



THE IMPLICATION OF NON-ONBOARD TRAINING FOR CADETS

Adeola Oluwatoyin Osundiran*, Tshehla Makgopa

Abstract. Onboard training also known as seetime training is pivotal to the maritime education and training of seafarers because it is a determinant to progress of the cadet or seafarer. Moreover, the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 1978, makes it mandatory. This research reveals the implications of Non-Onboard training on Cadets. This study makes use of the qualitative research design. The data collection was conducted through a structured questionnaire which was distributed via Google Forms on various social media platforms. 31 seafarers who have gone through Maritime training school explained the various implications of lack of onboard training on their career trajectory. Their responses were thematically analyzed using themes such as unemployment, decreased morale, career limitation etc. This is exploratory research and it contributes to the body of knowledge in the aspect of Maritime Education and Training. The results show the detrimental impact on the progression of career paths for seafarers and the loss to both the nations that are negligent of this crucial training and the global maritime community. The research concludes by providing a way forward to overcome this obstacle stating what can be done by the government, international agencies and the cadet.

Keywords: Implication; Maritime Education and Training; Onboard Training.

University of South Africa,
Graduate School of Business
Leadership, Department of
Sustainable Development,
Cnr Alexander and Janadel
Drive, Midrand, Johannesburg,
South Africa

*** Corresponding author:**
osundo@unisa.ac.za

<https://doi.org/10.7225/imla30.17>

1. INTRODUCTION AND BACKGROUND

Onboard training is pivotal to the maritime education and training of seafarers. This training is essential to all seafarers as it is a determinant to the progress for the cadet or seafarer. Moreover, The International Convention on Standards of Training, Certification and Watch keeping for Seafarers 1978, makes it mandatory.

Global Maritime trade grew by 2.4% in 2023 (UNCTAD, 2025). A seafarer refers to a male or female that decides to work on board a seagoing vessel for a period of time. The desire may be borne out of many factors such as to increase the percentage of women at sea from 1.2%, love for adventure etc. (Osundiran and Makgopa, 2024). Uçak and Maşalacı (2025) also confirms other motivating factors that spur seafarers to embrace the sea faring profession, such as employment, passion for the sea, income, professional reputation amongst others. Whatever the motivation for embracing this high risk profession, seafarers have dedicated their lives to ensuring the seamless flow of the maritime supply chain.

Seafarers are crucial stakeholders and key players in the global maritime sector. The importance of the maritime sector lies in the reality that over 80% of global trade is done by sea (UNCTAD, 2025). Therefore, seafarers who handle shipments in the maritime supply chain ought to be skilled and trained for this huge task. Onboard training, also known as on board training, is pivotal for all seafarers. Baccasdoon, Bas, Guzman and Lacanilao (2024), opines that Onboard Training (OBT) is crucial because it provides practical training for seafarers which cannot be captured only in the textbooks. It forms part of Maritime Education and Training. The International Convention on Standards of Training, Certification and Watch keeping for Seafarers 1978, as amended prescribes 12 calendar months as the prerequisite seagoing service for candidates for officers in charge of a navigational watch (Baccasdoon; Bas, Guzman and Lacanilao, 2024).

A significant number of Nigerian cadets face unemployment due to lack sea time training. Foreign vessels will not employ them because of this gap in their maritime training. This poses a major problem as the maritime sector is in dire need of cadets.

Osundiran and Makgopa (2024), in their study states that training is a critical component for stakeholder engagement specifically for seafarers. Training is crucial for career development (Choi, Lim, Lee, Kim, and Kim, 2025). The research problem is that many African seafarers are not employed due to lack of onboard training. There is a paucity of research articles on the implication of this gap on the seafarers. Hence, this exploratory research aims to examine the

implications of lack of onboard training on cadets. This research answers the question what is the implication of the no onboard training on seafarers? Also to look at what is the way forward out of this quagmire? This research paper is categorized into five parts; the introduction, section 2 is the abridged review of literature, section three is the research methods; section 4 discusses the results; section 5 concludes and makes recommendations.

2. ABRIDGED LITERATURE REVIEW

UNCTAD (2025) posits that in 2023, the global fleet grew by 3.4%. The implication of this is the increase in demand for qualified and motivated personnel to operate seagoing vessels. The growth of the global fleet was driven primarily by container ships and liquefied natural gas (LNG) carriers, though bulk carriers and oil tankers continue to hold the largest share (UNCTAD, 2025).

Seafarers irrespective of their gender are a set of individuals that work inside the vessel or any type of maritime transport under fluctuating weather conditions over extended periods with the sole aim of ensuring a seamless transportation of oil, chemicals, containers, passengers, cargoes and other types of freight from origin to destination (Osundiran and Makgopa, 2024). However, there is a prevailing shortage of skilled seafarers, (Carrera-Arce, Baumler; Bhatia, and Hollander, 2025). For instance Mohammud and Godina (2024) posits on the importance of onboard training of cadets for the efficient management of energy. They emphasise on the pivotal role of seafarers in achieving energy-efficient ship operation

Lušić, et al. (2019) state that one of the key problems is the lack of experience, exposed and skilled seafaring officers. Although the global supply of officers is increasing steadily, the demand is still higher than the supply, BIMCO (2021) states that the global shipping industry is experiencing shortage of seafarers, with a deficit of approximately 26,240 as of 2021. To mitigate the risk of demand of the shipping market being more than the supply of seafarers there is need for at least an increase of 2% in the population of seafarers annually until 2026 (BIMCO, 2021). One of the critical ways to increase the supply of seafarers is the on board training.

3. EDUCATION AND TRAINING OF SEAFARING OFFICERS

Masuku (2021), refers to the education and training of the seafaring officers is regulated with the international regulations mainly based on the Standards of Training, Certification and Watch-keeping Conven-

tion for Seafarers (STCW) and this requires a continuous education that enables them to keep certificates of competencies valid. According to SAMSA (2025), the education, training, assessment and certification of seafarers services are achieved by setting minimum standards that are compliant with the International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978, as amended (STCW Convention), and the Merchant Shipping (Training, Certification and Safe Manning) Regulations 2021 (the Regulations). The STCW Convention set the minimum standards for the training and certification through the Seafarers' Training, Certification and Watchkeeping Code (STCW Code) (SAMSA, 2025).

3.1. Implications and Challenges

Mojafi and Van Der Westhuizen (2025) confirms that even though there is a global shortage of seafarers, South Africa has not been able to manage its seafarer development programme to ensure that its graduates attract the interest of global shipping companies and that the country gets positioned as a preferred seafarer labour supplier. Mojafi and Van Der Westhuizen cites SAMSA (2024) that there are just about 18 000 registered South African seafarers, which accounts for 1% of the global seafarer population, with just above 5000 STCW certified officers, 46% of which are engine officers and 54% deck officers.

For instance, in Korea the training of Korean seafarers contributed to the development of the Korean economy (Kim, 2021). Choi et al. (2025) attests that through CDP implementation, Korea could potentially create employment for an average of 4,613 maritime officers annually in the international merchant fleet and 1,450 in the domestic fleet from 2024 to 2034.

Hussaini (2019) affirmed the plight of Nigerian seafarers. Nigerian seafarers due to the lack of onboard training are struggling to gain employment on foreign vessels. Kiplimo and Ikua (2017) also reiterated the challenges that East African seafarers face. The authors affirmed that East African Maritime Administrations and Port Authorities play a major role however, the maritime sector has always faced great challenges ranging from poor infrastructural development, congestion, lack of ship repair equipment, inadequate human resource, and inadequate training facilities, among others.

Another salient but very critical issue is the Industry 4.0 which entails the modernisation of work, which is likely to have an impact on seafarers' employment,

training and skills in the foreseeable future (Baum-Talmor and Kitada, 2022). All vessels are now digitalised. Digitalisation potentially affects seafarers' skills and training, as well as their future career trajectories (Baum-Talmor and Kitada, 2022)

4. AIMS

- The following are the aims of this research:
- Identify seafarers that have missed out onboard training exposure
- Determine the benefits of onboard training
- Determine the implication of lack of onboard training
- Determine the importance of onboard training
- Provide recommendations

5. RESEARCH METHODS

This study employs qualitative exploratory research, which is best used to study rich and context-specific phenomena difficult to quantitatively measure through conventional methods. Chang and Chiang et al., (2025) used a qualitative research approach to invite experts and practitioners to discuss the safety needs of seafarers. This research made use of purposive sampling method by reaching out to members of various maritime platforms such as the Maritime SheEO community and the Female Seafarers Association of Nigeria. The electronic survey was developed and piloted with selected seafarers. The rationale for piloting with experts is because they provide an experiential perspective to what other seafarers are going through. The expert seafarer assisted with formulating of the survey questions.

An electronic survey was finalized based on the inputs received and sent across to the respondents via Google Forms. The form was shared on various international maritime social media platforms. 31 seafarers completed the survey and provided tangible responses that indicated the various implications of non-onboard training on seafarers. The responses of the seafarers were analysed thematically, and descriptive statistics were used to present the results. The rationale for using qualitative thematic analysis is based on the depth that it provides for research. Ahmed et al. (2025) confirm that thematic analysis (TA) is widely utilized for analyzing qualitative data because it provides a systematically structured yet adaptable framework for identifying, analyzing, and interpreting patterns of meaning within datasets.

6. RESULTS AND DISCUSSION

This section captures the responses from the seafarers.

6.1. Profile of Respondents

The respondents were from five nations namely, Algeria, Nigeria, India, Malawi and Kenya. 52% of the respondents were female whilst 48% of the respondents were male as displayed in Figure 1.

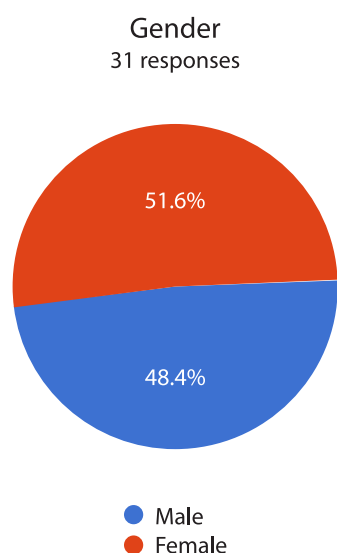


Figure 1. Gender of Seafarers (Source: Authors' 2025)

This gives a balanced overview of the implication of non-onboard training for both genders of seafarers. 55% of the respondents were youths ranging between the ages of 20-25 years. Whilst 9% of the respondents were of the age of 26-30 years. Only 2% of the respondents were of the age range of 36-45 years. This shows that the sea faring profession is predominantly made up of youths. This age range is characterized by enthusiasm, motivation, and readiness to engage in professional challenges."

74% of the respondents received their training in Africa whilst 19% in Asia and only 2% in Europe. 80% of the respondents are from Africa and might not be able to afford international training. 42% of the respondents were cadets while 23% were 3rd officers or 3rd engineers. 13% were 2nd officers or 2nd engineers. 7% of the respondents had the role of Chief Officer. 15% of the other respondents were, surveyors, able seamen and trainee.

6.2. Onboard Training Exposure

Onboard training is non-negotiable for seafarers. Even though 61.3% of the seafarers had undergone onboard training, 38.7% are yet to have this critical training. Notable also is the issue of the waiting period for onboard training. Figure 2, indicated the length of time the seafarers had to wait for onboard training exposure. 9.7% of the respondents did not wait at all. This represents the optimal scenario. However, 58.1% of the respondents had to wait for over two years for onboard training exposures. This has a tremendous implication on the seafarer and the nation they represent.

6.3. Benefits of Onboard Training

There are various benefits to onboard training. The respondents recognized theoretical knowledge was not sufficient. This section thematically outlines the benefits of onboard training as described by the respondents.

Preparation and Equipping

Learning in school alongside at sea helps deepens knowledge. Cadet training is a long time tradition of the seafaring profession, where cadets are transformed to become officers and eventually captains. It enhances the seafarer's career because it prepares them for the real world. This goes beyond class room

How long did you wait for maritime sea time?

31 responses

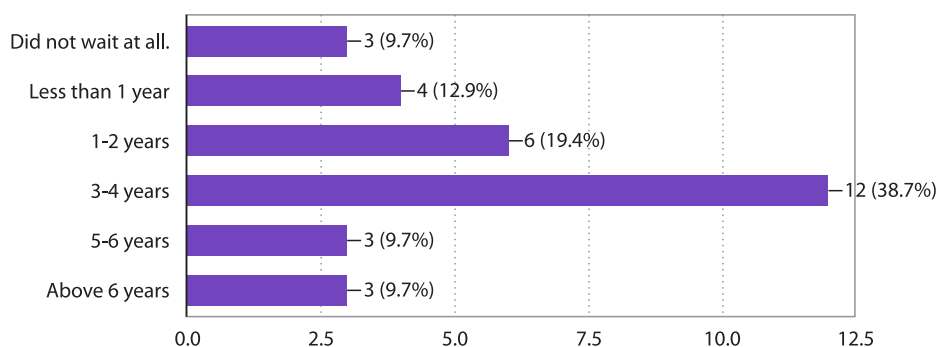


Figure 2. Onboard training Exposure (Source: Authors' 2025)

What is the implication of not having sea time training on your career?
31 responses

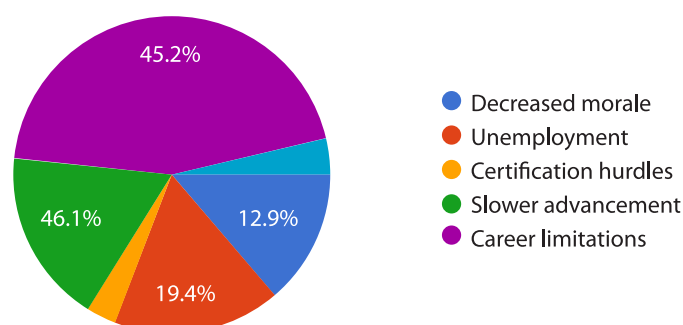


Figure 3. Implications of Lack of Onboard training (Source: Authors' 2025)

theories. The seafarer is exposed to first-hand experience of the activities that happens onboard a vessel and instills the necessary discipline and attitude required for me to be a competent officer. Growth, confidence on the job and resilience to never giving up. Provides hands on experience after class work and a clear understanding during final year

Travelling Exposures

Travelling is a form of learning. Travel provides experiential learning and broader perspectives. The seafarer is exposed to different culture, languages and nuances by virtue of travelling to different countries. The respondents agreed that OBT provides sailing experience & opportunity to associate with diverse nationalities.

Career Progression

On board training provides rapid progression in my career path. "The benefits were good. I learned to be independent. To work in situations where as a woman, I feel great when the work is done, especially steering or be in the bridge on watch and during the night it was interesting". "More knowledge and hands-on in my career field".

Operations and Team Building

The respondents acknowledged that OBT provided a new perspective to life and encourage working as a team. Another respondent mentioned that "Onboard training allowed for the application of classroom theory in real-life situations — from navigation and cargo handling to shipboard emergencies". "It helped me become confident and competent in operational tasks." Another respondent who is yet to be exposed to maritime onboard training stated that "If I were exposed to maritime onboard training, I would gain practical skills, confidence in vessel operations, and a deeper understanding of life at sea. It would also

qualify me for certification, enhance my employability, and set a strong foundation for a successful maritime career."

6.4. Implication of Lack of Onboard Training

The implication of lack of onboard training is that it has an emotional and psychological effect on the respondents. This is the only avenue seafarers have to ask questions and learn the practical aspect that was taught in school. The feeling of inadequacy and incompetency. The respondents not only acknowledged the benefits of onboard training but also indicated the desire to have onboard training. This was expressed by virtue of the various statements made such as "I didn't get an opportunity to work onboard a vessel." "I would have had real applications of all I learnt on the classroom to real life experience." "It's a big experience that I do want." "There is a lot of discrimination for African cadets, hence we, struggle a lot. There is no proper career path." "After, graduation from college the institution leave the cadets to struggle on their own". "Again there are no training vessel". "There is also a lot of corruption for cadets to secure sea time some have to give out money which is not fair".

Figure 3 shows the implication of lack of onboard training. The responses to the implication of lack of onboard training will be expressed thematically. The following categories will be used to address the implications; decreased morale, unemployment, certification hurdles, slower advancement and career limitations.

Decreased Morale

12.9% of the respondents mentioned that a lack of onboard training affected their morale. Statements such as "Bribery to get a job placement and fraudulent claims, setbacks as no growth due to the lack of

required training” were mentioned by the respondents. “Being told to pay for placement.” Getting sea time placements on board vessels is a thug of war.” “Lack of finance, earning is a big factor for me plus no experience or practical idea about my field of study my years of studying would go to ruins and just like that I’ll be classified as a lazy Nigerian youth.” The respondents have feeling of rejection. Career standstill and the feeling that the time spent in school is futile. “Without cadetship, one can’t become an officer, one will be frustrated and confused about life.” “I’ve visited maritime companies with physical branches in Nigeria only to be told no vacancy or no facilities to accommodate females. I’m currently demoralised and exhausted.”

Unemployment

19.4% of the respondent mentioned unemployment has a critical implication for lack of onboard training. Statements such as “I could not get placement onboard”. “Bribery to get a job placement”, “setbacks as no growth due to the lack of required training.” “No company want to employ me”.

Slower Advancement

16.1% of the respondents mentioned slower advancements. Statements such as “without onboard training, I would not be able to meet the necessary requirements to obtain or renew my Certificate of Competency (CoC), hence, preventing me from legally working as a qualified officer. “Difficulties in getting a job onboard.” Words such as delay, inability to sail were used to express the implication.

Career Limitations

45.2% of the respondents indicated that lack of onboard training limits their career. Statements such as “Delay in securing sea training opportunity” was mentioned by the respondent. “No practical training for effective career development”. “The challenges are that there are some things you may not know about ships hence applying to the industry is difficult.” “No onboard training makes it hard to understand and survive, however, the passion towards the seafaring profession is bigger”. “Without onboard training, I face challenges like limited practical experience, which affects my confidence in handling real-life maritime situations. It also hinders my eligibility for certification and career advancement in the maritime industry”.

6.5. Importance of Onboard Training

This section captures various statements from the respondents on the importance of Onboard training.

Onboard training is important because it enables the seafarer to complete the qualification as a shipboard officer. The respondents stated that “Cadet training is a long-time tradition of the seafaring profession, where cadets are formed to become officers and eventually captains”. The respondents reiterated that “no cadets, no captains, and no seafarer”. “The cadetship exposure will determine a good captain.” “It is the foundation of the maritime career and without it one cannot grow and advance.” It’s as important as junior high school is before entering senior high school and gaining university educational knowledge too. The respondents mentioned the importance of onboard training for career development and career exposure. Without the Officer-in-Charge, license cannot be obtained. “It is important to kick-start my career in the maritime industry’s. It is the foundation for great seafarers. “Without onboard training, it is impossible to progress in the career as a seafarer, and this could render all the years of study useless”. “All efforts will become a waste of time and resources”. “It gives you practical knowledge”. It’s important because it enhances knowledge. It’s important so that seafarers can gain knowledge and hands-on experience on the job. It gives an individual the edge in life and to fulfil contractual agreement.

Sailing is a necessity if one is to become a seafarer. It allows cadets and trainees to apply navigation, safety, and engineering concepts in live situations, making learning more practical and meaningful. Without it, no one can legally serve as a licensed officer. It will make you expert in pressure handling and management and way of working. Without onboard training you can’t advance in your career nor get relevant certification. It is the preparation ground for all seafarers. Onboard training is important because it provides hands-on experience essential for developing practical skills, safety awareness, and decision-making in real maritime conditions.

For career advancement one has to have Onboard training. Most of the shipping companies want experienced seafarers. It bridges the gap between school knowledge and field knowledge. It opens one’s eye to the reality of the career and helps one to learn the processes involved in day-to-day activities of running a vessel. It helps to build the cadet to have more experience in the field. “It makes us to be so acquainted with the start of sailing job.” Onboard training is important because without the mandatory 18 months onboard I can’t advance in my career as a deck officer. I have to do the Sea time to be eligible to sit for the Officer of the Watch, Certificate of Competency-COC, exams and from there become a 3rd officer and later on climb the rank ladder.”

6.6. Roles of Stakeholders

The ISO 26000 (2023), defines a stakeholder as an individual or group that has a stake or vested interest in the decisions or activity of a specified organisation. The role of stakeholder is very critical to ameliorating

the risk in the lack of onboard training for seafarers. Stakeholders include the various national governments, maritime training institute and the international agencies.

Table 1 shows the various roles of stakeholders.

Table 1. The Role of Stakeholders

Cadet	National Interventions	Maritime Training Interventions	International Agencies Interventions
Engage with Shipping companies for sponsorship	The government must engage and collaborate with maritime training schools, shipping companies etc.	Collaboration with shipping companies for sea time	Make countries and the flags represented accountable on the progress of seafarers especially countries where this issue is prevalent.
Network with Local, Regional, Continental and International Seafaring platforms. Network with professionals and apply for cadetship programs to secure sea time as soon as possible	The government should provide as many training vessels as possible for cadets or better still, sponsor cadets out in batches using any criteria they want to other advanced countries where they can learn and have them come back to work for the country	Partnership with the government on the actual number of cadets still not trained and insist on ensuring the training of the cadets	International agencies can offer to help by picking up as many cadets as they can and expose them to maritime/onboard trainings.
Update with relevant and contemporary skills	First of all, the government needs to subsidize the cost of getting Maritime Certifications, the prices are unreasonable high and not so affordable for the average-class citizens.	Maritime training institutes should establish tangible connections with maritime companies to employ, train their cadets and expose them to onboard trainings	By providing cadets with placement onboard and also providing funding and scholarship programs to cadets especially for accessing regulatory and Certifications support
Attend additional STCW courses and enhance their qualifications, which is a smart way to stay prepared and competitive for future opportunities	The government needs to set laws which will aid the compulsory placement of cadets for both the private and public owned maritime industries/ companies.	Through strategic international partnerships, investment in local training infrastructure, strict regulatory measures, and robust funding initiatives, Nigerian maritime training institutes can effectively address the critical shortage of onboard training for cadets.	International agencies can assist cadets by offering scholarships, funding onboard training programs, and partnering with maritime schools to provide access to global cadetship opportunities
Be actively engaged with maritime studies, attend relevant workshops and seminars, and sought internship or shore-based maritime opportunities to build practical knowledge.	Scholarships or financial assistance; Training infrastructure development; Industry partnerships. Regulatory support and Promoting the maritime industry and career opportunities."	They can keep of a correct database to know the actual number of cadet seeking for training, monitor their progress/ success and update as needed.	They can also support standardization of training, sponsor training vessels, and advocate for inclusion of cadets in international shipping fleets.

Source: Authors, 2025

7. WAY FORWARD, RECOMMENDATIONS AND CONCLUSIONS

Lušić (2019) recommends that one way to ensure a sufficient supply of seafarers is to build up a well-trained officer corps and adapt education systems for the upcoming introduction of autonomous ships. The respondents outlined the benefits, implication and importance that on board maritime training provides to the seafarer. The benefits are; more practical knowledge, practical experience and hands-on skills, enhances knowledge of ship operations and safety procedures, increases job prospects and provides career advancement opportunities”.

The respondents outlined the pivotal role that government can play in overcoming this issue, hence, by creating stronger partnerships between maritime academies and national or international shipping companies to ensure cadets get timely sea time opportunities. The government can help by partnering with shipping companies to guarantee sea time placements for cadets, funding training berths on vessels, and enforcing policies that require ships operating under the national flag to take on cadets. Additionally, they can establish dedicated training vessels and support maritime academies with placement programs.

Maritime Training Institutes should collaborate with shipping companies, international agencies, such that cadets can be allocated to different shipping companies even outside the country. Enhance relationship with other colleges. The institute could collaborate with both local and international shipping companies to secure guaranteed sea time placements for cadets. This partnership could ensure that companies commit to taking on trainees at regular intervals. Nigerian Maritime Training Institutes can mitigate this problem by forming stronger partnerships with local and international shipping companies to secure cadet placements. They can also invest in simulation-based training, operate their own training vessels, and establish a centralized placement system to ensure all qualified cadets get the required sea time.

International maritime organizations can collaborate with shipping companies worldwide to create a global placement system for cadets. This would allow cadets from regions with limited local opportunities to find sea time positions with foreign fleets. The international agencies can provide seagoing vessels to assist cadet at the point for training. International agencies like the IMO should make it compulsory for a vessels to have at least one cadet onboard.

The study recommends the following agencies to the National Maritime Authority, the International agencies to come to the rescue of seafarers.

In conclusion, onboard training is critical to the development of not only the seafarers but the nation and the international maritime community.

Acknowledgements: I hereby acknowledge Lois Njoku and the President of the Female Seafarers Association of Nigeria (FESAN) Koni Dunia for their relentless effort in ensuring that respondents complete the survey.

Conflict of interest: There are no conflicts of interest.

REFERENCES

- Ahmed Sirwan Khalid, Ribwar Arsalan Mohammed, Abdulqadir J. Nashwan, Radhwan Hussein Ibrahim, Araz Qadir Abdalla, Barzan Mohammed M. Ameen, Renas Mohammed Khahir, 2025. Using thematic analysis in qualitative research, *Journal of Medicine, Surgery, and Public Health*, Volume 6, 100198, ISSN 2949-916X, <https://doi.org/10.1016/j.glmedi.2025.100198>.
- Bacasdoon, J., Bas, P.C., Guzman R., and Lacanilao, A.K., 2024, June. Work and rest hours of deck cadets vis-à-vis their productivity onboard training ship in a structured onboard training program. In *Maritime Transport Conference* (No. 10). Universitat Politècnica de Catalunya. Iniciativa Digital Politècnica. Available at: <http://dx.doi.org/10.5821/mt.13186>
- Baum-Talmor Polina, Momoko Kitada, 2022. Industry 4.0 in shipping: Implications to seafarers' skills and training, *Transportation Research Interdisciplinary Perspectives*, Volume 13, 2022, 100542, ISSN 2590-1982, <https://doi.org/10.1016/j.trip.2022.100542>.
- BIMCO, Seafarer Workforce Report, 2021. The Global Supply and Demand for Seafarer in 2021, BIMCO: Copenhagen, Denmark, 2021.
- Carrera-Arce, M., Baumler, R., Bhatia, B. S., & Hollander, J., 2025. Seafarers' voices during the COVID-19 crisis and beyond: when excessive workload and related impacts become a turning point to quit. *Australian Journal of Maritime & Ocean Affairs*, 1–20. <https://doi.org/10.1080/18366503.2025.2480951>
- Chang, P.C. W. -S. Chou, W. -S. Chiang and Y. -C. Chiang, 2025. "Application of Qualitative Research to Analyze the Knowledge and Skill Requirements for Maritime Operational Safety," 2025 IEEE Underwater Technology (UT), Taipei, Taiwan, 2025, pp. 1-4. <https://doi.org/10.1109/UT61067.2025.10947377>
- Choi, J., Lim, S., Lee, B., Kim, A. and Kim, S., 2025. The Importance of Career Development Programs for Korean Seafarers: Case Studies from Key Shipping Countries. *International Journal of Contents*, 21(1), pp. 135-146.
- Hussaini, J.A., 2019. Assessment of national policies on capacity building: a case study of Nigerian seafarers development programme.

- Kim, S., 2021. "How can higher maritime education lead shipping growth? Korea's experience, 1948-1982," *Int. J. Marit. Hist.*, vol. 33, no. 1, pp. 90-11, Mar. 2021, doi: <https://doi.org/10.1177/0843871420974062>
- Robert Kiplimo, Bernard W. Ikua, 2017. Maritime Education Training in East Africa Region: Current Status, *Procedia Engineering*, Volume 194, 2017, pp. 351-355, ISSN 1877-7058, <https://doi.org/10.1016/j.proeng.2017.08.156>
- Lušić, Z., et al., 2019. 'Seafarer Market – Challenges for the Future', *Transactions on Maritime Science*, 08(01), pp. 62-74. <https://doi.org/10.7225/toms.v08.n01.007>
- Mojafi, T.A. and Van Der Westhuizen, T., 2025. Developing a management framework to position South Africa as a preferred seafarer labour supplier. *Journal of International Maritime Safety, Environmental Affairs, and Shipping*, p. 2476846.
- Mohammud Hanif Dewan, Radu Godina, 2024. An overview of seafarers' engagement and training on energy efficient operation of ships, *Marine Policy*, Volume 160, 2024, 105980, ISSN 0308-597X, <https://doi.org/10.1016/j.marpol.2023.105980>.
- Osundiran, A.O. and Tshela, M., 2024. An Examination of the Pivotal Role of Female Seafarers and the Underlying Challenges. *Annals of Maritime Studies/Pomorski Zbornik*. Available at https://openurl.ebsco.com/results?sid=ebsco:ocuc:record&bquery=IS+0554-6397+AND+DT+2024&link_origin=&searchDescription=Annals%20of%20Maritime%20Studies%20%2F%20Pomorski%20Zbornik%2C%202024
- Osundiran, O.A. and Tshela, M., 2024. Training as a Critical Tool for Stakeholder Engagement-A Case for Seafarers. *STAKEHOLDER ENGAGEMENT AND PARTICIPATION*, p. 259. Available at: <https://theaabd.org/2024-conference/files/2024-AABD-Conference-Proceedings.pdf#page=249>
- SAMSA, 2025. Seafarer Overview Available at <https://www.samsa.org.za/Pages/Seafarer-Service.aspx>.
- Şengül Şanlıer Uçak, Burcu Çelik Maşalacı, 2025. An in-depth study of factors influencing retention and career paths of Turkish seafarers in the profession, *Research in Transportation Business & Management*, Volume 59, 2025, 101299, ISSN 2210-5395. Available at <https://doi.org/10.1016/j.rtbm.2025.101299>.
- United Nations Trade and Development (UNCTAD), 2025. Review of Maritime Transport . Available at: <https://unctad.org/publication/review-maritime-transport-2024>