

A Review on the Amendments (2014-2022) to the Maritime Labour Convention (MLC, 2006): Key Topics & Systemic Challenges in Practice

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Today, approximately 90% of global trade is carried out by sea, with around 1.9 million seafarers employed in the global seaborne fleet. Despite their critical role in sustaining the global economy and ensuring the continuity of international trade, seafarers are often compelled to work under unacceptable conditions, frequently at the expense of their own health, safety, and overall well-being. This underscores the need for robust international labour standards specific to maritime employment, as well as their effective implementation. In response to this need, the Maritime Labour Convention (MLC, 2006) was adopted by the International Labour Conference (ILC) in 2006 and entered into force globally in 2013. Since then, the Convention has undergone several amendments in 2014, 2016, 2018, and 2022. These amendments have not only extended and clarified the rights of seafarers but also introduced additional obligations and compliance mechanisms for shipowners, flag States, and port States. The aim of this study – based on both a document review and a literature review – is to present a consolidated summary of the MLC amendments, to highlight the key topics underlying these amendments, to review scientific studies focusing on these topics, and to extract the key findings and recommendations from the current scientific literature. The findings of this study reveal that the Convention and its subsequent amendments have made significantly progress in standardizing and enhancing the rights and protections of seafarers, and nevertheless, several systemic challenges remain in practice, and further efforts are needed to improve both the development and effective enforcement of the Convention. Therefore, realizing the vision of “*decent work for seafarers*” as envisioned by the Convention requires a multidimensional approach – one that combines regulatory compliance with stronger enforcement mechanisms, cultural transformation, and preparedness for global crises. Bridging the gap between regulatory standards and maritime realities can only be achieved through *more effective international cooperation* among all relevant stakeholders.

KEY WORDS

- ~ Maritime labour convention (MLC, 2006)
- ~ Seafarer rights
- ~ Shipboard occupational health & safety (OHS)
- ~ Shipboard harassment & bullying
- ~ Piracy & armed robbery
- ~ COVID-19 pandemic

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1. INTRODUCTION

Today, approximately 90% of world trade is conducted by sea, and maritime transport has a vital role in inter-continental cargo movement, international trade, logistics, and supply chain operations (ICS, 2024). As of July 2021, the global merchant fleet employed around 1.9 million seafarers (UNCTAD, 2023), up from approximately 1.12 million in 2005 (ICS, 2015). This represents a 69% increase in the number of seafarers worldwide between 2005 and 2021. These indicators show that the shipping is a labor-intensive industry with long-term growth momentum for seafarers. However, seafarers frequently spend extended periods working aboard ships outside their home countries, often for employers (shipowners) based abroad, and are at times subjected to unacceptable working and living conditions. Therefore, the establishment and effective implementation of international labour standards are essential for ensuring fair and decent work in the shipping industry (ILO, 2024a).

Between 1920 and 1996, the International Labour Organization (ILO) adopted a total of 37 maritime labour conventions and related recommendations (ILO, 2024b). However, the implementation of these instruments was limited, largely due to the complexities involved in ratifying and implementing such a large number of detailed conventions, as well as the prevalence of unfair competition from flag States and shipowners operating substandard ships (ILO, 2024a). In response to these challenges, the shipping industry called on the ILO in 2001 to develop a consolidated convention that would facilitate more effective and uniform implementation. This led to the adoption of the Maritime Labour Convention, 2006 (MLC, 2006) (hereinafter referred to as *“the Convention”*) by the International Labour Conference (ILC) during its 94th session on 7 February 2006. The Convention entered into force on 20 August 2013 and is now recognized as the *“fourth pillar”* of the international regulatory framework for quality shipping, alongside key International Maritime Organization (IMO) instruments such as SOLAS, STCW, and MARPOL (ILO, 2024a).

The Convention pursues two fundamental objectives: (1) *“to ensure comprehensive worldwide protection of the rights of seafarers”*, and (2) *“to establish a level playing field for countries and shipowners committed to providing decent working and living conditions for seafarers, protecting them from unfair competition on the part of substandard ships”* (ILO, 2024c). Structurally, the Convention consists of three main components: the Articles, the Regulations and the MLC Code. The Articles and Regulations outline the core fundamental rights, principles and obligations of ratifying States and may only be amended by the ILC in accordance with Article 19 of the ILO Constitution. The MLC Code, which is divided into two parts – Part A (mandatory Standards) and Part B (non-mandatory Guidelines) – can be amended by the ILC, or unless explicitly stated otherwise, upon proposals submitted by ILO Member States, seafarers’ representatives, or shipowners’ representatives (ILO, 2024b; MLC, 2006).

To continually review the functioning of the Convention, the ILO established the MLC Special Tripartite Committee (MLC-STC). The MLC-STC comprises two government representatives from each ratifying Member State, as well as one representative each from seafarers and shipowners. Representatives from non-ratifying Member States may also attend MLC-STC meetings but do not hold voting rights on any matters under discussion (ILO, 2024d; MLC, 2006). Since the Convention entered into force in 2013, the MLC-STC has convened four times: in 2014, 2016, 2018, and 2022.

The 2014 amendments to the Convention were adopted during the 1st session of MLC-STC held from 7 to 11 April 2014, approved at the 103rd session of ILC held from 28 May to 12 June 2014, and entered into force on 18 January 2017. The 2016 amendments were adopted at the 2nd session of MLC-STC held from 8 to 10 February 2016, approved at the 105th session of ILC held from 30 May to 10 June 2016, and entered into force on 8 January 2019. The 2018 amendments were adopted at the 3rd session of MLC-STC held from 23 to 27 April 2018, approved by the 107th session of ILC held from 28 May to 8 June 2018, and entered into force on 26 December 2020. The 2022 amendments were adopted during the 4th session of MLC-STC, which was

conducted in two parts: Part I from 19 to 23 April 2021 and Part II from 5 to 13 May 2022. These amendments were approved at the 110th session of ILC held from 27 May to 11 July 2022 and are scheduled to enter into force on 23 December 2024 (ILO, 2024e).

This study is driven by two main motivations. The first is to provide a consolidated summary of the aforementioned MLC amendments for stakeholders such as countries that have not yet ratified the MLC, 2006, seafarers, shipowners, and flag and port States. This summary aims to raise awareness and promote a better understanding of these amendments among all relevant actors. According to (ILO, 2024f), 108 ILO Member States – representing 96.6% of the world's merchant fleet by gross tonnage – have ratified the Convention, as amended. Under the principle of “*no more favourable treatment*” of the Convention, the ships from non-ratifying States may still be subject to port State control inspections in countries that have ratified the Convention (as amended) and may be detained for non-compliance. Furthermore, any ILO Member State intending to ratify the Convention is also required to ratify its subsequent amendments and to declare the alignment of her national legislation with the Convention (MLC, 2006). For this reason, it is essential that non-ratifying States and their competent authorities are informed about the post-2013 amendments to the Convention. At the same time, the amendments primarily aim to enhance seafarers' rights but also introduce additional responsibilities for shipowners and new obligations for flag and port States. Thus, it is also important for seafarers to be aware of their additional rights, for shipowners to understand their additional responsibilities, and for flag and port States to be informed of their additional obligations under the Convention, as amended. The second motivation is to conduct a literature review focused on the key topics underlying the MLC amendments, in order to identify the major findings and recommendations of prior scientific studies on these topics. Since the primary objective of the MLC-STC is to continually review the functioning of the Convention, it is valuable for the MLC-STC to take into account the perspectives and insights offered by the existing scientific literature regarding the Convention's further development and more effective implementation.

Accordingly, the aim of this review article – based on both a document review (including MLC-STC meeting reports and relevant amendment texts approved by the ILC/ILO) and a literature review – is to present a consolidated summary of the MLC amendments between 2014 and 2022, to highlight the key topics underlying these amendments, to review scientific studies focusing on these topics, and to extract the key findings and recommendations from the current literature. The originality of this study lies in its combined examination of both the MLC amendments and the key topics that triggered them, as well as its effort to identify systemic challenges.

2. LITERATURE REVIEW

The MLC 2014 amendments introduced a mandatory financial security system to ensure compensation rights for seafarers in cases of abandonment and long-term disability, or death. The MLC 2016 emphasized the inclusion of shipboard harassment and bullying within the scope of occupational health and safety regulations, as well as accident investigation procedures. The MLC 2018 amendments guaranteed the continuation of seafarers' rights – such as the payment of wages, repatriation, the validity of employment agreements, and other entitlements – even during periods of captivity resulting from piracy or armed robbery against ships. The MLC 2022 amendments primarily responded to the challenges seafarers experienced during the COVID-19 pandemic and granted several new protections. These rights related to informing the seafarers about their rights under the insurance protection system, responding to emergency medical care needs of seafarers, protecting the social connections/communications of seafarers, and developing cooperation among port States, flag States and labor-providing States to facilitate the repatriation of seafarers. They also related to providing free food and drinking water to seafarers, providing appropriately sized personal protective equipment, effectively investigating and reporting fatal occupational work accidents to the ILO. Table 1 presents a consolidated summary of the amendments to the Convention between 2014 and 2022, with their key topics.

Amendments to the MLC, 2006	Summary of the MLC Amendments	Key Topics Underlying the MLC Amendments
MLC 2014 Amendments	• Providing financial security for abandoned seafarers • Providing financial security and handling contractual claims of seafarers who die or become disabled due to occupational injury, illness or hazard • Changes reflected in flag State inspection (certification) and port State control	• Key Topic-1: Financial security protection (in case of abandonment or death/long-term disability of seafarers)
MLC 2016 Amendments	• Taking into account “<i>Guidance on Eliminating Shipboard Harassment and Bullying</i>” in shipboard occupational health and safety regulations • Examination of problems caused by shipboard harassment and bullying in accident investigations • Changes reflected in flag State inspection (certification)	• Key Topic-2: Shipboard harassment and bullying
MLC 2018 Amendments	• Validity of seafarer employment agreements in cases of piracy and armed robbery against ships • Continuity of wages and other rights of seafarers in cases of piracy and armed robbery against ships • Continuity of repatriation right of seafarers in cases of piracy and armed robbery against ships	• Key Topic-3: Piracy and armed robbery against ships
MLC 2022 Amendments	• Providing information to seafarers about their rights under the insurance protection system by private employment agencies • Cooperation between port States, flag States and labor supplying States to facilitate the repatriation of seafarers, including facilitation of repatriation of remains of seafarers in case of death during voyage • Protection of social connections of seafarers • Provision of free food and drinking water to seafarers • Provision of emergency medical care needs of seafarers on shore • Provision of appropriately sized personal protective equipment to seafarer • Effective investigation and reporting of fatal occupational accidents to the ILO • Expansion of the definition of shipowner in financial security certificates	• Key Topic-4: Problems faced by seafarers during the Covid-19 pandemic

Table 1. Summary of the amendments to the MLC, 2006 between 2014 and 2022 (Source: Author’s contribution, based on ILO, 2014b; ILO, 2016b; ILO, 2018b; ILO, 2022b)

The following sub-sections provide a literature review focused on the key topics underlying the MLC amendments between 2014 and 2022. These include “financial security protection in cases of abandonment or

death/long-term disability of seafarers”, “shipboard harassment and bullying”, “piracy and armed robbery against ships”, and “problems faced by seafarers during Covid-19 pandemic”.

2.1. Key Topic – 1: Financial Security Protection in Cases of Abandonment or Death/Long-Term Disability of Seafarers

The primary focus of the MLC 2014 amendments was to establish financial security protections in cases of seafarer abandonment, as well as in instances of death or long-term disability resulting from occupational injury, illness, or hazards. In 2001, the IMO issued Resolution A.930(22) on “*Guidelines on provision of financial security in cases of abandonment of seafarers*” (IMO, 2001a) and Resolution A.931(22) on “*Guidelines on shipowners’ responsibilities in respect of contractual requirements*” (IMO, 2001b). However, these guidelines were advisory and did not impose mandatory responsibilities on shipowners. The absence of financial security measures to address abandonment and contractual claims related to seafarers’ death or disability was a significant gap in the original text of the Convention. This gap was subsequently addressed through the MLC 2014 amendments, which introduced mandatory financial security provisions. Despite this, the IMO (2024) reported 849 abandonment cases involving 11,648 seafarers between 2004 and 2023, of which only 348 were resolved, and noted an alarming rise in abandonment incidents in recent years (IMO, 2024). The European Maritime Safety Agency (EMSA) also reported 604 deaths and 6,781 injuries in marine casualties between 2014 and 2022, with seafarers comprising 88% of the casualties (EMSA, 2023). Additionally, the International Group of P&I Clubs (IGP&I) indicated that as of 21 March 2024, a total of 85,744 certificates had been issued by member P&I clubs under MLC provisions 2.5.2 and 4.2 (IGP&I, 2024). Table 2 presents a literature review matrix on the key topic underlying the MLC 2014 amendments, specifically focusing on the financial security protection in cases of abandonment or death/long-term disability of seafarers.

Article	Scope	Methodology	Key Findings	Key Recommendations
Blaskowsky, A., 2024. Seafarer Abandonment and the Maritime Labor Convention: An Examination of Its Effectiveness and Future Solutions. Oregon Review of International Law, 25, 259-288. Available at: https://hdl.handle.net/1794/29457	Examination of the effectiveness of the MLC, 2006, particularly MLC 2014 amendments.	Legal & policy analysis	▪ The MLC, 2006 is based on self-regulation by the member State and the absence of a binding enforcement mechanism. Moreover, FoCs create jurisdictional uncertainty, weakening enforcement. ▪ Although improved after MLC 2014 amendments, many abandonment cases remain unresolved for extension periods. ▪ Many States unjustifiably invoked “force majeure” during the Covid-19 pandemic.	▪ Establishing a tribunal to consider non-compliance with the MLC and make binding decisions. ▪ Imposing consequences or sanctions for non-compliance with the MLC by States, insurers or shipowners. ▪ Amending the MLC to include legal aid for seafarers and responsibilities for safe manning during abandonment.
Jing, H., 2023. Study on the Liability of Shipowners for the Protection of the Abandoned Seafarers under the Maritime Labor Convention. Science of Law Journal, 2(11), 33-39. Available at: https://doi.org/10.23977/law.2023.021106	Examination of the shipowners' liability and the legal protection framework for abandoned seafarers under MLC, 2006.	Legal & policy analysis	▪ Lack of mandatory abandonment notification. ▪ Absence of punitive provisions for shipowners. ▪ Inadequate wage security (only 4 months).	▪ Mandatory notice of abandonment by shipowners. ▪ Introducing punitive measures for shipowners failed to fulfill their liabilities under the MLC, 2006. ▪ Expanding financial security coverage (regarding 4-months)
Abaya, ARM., Chan, JP., Leal, JKO., Sarmiento, RFR., Bongalonta-Roldan, S. & De Rivera, JJLC., 2023. Five-year (2015-2019) follow-up study of 6,526 cases of medical repatriation of Filipino seafarers. Int Marit Health, 74(3), 161-170.	Evaluation of the epidemiology of medical repatriation among Filipino seafarers.	Statistical analysis, based on the data on 6,526 medical repatriation cases of Filipino seafarers (2015-2019)	▪ Overall medical repatriation rate: 1.4% ▪ Top tree causes for repatriation: Musculoskeletal disorders (23.2%), gastrointestinal problems (18.6%) and traumatic injuries (15.1%).	▪ Reducing musculoskeletal and traumatic injuries through improved training and equipment. ▪ Refine pre-employment medical examinations based on identified risk groups. ▪ Early interventions for common conditions like appendicitis and musculoskeletal injuries.

Available at: https://doi.org/10.5603/imh.96970			▪ Injury sites: Lower back (30.2 of musculoskeletal disorders) and hand/wrist (51.6 of trauma cases).	▪ Gathering comparative data from other seafaring nations to evaluate MLC, 2006 impacts globally.
Gupta, M. & Shanthakumar, S., 2022. Assessment of the Role of Admiralty Courts in India in Protection Abandoned Seafarers Onboard Vessels in India Ports. Transactions on Maritime Science 11 (2), 260-269. Available at: https://doi.org/10.7225/toms.v11.n01.019	Examination of the issue of abandonment of seafarers, focusing on the role and responsibilities of flag States under the MLC, 2006.	Legal & policy analysis	▪ Abandonment continues despite MLC provisions. ▪ Flag States lack effective sanctions. ▪ Seafarers are often unaware of their rights.	▪ Strengthening flag State inspections and complaint mechanisms. ▪ Raising awareness of seafarers about their rights. ▪ Requiring flag State oversight in the issuance of financial assurance certificates/documents. ▪ Increased international cooperation and penalties for defaulting shipowners.
Sampson, H., 2022. 'Beyond the State': The limits of international regulation and the example of abandoned seafarers. Marine Policy, 140, 105046. Available at: https://doi.org/10.1016/j.marpol.2022.105046	Evaluation of the effectiveness of the MLC, 2006 in resolving cases of abandonment of seafarers.	Empirical analysis, based on 377 cases of abandonment from the ILO's database (2004-2019), pre- and -post MLC enforcement	▪ Significant improvement in resolution time of abandonment cases post-MLC with emphasizing the ITF's accelerating role. ▪ Higher flag State involvement post-MLC, especially among Flags of Convenience (FoCs), but still insufficient. ▪ Some flag States fail to monitor MLC compliance or respond to abandonment of ships flying their own flags. ▪ The 4-month time limit on unpaid wages allows shipowners to abandon ships with minimal financial consequences.	▪ More stringent flag State inspections and more-detailed PSC inspections to ensure ongoing MLC compliance and financial security coverage onboard ships, with a particular focus on unpaid wages and living conditions - not just documentation. ▪ Lifting the time limit (4-months) on shipowners' liability for unpaid wages and repayment of all unpaid wages of seafarers.

Petrinović, R., Lovrić, I. & Perkušić, T., 2017. Role of P&I Insurance in Implementing Amendments to Maritime Labor Convention 2014. Transactions on Maritime Science, 6(1), 39–47. Available at: https://doi.org/10.7225/toms.v06.n01.004	Analysis of the MLC, 2006, MLC 2014 amendments on financial security for repatriation, death or disability of seafarers and the role of P&I insurance clubs in the implementation of these amendments.	Legal & policy analysis, and review of P&I club's policies & procedures	▪ The MLC 2014 amendments have significantly improved protection for abandoned seafarers and those suffering death or disability. ▪ P&I clubs have become important players by offering financial security certificate/document. ▪ “<i>MLC Extension Clause, 2016</i>” harmonizes the insurance coverage but imposes a reimbursement obligation on shipowners if claims fall outside the standard P&I coverage.	▪ Maintaining transparent, standardized procedures for issuing and verifying financial security certificates/documents by P&I clubs and other insurers. ▪ Closely monitoring of the compliance by national authorities to avoid gaps in the protection of seafarers. ▪ Encouraging further international cooperation to harmonize the interpretation and application of financial assurance provisions. ▪ Insurance solutions beyond P&I clubs (e.g., government funds, bank guarantees) to be available to close potential gaps in non-standard situations.
Lefkowitz, RY., Martin D. Slade, MD. & Redlich, CA., 2015. Risk factors for merchant seafarer repatriation due to injury or illness at sea. Int Marit Health, 66(2), 61–66. Available at: https://doi.org/10.5603/IMH.2015.0016	Analysis of patterns of repatriation due to injury or illness among merchant seafarers and to identify risk factors associated with medical repatriation.	Statistical analysis, based on the telemedicine data on 3,921 seafarer injury and illness cases (2008-2011)	▪ Repatriation rate: 1.6% ▪ Top causes for repatriation: illness (62.3%) and injuries (37.7%). Gastrointestinal illness and back injuries are the most common causes.	▪ Conducting further studies to investigate potential risk factors for seafarer illness and injury. ▪ Developing more comprehensive, evidence-based international medical fitness standards for seafarers. ▪ Developing targeted health promotion and preventive strategies.

Table 2. Literature review matrix related to financial security in case of abandonment or death and long-term disability of seafarers (Source: Author's contribution)

2.2. Key Topic – 2: Shipboard Harassment and Bullying

The MLC 2016 amendments formally recognized “harassment” as a critical Occupational Health and Safety (OHS) issue, making shipboard harassment and bullying the key topic underlying these amendments. Table 3 presents a literature review matrix on the key topic underlying the MLC 2016 amendments, specifically focusing on the shipboard harassment and bullying issue.

Article	Scope	Methodology	Key Findings	Key Recommendations
Ergin, A. & Sandal, B., 2023. Mobbing among seafarers: Scale development and application of an interval type-2 fuzzy logic system. Ocean Engineering, 286, Part 1, 115595. Available at: https://doi.org/10.1016/j.oceaneng.2023.115595	Investigation of the mobbing (workplace bullying) experienced by seafarers with the aim of developing a quantitative measurement scale for mobbing behaviors for Turkish seafarers.	Literature review, and Fuzzy logic system	▪ Mobbing exists among seafarers at notable level and “Pressure to work out of hours” is found as the most frequent mobbing behaviors. ▪ Mobbing decrease as professional experience, and position, and age increase.	▪ Raising awareness among seafarers through training on recognizing and preventing mobbing.
Österman, C. & Boström, M., 2022. Workplace bullying and harassment at sea: A structured literature review. Marine Policy, 136, 104910. Available at: https://doi.org/10.1016/j.marpol.2021.104910	Systematic literature review on workplace bullying and harassment at sea.	Literature review, based on 27 previous studies	▪ 8% and 25% of all seafarer report bullying/harassment; the rate is over 50% for women seafarers. ▪ Negative impacts on seafarers' mental health (depression, anxiety), musculoskeletal disorders, poor work performance and safety risks. ▪ Risk factors: work overload, role conflicts, hierarchical structure, precarious employment agreements, gender imbalance, masculine culture.	▪ Stricter enforcing the existing regulations (ISM Code, MLC amendments); monitoring and auditing. ▪ Proactive shipboard bullying and harassment risk management integrated into ISM/SMS. ▪ Independent complaint mechanisms and support systems (e.g., confidential communication channels). ▪ Promoting gender equity in maritime education. ▪ Further research, strongly designed studies (e.g., intervention studies, on root causes, leadership roles, and minority experiences beyond gender).
Uğurlu, Ö., Kartal, Ş. E., Gündoğan, O., Aydın, M., & Wang, J., 2022. A statistical	Analysis of the relationships between demographic/professio	Statistical analysis and Bayesian Network (BN)	▪ The most common mobbing behaviors are “<i>I am continually given new tasks</i>”, “<i>My superiors</i>	▪ By companies: Implementing proactive anti-mobbing policies, promoting awareness and

analysis-based Bayesian Network model for assessment of mobbing acts on ships. Maritime Policy & Management, 50(6), 750–775. Available at: https://doi.org/10.1080/03088839.2022.2029606	nal factors and mobbing exposure to simulate and understand mobbing dynamics and countermeasures.	modeling, based on survey research, with 221 Turkish seafarers	<i>restrict the opportunity for me to express myself” and “Unfounded rumors about me is circulated in the ship”.</i> ▪ Younger and inexperienced seafarers, single individuals, and lower-ranking officers (e.g., cadets and 3rd officers) are mostly exposed to mobbing onboard. ▪ BN model insights companies (shipowners) have a more significant role in preventing mobbing compared to post State control (PSC) and ITF.	establishing clear reporting and support mechanism. Emphasizing mobbing awareness especially among newly joined and junior officers. ▪ By maritime authorities (PSC, ITF): Strengthening inspections and monitoring protocols related to workplace harassment. ▪ Developing more comprehensive, evidence-based international medical fitness standards for seafarers.
AlBreiki, IMS. & Behforouzi, M., 2021. Evaluating Bullying Effect on the Happiness and Performance of the Ship's Crew. Journal of Management Science & Engineering Research, 4(1), 8-15. Available at: https://doi.org/10.30564/jmser.v4i1.2753	Evaluation of the impact workplace bullying on the happiness, mental health, and job performance of seafarers, specifically focusing Omani seafarers.	Statistical (descriptive) analysis, based on survey research, with 50 Omani officers and crew members	▪ More than 50% of participating seafarers have experienced or witnessed bullying in the last 6 months. Bullying was mostly perpetrated by people in higher ranks. Verbal abuse was the most common, followed by humiliation, isolation and undermining achievements. ▪ Depression and anxiety were common, as well as insomnia, loneliness, fear and even suicidal thoughts. Bullying led to low morale, reduced productivity, sick leave and intentions to quit. ▪ Only 25% of participating seafarers reported incidents of	▪ Conducting deeper investigations into bullying incidents and their impact, including encouraging flag State and Class inspectors to discuss bullying directly with crew during inspections. ▪ Provide anti-bullying education activities in schools and on board.

			bullying and management took little action.	
Piñeiro, LC. & Kitada, M., 2020. Sexual harassment and women seafarers: The role of laws and policies to ensure occupational safety & health. Marine Policy, 117, 103938. Available at: https://doi.org/10.1016/j.marpol.2020.103938	Analysis of the sexual harassment against women seafarers within the maritime industry from the view of OSH.	Legal & policy analysis	▪ Harassment and bullying against seafarers are also an OSH issue. ▪ Although the MLC 2016 amendments have helped to close the gaps in harassment issue, many countries still lack strong legal definitions or protections against sexual harassment. ▪ Sexual harassment is underreported due to further victimization and fear of retaliation.	▪ Promoting zero-tolerance policies, including the addition of anti-harassment duties to onboard safety committees. ▪ Strengthening education and trainings against harassment, including cultural and legal diversities. ▪ Encouraging the use of social media and anonymous channels as reporting mechanisms.
Pike, K., Wadsworth, E., Honebon, S., Broadhurst, E., Zhao, M. & Zhang, P., 2021. Gender in the maritime space: how can the experiences of women seafarers working in the UK shipping industry be improved? Journal of Navigation, 74(6), 1238-1251. Available at: https://doi.org/10.1017/S0373463321000473	Analysis of the experiences of women seafarers in the UK shipping industry, focusing harassment and isolation.	Literature review, and survey research, with 104 cadets (17 women), and semi-structured interviews with 22 industry stakeholders (recruiters, shipowners, NGOs, policy makers)	▪ Harassment experienced by many women during first sea duty. ▪ Frequently reported isolation due to multinational crews, lack of social interaction and internet access issues. ▪ Many women seafarers (cadets) hesitated to report harassment incidents due to fear of dismissal, retaliation, or being labeled a troublemaker.	▪ Regular mandatory training on harassment for seafarers of all ranks, including cultural diversity and stronger leadership (fighting against harassment) for officers. ▪ Mentoring programs to support female cadets and early-career seafarers. ▪ Fundamental policy change based on seafarer feedback to address gender inequality in the maritime industry.

Table 3. Literature review matrix related to shipboard harassment and bullying (Source: Author's contribution)

2.3. Key Topic – 3: Piracy and Armed Robbery Against Ships

The key topic underlying the MLC 2018 amendments is piracy and armed robbery against ships. According to statistics from the ICC International Maritime Bureau, a total of 805 piracy incidents occurred at sea between 2018 and 2022, with 779 seafarers falling victim to these events – 89% of which involved kidnapping, unlawful restraint, or hostage situations (ICC, 2022). Article 101 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) provides the definition of “*piracy*” (UN, 1982). Paragraph (7) of Standard A2.1 of the MLC Code, introduced through the MLC 2018 amendment, refers to Article 101 of UNCLOS for this definition (ILO, 2018b). The definition of “*armed robbery against ships*” in the same paragraph mirrors the definition provided in Resolution A.1025(26), “Code of Practice for the Investigation of Crimes of Piracy and Armed Robbery Against Ships” issued by the IMO (IMO, 2009). The rules of the IGP&I do not specifically define or exclude piracy; instead, such liabilities are generally covered under the shipowner’s P&I war risk policy (The American Club, 2020). Table 4 presents a literature review matrix focused on the key issue underlying the MLC 2018 amendments, specifically focusing on the piracy and armed robbery against ships.

Article	Scope	Methodology	Key Findings	Key Recommendations
Zhang, L., Guo, L., Zhang, X. & Zhang, P., 2021. Legal issues on wage protection of seafarers held Hostage by pirates. Maritime Technology and Research, 3(3), 268-279. Available at: https://doi.org/10.33175/mtr.2021.248808	Examination of the legal protection for seafarer wages when seafarers are taken hostage by pirates, and evaluation of MLC 2018 amendments.	Legal & policy analysis	▪ The financial security under the MLC 2014 amendments covers abandonment but does not adequately cover seafarers' hostage wage losses. The MLC 2018 amendments require the continuation of SEAs during captivity, but do not require mandatory financial security for seafarers' hostage wage losses. ▪ P&I insurance and common average do not fully protect seafarers' hostage wage losses unless there is death or injury.	▪ Mandating shipowners to provide financial security or insurance covering seafarers' hostage wage losses (at least for 12 months). ▪ Updating P&I insurance and general average rules to exilify cover seafarers' hostage wage losses (similar to abandoned seafarer claims).
Gold, M., 2016. ... And Justice for All? An Analysis of a Shipowner's Duty of Care in Piracy and Armed Robbery Attacks. Journal of Maritime Law & Commerce, 47(4), 501-529, Article 5. Available at: https://docs.rwu.edu/law_ma_jmlc/vol47/iss4/5	Analysis of shipowners' legal obligations to seafarers regarding their duty of care in the context of piracy and armed robbery attacks.	Legal & policy analysis	▪ Shipowners owe a duty of care to seafarers, but current law does not specify clear obligations for shipowners in cases of piracy. The MLC, STCW and ISPS provide safety standards but do not provide enforceable obligations on duties specific to piracy. ▪ Some courts support shipowner liability, while others favor defenses such as causation gaps and assumption of risk.	▪ Establishing mandatory, uniform laws defining shipowners' duties in piracy contexts, including the establishment of clearer liability frameworks by the IMO and national courts. ▪ Clearly addressing piracy risks, security measures, and extend of repatriation and compensation in the SEAs.

Table 4. Literature review matrix related to piracy and armed robbery against ships (in terms of seafarer rights) (Source: Author's contribution)

2.4. Key Topic – 4: Problems faced by seafarers during the COVID-19 pandemic

The key topic underlying the MLC 2022 amendments concerns the challenges faced by seafarers during the COVID-19 pandemic. The COVID-19 outbreak, caused by the SARS-CoV-2 virus and first reported in Wuhan, China in late 2019, was declared a pandemic by the Director-General of the World Health Organization (WHO) on March 11, 2020 (Stannard, 2020). The end of COVID-19 as a global health emergency was subsequently announced by the WHO Director-General on May 5, 2023 (UN, 2023). Table 5 presents a literature review matrix focusing on the key topic underlying the MLC 2022 amendments, specifically focusing on the problems experienced by seafarers during the COVID-19 pandemic.

Article	Scope	Methodology	Key Findings	Key Recommendations
Shan, D., Ochs, C., Rajagopal, S., Rojas Aldieri, H. A., & Zhang, P., 2024. Precariousness and vulnerability: Seafarers in the COVID-19 pandemic. Asian and Pacific Migration Journal, 33(1), 42-69. Available at: https://doi.org/10.1177/01171968241245731	Investigating how the Covid-19 pandemic has exacerbated seafarers' precariousness and vulnerability.	Semi-structured interview, with 29 participants (seafarers, union representative s, ship managers, maritime authorities)	- Seafarers faced job insecurity, mental health challenges, financial hardship and occupational stress due to crew change crisis during the Covid-19 pandemic. - Seafarers were left without access to healthcare, shore leave or fair repatriation due to fragmented international maritime governance and ineffective enforcement of MLC during the Covid-19 pandemic.	- Strengthening international maritime governance between port States, flag States and labor-supply States, including adoption of a systematic consistency plan for future crises and integration of seafarer OSH rights into national public health policies, particularly during the crisis such as the Covid-19 pandemic. - Ensuring stronger enforcement of the provisions of the MLC, 2006, particularly during the crisis such as the Covid-19 pandemic.
Şenbursa, N., 2024. Seafarers' Wellbeing on Board: Scoping Review. Transactions on Maritime Science, 13(1). Available at: https://doi.org/10.7225/toms.v13.n01.w04	Examination of the impact of psychological and physiological challenges on mental and physical wellbeing of seafarers.	Scoping review	The Covid-19 pandemic severely disrupted seafarers' repatriation and shore leave and increased seafarers' stress, mental instability and suicidal thoughts.	- Implementing tele-counselling, support groups, and mental health screening. - Improving communication channels with family.
Devereux, H. & Wadsworth, E., 2022. Forgotten keyworkers: the experiences of British seafarers during the COVID-19 pandemic. The Economic and Labour Relations Review, 33(2), 272-289. Available at https://doi.org/10.1177/10353046221079136	Investigation of the impact of the Covid-19 pandemic on British seafarers.	Survey research, with 352 British seafarers, and statistical analysis	During the Covid-19 pandemic, British seafarers with permanent contracts were better off than those with single voyage contracts – they were more likely to be paid and repatriated, and were less financially affected.	- Stricter enforcement of the MLC, 2006 to ensure SEAs are upheld, even during crises such as the Covid 19 pandemic. - Expanding seafarers' access to welfare services, such as ISWAN, and psychological support mechanism. - Developing contingency plans, by the shipping industry and flag States, to uphold

			During the Covid-19 pandemic, Employers extended contracts and altered leave terms unilaterally, citing Covid-19, often violated SEAs and MLC provisions.	labour protections in future global emergencies such as the Covid 19 pandemic. Structural reforms to limit reliance on single voyage contracts and ensure equal protections.
Pauksztat, B., Andrei, DM. & Grech, MR., 2022a. Effects of the COVID-19 pandemic on the mental health of seafarers: A comparison using matched samples. Safety Science, 146, 105542. Available at: https://doi.org/10.1016/j.ssci.2021.105542	Investigation of the impact of Covid-19 pandemic on seafarers' mental health.	Survey research with seafarers, and statistical (regression) analysis	- Covid-19 significantly increased symptoms of depression and anxiety among seafarers. - Some factors, such as longer than expected stays on board, long contract periods and working on ships with FoCs, were strongly associated with worsening mental health during the Covid-19 pandemic.	- Improving crew change mechanisms to prevent contract extensions, particularly during the crisis such as the Covid-19 pandemic. - Increasing attention to ships operating under FoCs where working conditions may be poor. - Preparing and implementing more robust occupational health frameworks to protect seafarers in the future global emergencies such as Covid-19 pandemic. - Developing personalized mental health support and resilience-building programs onboard.
Pauksztat, B., Grech, MR. & Kitada, M., 2022b. The impact of the COVID-19 pandemic on seafarers' mental health and chronic fatigue: Beneficial effects of onboard peer support, external support and Internet access. Marine Policy, 137, 104942. Available at: https://doi.org/10.1016/j.marpo.2021.104942	Investigation of the impact of Covid-19 pandemic on seafarers' mental health and chronic fatigue.	Survey research, with 622 seafarers, and analysis based on Structural Equation Modeling (SEM).	- Covid-19 significantly increased seafarers' mental health (depression and anxiety) and chronic fatigue. - Some factors, such as onboard peer support (e.g., friends, family) and good internet access helped reduce seafarers' mental health problems and fatigue.	- Increasing shipboard social support by promoting stable assignments, crew cohesion, and shared leisure time. - Providing free, fast, and reliable internet access for all seafarers to enable remote support and connection with families.
Beukelaer, CD., 2021. COVID-19 cause humanitarian crew change crisis at sea.	Analysis of the crew change crisis caused	Document review, interview,	The practices of temporary and voluntary extensions of seafarer contracts (SEAs) were seen as	Strengthening monitoring and enforcement by international organizations to prevent erosion of labour protections under the MLC,

Marine Policy, 132, 104661. Available at: https://doi.org/10.1016/j.marpol.2021.104661	by sudden border closures during the Covid-19 pandemic.	experience sharing	pragmatic responses to crew change crisis caused by sudden border closures during the Covid-19 pandemic, widely recognized as “force majeure”, but later became abusive, violating the labour protections under the MLC, 2006.	2006, including consistency plans for future crises.
Hebbar, AA. & Mukesh, N., 2020. COVID-19 and seafarers' rights to shore leave, repatriation and medical assistance: a pilot study. Int Marit Health, 71(4), 217-228. Available at: https://doi.org/10.5603/IMH.20.0040	Investigation of the impact of Covid-19 pandemic on seafarer rights.	A questionnaire-based pilot study, with seafarers, ship management companies, shipping companies and maritime administrations .	▪ 95% of participating seafarers were denied shore leave due to company and port restrictions during the Covid-19 pandemic. Denial of shore leave caused mental stress, fatigue and decreased work performance, and shore-based medical assistance was limited during Covid-19. ▪ More than 50% of participating seafarers were affected by their contract extensions due to Covid-19, many of whom were not volunteers.	▪ Facilitating shore leave in emergencies such as the Covid-19 pandemic, including building resilience and planning for consistency for future crises. ▪ Strengthening the enforcement of contractual limits under the MLC, 2006. ▪ Introducing a mandatory STCW module to raise awareness of seafarers' rights.
Sagaro, GG., Battineni, G., Chintalapudi, N., Di Canio M. & Amenta, F., 2020. Telemedical assistance at sea in the time of COVID-19 pandemic. Int Marit Health, 71(4), 229-236. Available at: https://doi.org/10.5603/IMH.20.0041	Investigation of the impact of Covid-19 pandemic on medical assistance at sea via telemedicine.	Statistical (descriptive) analysis, based on medical assistant records (2017-2020) of the Italian Telemedical Maritime Assistance	▪ Telemedicine / teleconsultation assistant provides a critical lifeline for medical support, especially in isolated environments such as during Covid-19 lockdowns. ▪ The number of seafarers assisted via telemedicine / teleconsultation nearly doubled in the first half of 2020 (during Covid-19 pandemic) compared to previous years, and the most common health problems of seafarers were gastrointestinal	▪ Strengthening the preventive measures onboard ships, including regular health education and use of PPEs.

		Service (C.I.R.M.)	diseases, injuries/traumas and dermatological issues.	
Stannard S., 2020. COVID-19 in the maritime setting: the challenges, regulations and the international response. Int Marit Health, 71(2), 85-90. Available at: https://doi.org/10.5603/IMH.2020.0016	Evaluation of the impact of Covid-19 pandemic on telemedical maritime assistance.	Statistical analysis, based on telemedical records (2017-2020) of the C.I.R.M.	▪ Total cases increased by 56% in Jan-June 2020 (during Covid-19 pandemic) compared to 2017-2019, and the most common cases were gastrointestinal diseases, injuries/traumas and dermatological issues.	▪ Strengthening telemedical capabilities and training onboard ships, including PPE usage and health education. ▪ Improving seafarers' access to shore-based medical support when needed.

Table 5. Literature review matrix related to problems faced by seafarers during the COVID-19 pandemic (Source: Author's contribution)

3. MATERIAL & METHOD

In this study, scientific databases such as *Google Scholar*, *Science Direct*, *Web of Science*, and *PubMed* were reviewed as well as the ILO's online document repository. The relevant MLC-STC meeting reports (ILO, 2014a; ILO, 2016a; ILO, 2018a; ILO, 2022a; ILO, 2022c) and the relevant amendment texts approved by the ILC/ILO (ILO, 2014b; ILO, 2016b; ILO, 2018b; ILO, 2022b) were retrieved and reviewed from the ILO's web site (www.ilo.org). As a result of this document review, a consolidated summary of the MLC amendments (2014-2022) was compiled, and the key topics underlying these amendments were identified. Following this, a literature review focusing on these key topics was conducted using the aforementioned scientific databases. These databases were searched using combinations of relevant keywords such as *abandonment of seafarers*, *disability of seafarers*, *financial security*, *shipboard harassment and bullying*, *piracy and armed robbery against ships*, *seafarer rights* and *COVID-19*. The literature review was designed to include peer-reviewed articles published within the last ten years, excluding dissertations, theses, and book chapters. In selecting articles for review, priority was given to those whose scope aligned with the identified key topics and that included findings and recommendations relevant to these topics. In this context, a total of 24 articles were reviewed, including: seven related to Key Topic 1 – financial security in cases of abandonment and death/long-term disability of seafarers; six related to Key Topic 2 – shipboard harassment and bullying; two related to Key Topic 3 – piracy and armed robbery against ships (from the perspective of seafarers' rights); and nine related to Key Topic 4 - problems faced by seafarers during the COVID-19 pandemic. The literature review provides valuable insights into what previous studies have reported regarding these key topics and highlights their key findings and recommendations, which serve as a foundation for overall evaluation and further discussion.

4. FINDINGS & DISCUSSION

The review conducted in this study reveals that, while the MLC, 2006 and its subsequent amendments have significantly advanced the standardization and improvement of seafarers' rights and protections, several systemic challenges persist in practice.

Although Gupta & Shanthakumar (2022), Jing (2023), and Sampson (2022) highlight improvements in the handling of post-MLC abandonment cases, they also point out deficiencies in flag State accountability and monitoring. They point out that many flag States – particularly flags of convenience (FoCs) – fail to proactively and effectively enforce the MLC provisions, allowing shipowners to exploit loopholes or evade responsibility. These studies also identify several key factors contributing to ongoing abandonment cases, including weak enforcement by flag States, the absence of mandatory abandonment notifications, and insufficient punitive measures against shipowners. Some researchers (Sampson, 2022; Jing, 2023) argue that the four-month limitation on unpaid wage protection may inadvertently encourage abandonment of seafarers by shipowners.

Insurance mechanisms, particularly the role of marine insurers/P&I Clubs, are emerging as both an advancement and a limitation. Petrinović et al. (2017) and Zhang et al. (2021) note that although the MLC 2014 amendments introduced a mandatory financial security requirement to address abandonment, coverage gaps remain – particularly for seafarers who suffer wage losses during hostage situations in piracy incidents or who file non-standard claims. There is a consensus in the literature that enforcement failures and jurisdictional uncertainties continue to weaken seafarers' protections. Blaskowsky (2024), for instance, advocates for the establishment of a dedicated tribunal to issue binding decisions in cases of non-compliance. Key recommendations converge on the need to strengthen international cooperation and to enhance inspections carried out by flag States, port States, and classification societies. Other suggestions include lifting the four-month wage limitation and extending financial security to include wage losses for seafarers held hostage (Zhang et al., 2021). Notably, the “*Joint Concentrated Inspection Campaign (CIC)*” organized by the Paris MoU and Tokyo MoU in 2024 focused on “*Crew Wages and Seafarer Employment Agreements (MLC, 2006)*” (Paris MoU, 2024).

The MLC 2016 amendments officially recognized harassment and bullying as occupational health and safety (OHS) concerns, as noted by Piñeiro & Kitada (2020). Numerous studies (Uğurlu et al., 2022; Österman & Boström, 2022; AlBreiki & Behforouzi, 2021; Piñeiro & Kitada, 2020) report high rates of shipboard harassment and bullying (mobbing), particularly affecting junior officers and female seafarers. Uğurlu et al. (2022) and AlBreiki & Behforouzi (2021) observe that younger, inexperienced, and lower-ranked seafarers are especially vulnerable, while Österman & Boström (2022) highlight even higher prevalence rates among women.

Pike et al. (2021) suggests mentoring programs to support female students, whereas Ergin & Sandal (2023) emphasize early-career interventions, highlighting the protective role of experience and seniority. These issues, rooted in both cultural and structural factors – such as hierarchical power dynamics, precarious employment, and a male-dominated maritime culture – negatively affect seafarers' mental health, job performance, and safety onboard. Recommended interventions include proactive anti-harassment and zero-tolerance policies, the integration of anti-harassment measures into International Safety Management (ISM) systems, mandatory seafarer training that addresses cultural and gender dynamics, confidential independent complaint mechanisms, and mentorship programs to foster safer and more inclusive shipboard environments. Notably, the IMO's Sub-Committee on Human Element, Training and Watchkeeping (HTW) is currently working to incorporate shipboard harassment and bullying into the STCW Code's training requirements on personal safety and social responsibility (IMO, 2023).

Issues at the intersection of OHS and psychosocial risks are addressed by both pandemic-related and workplace stressor studies. Lefkowitz et al. (2015) and Abaya et al. (2023) identify repatriation due to health issues—such as musculoskeletal, gastrointestinal, and traumatic injuries – as a continuing challenge. They emphasize the need for early intervention regarding common health risks, preventive health training onboard, expanded telehealth capabilities, and well-structured contingency plans to ensure continuous healthcare access during global emergencies. In parallel, studies on harassment and bullying emphasize the negative impacts on mental health and increased safety risks. Telemedicine and telehealth, as highlighted by Sagaro et al. (2020) and Stannard (2020), are viewed as promising solutions to some healthcare access issues—particularly when combined with preventive training and robust onboard support systems.

The COVID-19 pandemic significantly exacerbated seafarers' vulnerabilities. Numerous studies (Beukelaer, 2021; Devereux & Wadsworth, 2022; Shan et al., 2024; Pauksztat et al., 2022a, 2022b; Şenbursa, 2024; Blaskowsky, 2024) reveal critical weaknesses in international maritime governance and fragmented crisis responses among flag, port, and labor-supply States. These issues undermined MLC enforcement and led to increased psychological distress, denial of shore leave, limited access to healthcare, involuntary Seafarer Employment Agreement (SEA) extensions, and prolonged repatriation delays. The invocation of “*force majeure*” by many States during the pandemic further weakened MLC enforcement mechanisms. Recommendations call for improved international coordination, systematic contingency planning, stronger enforcement mechanisms and sanctions during global emergencies, better access to social assistance and psychological support, expanded welfare services, improved connectivity at sea, and the protection of seafarers from rights violations – particularly SEA extensions justified by “*force majeure*”.

Importantly, the absence of clearly defined obligations for shipowners during emergencies such as the COVID-19 pandemic—as well as under piracy and armed robbery scenarios (Gold, 2016) – underscores the need to clarify shipowners' responsibilities and liability frameworks during force majeure conditions in order to enhance seafarer protection.

In summary, the overall evaluation of the literature reviewed in this study underscores the urgent need for more effective implementation and further development of the Convention, as amended. This includes strengthening enforcement with robust sanctions, addressing gaps in financial security and insurance coverage,

institutionalizing safeguards against harassment and bullying onboard ships, and building greater resilience in labor rights to withstand future global emergencies and crises.

5. CONCLUSION & RECOMMENDATIONS

5.1. Conclusion

This study provides a consolidated summary of the amendments to the Convention between 2014 and 2022, along with a literature review focused on the key topics underlying these amendments. Based on the overall evaluation of the reviewed literature, several important conclusions can be drawn:

- 1) The Convention and its subsequent amendments (2014-2022) have made significantly progress in standardizing and enhancing the rights and protections of seafarers;
- 2) Nevertheless, several systemic challenges remain in practice, and further efforts are needed to improve both the development and effective enforcement of the Convention, as amended;
- 3) The observed key systemic challenges include:
 - Strengthening enforcement through the application of robust sanctions;
 - Enhancing financial protection by closing gaps in insurance and financial security coverage;
 - Promoting shipboard occupational health and safety (OHS) through the institutionalization of anti-harassment and anti-bullying safeguards; and
 - Building resilience in labor rights in the face of future global emergencies and crises.

In conclusion, realizing the vision of “*decent work for seafarers*” as envisioned by the Convention requires a multidimensional approach – one that combines regulatory compliance with stronger enforcement mechanisms, cultural transformation, and preparedness for global crises. Bridging the gap between regulatory standards and maritime realities can only be achieved through *more effective international cooperation* among all relevant stakeholders.

5.2. Recommendations

In light of the review conducted in this study, the author offers the following recommendations to support the further development and more effective enforcement of the MLC, 2006, as amended. These recommendations are also intended to stimulate further discussion among researchers, international labour organizations, and the global maritime community:

- 1) **Strengthening enforcement:** Establish an international mechanism to monitor and evaluate the MLC compliance of flag States – particularly FoCs – as well as insurance providers (e.g., P&I Clubs) and shipowners (as defined by the Convention). This mechanism may also include the publication of white and black lists to categorize compliance levels, thereby promoting transparency and accountability.
- 2) **Enhancing financial security protection:** Expand the scope of financial security and insurance coverage mandated by the MLC 2014 amendments to ensure full compensation of unpaid wages in cases of seafarer abandonment or hostage situations. This may also include the development of supplementary insurance products or government-backed financial guarantees to address gaps left by conventional P&I Club coverage, particularly in non-standard or crisis scenarios.
- 3) **Promoting shipboard occupational health and safety (OHS):** Integrate anti-harassment, anti-bullying, and psychosocial well-being components into the STCW Convention as a distinct and mandatory

training and certification module. Additionally, incorporate these elements into the ISM Code as an auditable and regularly inspected subject within safety management systems onboard ships.

- 4) **Building resilience for future emergencies/crises:** Introduce new obligations for flag States, port States, coastal States, shipowners, and insurance providers/P&I Clubs to develop and implement mandatory contingency plans for safeguarding seafarers' rights during global emergencies and crises. These plans should be subject to MLC inspections and should include: i) access to telemedicine services, mental health screening, onboard counseling, and peer-support programs; ii) guaranteed access to repatriation, medical care, and welfare services, regardless of border closures or claims of force majeure.

5.3. Limitations of this study and future perspective

The limitations of this study were that the key topics underlying the MLC amendments (2014-2022) are based are spread over a wide range there are few studies that address piracy incidents from the perspective of seafarers' rights. To mitigate this constraint, this study focused on the scientific articles that were both highly relevant and timely in relation to the key topics. However, future research would benefit from addressing each of these topics in a more focused and comprehensive manner, supported by in-depth literature reviews. Future comparative analyses and discussions with the findings of this study would further enrich the understanding of MLC-related challenges and developments. Possible directions for future research observed by the author throughout the review conducted in this study include:

- 1) Investigating the root causes of the post-2014 increase in abandonment cases and exploring sustainable preventive solutions;
- 2) Analyzing the impact of piracy and armed robbery incidents on the legal and human rights of seafarers;
- 3) Evaluating the effectiveness of various financial security models and insurance mechanisms, particularly in relation to complex claims such as unpaid wages during hostage situations;
- 4) Assessing the influence of telemedicine systems on seafarers' physical and mental health outcomes;
- 5) Examining the long-term psychological effects of extended contracts, abandonment, and onboard harassment on seafarers;
- 6) Exploring the role of leadership styles and shipboard organizational culture in preventing shipboard harassment and fostering psychosocial well-being at sea.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research authorship and/or publication of this article.

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