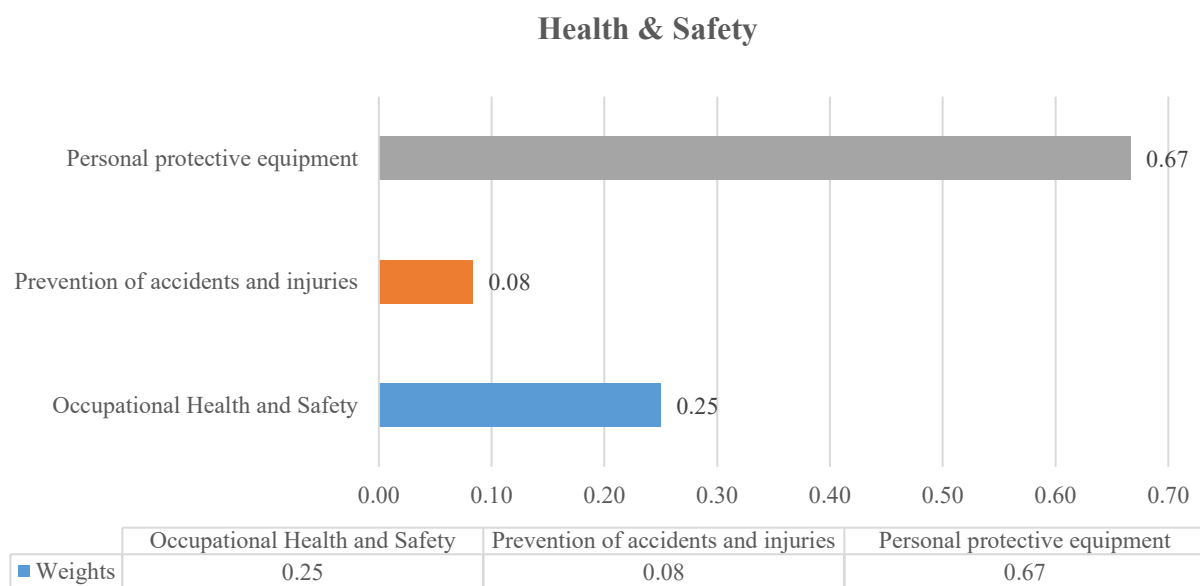


**Figure 3** Employment rights and welfare Category BWM analysis.

### 5.3 Health and safety

Health and safety provide seafarers a sound place to work with a healthy body (Jepsen et al., 2015). Seafarers' health is critical for sustainable shipping management (Li et al., 2022). **Figure 4** presents the research findings related to the health and safety category. The most preserved human right under this category is *personal protective equipment* (PPE). Seafarers have to perform various

dangerous tasks, including cargo hold cleaning, cargo loading and unloading, navigating, etc. (El Husna & Azise, 2020). To perform these jobs, they need PPE (El Husna & Azise, 2020). Moreover, employment in the maritime industry sometimes involves working in many hazardous positions (Devereux & Wadsworth, 2023). *Occupational health and safety* is the second most protected human right for Bangladeshi seafarers onboard receiving substantial attention under this category. Working at sea exposes individuals to several elements that increase the risk of exhaustion (Akamangwa, 2016). This weariness not only has immediate impacts, such as impaired thinking and accidents, but also leads to the development of chronic diseases through autonomic, immunologic, and metabolic pathways (Jepsen et al., 2015). To prevent these diseases, occupational health and safety rights need to be established and properly preserved (Jepsen et al., 2015). Nevertheless, maritime doctors need expertise not only in general and occupational medicine, but also in tropical medicine, emergency care, public health, and telemedicine to tackle the emerging problems relating to seafarers' health (Bygvraa et al., 2020). Finally, *prevention of accidents & injuries* was less emphasized, suggesting that accident prevention measures may need strengthening on board. The employment in merchant ships is often recognized as hazardous globally (Devereux & Wadsworth, 2023), and can contribute to occupational accidents, injuries, and illnesses (Çakır, 2019). The primary cause of these mishaps was identified as risky work practices and a lack of adherence to regulations and prevention policies (Çakır, 2019). Occupational accidents remain a significant problem in the maritime sector, placing a substantial strain on both seafarers and shipping businesses. Enhancing working conditions and prevention policies (Oldenburg et al., 2010) onboard can lead to a decrease in occupational injuries (Çakır, 2019). In order to overcome these mishaps and injuries, marine physicians also must advance their knowledge and abilities and provide potential solutions to stop similar incidents from occurring (Bygvraa et al., 2020).



**Figure 4** Health and safety category BWM analysis.

#### 5.4 Crew well-being and social support

The phrase “Crew well-being and social support” refers to the maritime industry’s commitment to providing its employees with a healthy and supportive workplace (Doyle et al., 2016). **Figure 5** deals with the research findings related to the crew well-being and social support category. The most preserved human right under this category is *food and catering*, which is very necessary for seafarers, as they need foods filled with nutrition (Neumann et al., 2024). This is a major issue that

novice mariners encounter on board (Galicia, 2021). Seafarers feel more driven and committed to work if they eat more nutrient dense meals. According to Chang and Khan (2023), seafarers must be provided with nutritious food, as it will boost their energy at work. Based on the respondents' rankings, *financial security* and *insurance coverage* are ranked equally, which are moderately preserved. The International Maritime Organization (IMO) emphasized the importance of seafarers' financial security (Ruozzi, 2016). According to Song et al. (2021), while surveying Chinese seafarers in their study, 22 % of seafarers still do not receive proper insurance coverage. Finally, the least preserved human right under this category is *seafarers', their families and allies' security*. Seafarers are unique, as they live at their place of work, far away from families and allies (Lee, 2013). Most spend an average of nine months a year at sea (Turgo, 2022). In this prolonged period, their families must be provided with proper security (Thomas et al., 2003). As the security of their family is considered as a challenge and is less addressed here, there are options for providing better support system for seafarers' families and allies.

### Crew well-being & social support



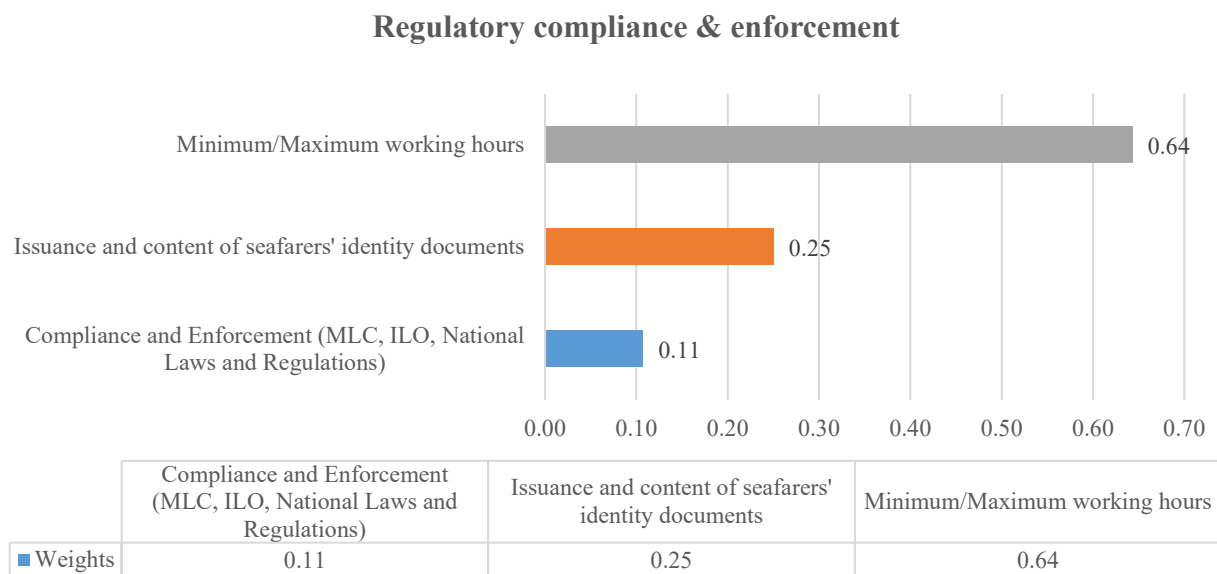
**Figure 5** Crew well-being and social support category BWM analysis.

### 5.5 Regulatory compliance and enforcement

Regulatory compliance and enforcement are established to provide guidance to the seafarers and to ensure their rights (Mukherjee & Brownrigg, 2013). The researchers also argue that it is necessary to provide sufficient legal and regulatory protection to safeguard the interests and rights of seafarers and reduce the stress they experience while at sea (Carotenuto et al., 2012). **Figure 6** of the indicates preservation of human rights under the category regulatory compliance and enforcement. The highest weight in this category was assigned to *minimum/maximum working hours*, showing a strong emphasis on regulating working hours to ensure seafarers' rights. According to the international transport federation (ITF) guidelines and the Maritime Labour Convention (MLC), seafarers should not work more than 14 hours in any 24-hour period, and no more than 72 hours in any seven-day period (Baumler, 2020). Additionally, they must have at least 10 hours of rest in any 24-hour period, and 77 hours in any seven-day period (Simkuva et al., 2016). Based on respondents' rankings, *issuance and content of seafarers' identity documents* is the second most preserved human rights under the category. The International Labor Organization (ILO) established the Seafarer Identity Documentation (SID) convention under section no. 185 in 2003 (Mcconnell, 2016). As per

this convention, any individual employed or engaged in any capacity on a vessel, excluding a warship, typically involved in maritime navigation, is eligible for seafarer identity documentation (SID) (McConnell, 2016). Finally, *compliance and enforcement (MLC, ILO, national laws and regulations)* has been reported as the least preserved human rights for seafarers due to their lowest weighting. Weak regulatory monitoring, lenient penalties for non-compliance, and inconsistencies in enforcement across jurisdictions are key contributing factors. Systemic barriers include Flag of Convenience (FoC) practices, which often lead to substandard conditions for seafarers, limited access to reporting mechanisms, and resource constraints in developing nations.

However, shipowners must follow the laws and regulations provided by national and international organizations (Mukherjee & Brownrigg, 2013). As compliance and enforcement are less preserved, Asian seafarers are being deprived of their rights, requiring improvement.



**Figure 6** Regulatory compliance and enforcement category BWM analysis.

## 6. Conclusions

The protection of seafarers' human rights has gained significance due to globalization and digitization. These influences have heightened competition and presented new challenges, impacting their well-being and motivation aboard. This study sought to provide several key insights into finding the factors influencing the preservation of human rights for seafarers onboard. The analysis, through the Best-Worst Method (BWM), has demonstrated the current state of human rights preservation for Bangladeshi seafarers onboard across various categories, highlighting areas of strength and those needing improvement. The results indicate that, while certain aspects of human rights for Bangladeshi seafarers, such as accommodation standards, monthly wages, personal protection equipment, food and catering, and maximum/minimum working hours, are well-preserved, significant gaps remain in areas like safe working environments, gender equality, prevention of harassment and bullying, accident prevention, and support for seafarers' families, necessitating comprehensive and targeted improvements. The study recommends improving these gaps through ensuring safe working environments, gender equality, prevention of harassment and bullying, accident prevention, and support for seafarers' families' human rights. Moreover, to address the issues related to regulatory compliance and enforcement (MLC, ILO, national laws and regulations), it is essential to strengthen global cooperation to ensure consistent enforcement of labor rights across all maritime jurisdictions.

This study will help guide shipowners, ship management organizations, and related parties to ensure human rights preservation onboard by offering significant insights into enhancing the rights



and well-being of seafarers in the maritime industry and Bangladesh. It will also benefit seafarers by motivating them and ensuring their rights are protected. The study has certain limitations, as it solely evaluated the current onboard situation of Bangladeshi seafarers. However, by following the guidelines and factors suggested in the study, it is possible to interview seafarers from other regions. Finally, the study calls for further research to gather a diverse array of data from various regions and to come up with robust recommendations, thereby significantly improving the shipping industry. Additionally, future studies could explore the interconnections between different categories, such as how health and safety impact employment rights, or how social support structures influence regulatory compliance, to provide a more holistic understanding of human rights preservation in the maritime sector.

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