

The Effect of Work Experience And Training On Crew Performance With Work Skills As A Mediation On The MT Griya Enim Ship

Tri Moerphy Agustian, Zainul Kisman

Master of Management Study Program, Trilogi University Jakarta.

Email : trimoerphyagustian@gmail.com

Abstract

The maritime transportation sector, particularly tanker operations in the oil industry, requires highly competent ship crews to ensure safe and efficient operations. Crew performance is a critical factor that influences operational productivity, safety standards, and the reliability of ship activities. This study aims to examine the influence of work experience and training on ship crew performance, with work skills acting as a mediating variable. The research was conducted on the MT Griya Enim ship involving crew members who actively participate in ship operational activities. A quantitative research approach was employed using a survey method, where data were collected through structured questionnaires distributed to 41 crew members selected as respondents. The collected data were analyzed using Path Analysis with the assistance of SPSS version 23 software to examine the direct and indirect relationships among the variables. The results indicate that work experience and training have a positive and significant effect on work skills and crew performance. Furthermore, work skills significantly influence the performance of the ship crew. Mediation testing also reveals that work skills play an important mediating role in strengthening the relationship between work experience, training, and crew performance. These findings emphasize the importance of improving training programs and strengthening practical work experience to enhance crew competencies and overall operational effectiveness in the maritime transportation industry.

Keywords: Ship Crew, Work Experience, Training, Work Skills, Crew Performance, Mediation, Path Analysis

Abstrak

Sektor transportasi maritim, khususnya operasi kapal tanker di industri minyak, membutuhkan awak kapal yang sangat kompeten untuk memastikan operasi yang aman dan efisien. Kinerja awak kapal merupakan faktor kritis yang memengaruhi produktivitas operasional, standar keselamatan, dan keandalan aktivitas kapal. Studi ini bertujuan untuk meneliti pengaruh pengalaman kerja dan pelatihan terhadap kinerja awak kapal, dengan keterampilan kerja sebagai variabel mediasi. Penelitian ini dilakukan di kapal MT Griya Enim yang melibatkan anggota awak kapal yang aktif berpartisipasi dalam kegiatan operasional kapal. Pendekatan penelitian kuantitatif digunakan dengan metode survei, di mana data dikumpulkan melalui kuesioner terstruktur yang dibagikan kepada 41 anggota

awak kapal yang dipilih sebagai responden. Data yang dikumpulkan dianalisis menggunakan Analisis Jalur dengan bantuan perangkat lunak SPSS versi 23 untuk meneliti hubungan langsung dan tidak langsung antar variabel. Hasil menunjukkan bahwa pengalaman kerja dan pelatihan memiliki pengaruh positif dan signifikan terhadap keterampilan kerja dan kinerja awak kapal. Lebih lanjut, keterampilan kerja secara signifikan memengaruhi kinerja awak kapal. Pengujian mediasi juga mengungkapkan bahwa keterampilan kerja memainkan peran mediasi penting dalam memperkuat hubungan antara pengalaman kerja, pelatihan, dan kinerja awak kapal. Temuan ini menekankan pentingnya meningkatkan program pelatihan dan memperkuat pengalaman kerja praktis untuk meningkatkan kompetensi awak kapal dan efektivitas operasional secara keseluruhan di industri transportasi maritim.

Kata kunci: *Awak Kapal, Pengalaman Kerja, Pelatihan, Keterampilan Kerja, Kinerja Awak Kapal, Mediasi, Analisis Jalur*

Introduction

Background

The maritime transportation sector plays a crucial role in supporting the global oil industry, particularly in the processes of production, transportation, and distribution of petroleum products. Ships, especially oil tankers, function as vital infrastructure that connects production sources with refineries, storage facilities, and markets across different regions. Through maritime transportation, oil products can be delivered efficiently and reliably, supporting the continuity of industrial activities and economic stability in many countries. In addition to facilitating global trade, tanker ships also contribute to supply chain resilience by enabling diversification of transportation routes and sources of supply.

Along with their strategic role, tanker ships are also expected to operate with high standards of safety, efficiency, and environmental responsibility. Modern tanker operations increasingly adopt environmentally friendly technologies, including fuel-efficient engines and cleaner fuel systems, as part of global efforts to reduce environmental impacts from maritime transportation. Consequently, the success of ship operations is not solely determined by the vessel's technological capabilities but also by the competence and performance of the ship crew responsible for managing daily operations.

Crew performance represents a fundamental element in ensuring the effectiveness and safety of ship operations. The operational activities of a ship require crew members who possess strong technical competencies in operating and maintaining ship machinery, navigation equipment, and communication systems. Adequate technical expertise allows ships to function efficiently while maintaining safety standards in various maritime conditions. In addition, navigational skills, risk management capabilities, and the ability to respond to changing weather and sea conditions are critical competencies that influence the success of maritime operations.

Beyond technical abilities, the effectiveness of ship operations also depends on interpersonal skills and teamwork among crew members. Working on a ship often involves limited space, long voyages, and demanding operational responsibilities, which require strong communication, coordination, and mutual trust among crew members. Effective collaboration within the crew not only improves operational productivity but also supports the creation of a positive working environment on board.

In developing these competencies, work experience and training play significant roles in shaping the professional capabilities of ship crews. Work experience provides practical exposure that enables crew members to better understand complex maritime situations, improve decision-making abilities, and develop technical and operational expertise over time. Through continuous experience at sea, crew members gradually strengthen their problem-solving skills and adaptability in dealing with operational challenges.

Meanwhile, training serves as a structured effort to enhance the knowledge and skills required for safe and efficient ship operations. Technical training improves the ability of crew members to operate and maintain ship equipment, while navigation training strengthens their competence in using modern navigation technologies such as GPS and electronic charts. Additionally, training in risk management, emergency response, and interpersonal communication prepares crew members to effectively manage both technical and human-related challenges in maritime environments.

Despite the importance of these factors, operational performance challenges can still occur. Data from the performance index of the MT Griya Enim ship indicate a declining trend over recent years. The performance index reached 9.4 in 2022 but decreased to 8.44 in 2023 and further declined to 8.28 in 2024. This decline suggests the existence of operational challenges that may affect the overall performance of the ship crew and the efficiency of ship operations. Therefore, identifying the factors influencing crew performance becomes essential for improving operational outcomes.

Previous studies highlight that work experience and training are key determinants of employee performance in various organizational contexts. However, the effectiveness of these factors is often strengthened through the development of work skills that directly support job execution. In the maritime context, work skills may function as an important mechanism that connects experience and training with actual performance outcomes.

Based on these considerations, this study aims to examine the influence of work experience and training on the performance of ship crew members, with work skills serving as a mediating variable. By focusing on the crew of the MT Griya Enim ship, this research seeks to provide empirical insights into the dynamic relationship among these variables and contribute to the development of effective human resource management strategies in the maritime transportation sector.

Research Questions

Based on the research background and also the problem identification above, the problem formulation in this research is as follows:

1. Does work experience have an influence on work skills?
2. Does Training have an~affect~on Job Skills?
3. Do Work Skills have an influence on Work Performance?
4. Does work experience have an influence on work performance?
5. Does training affect performance?
6. Do Job Skills mediate the influence of Work Experience on Performance?
7. Do Work Skills mediate the influence of Training on Work Performance?

Literature Review

1. Main Theory

This research is based on Performance Theory and Human Capital Theory. According to Mangkunegara (2016), performance is the quality and quantity of work results achieved by an employee in carrying out their duties in accordance with assigned responsibilities. Human Capital Theory emphasizes that work experience, training, and skills are strategic assets that determine an organization's productivity and competitive advantage (Mathis, 2008).

2. Work Experience

Work experience is a process of learning and understanding accumulated from various situations an individual experiences, both formal and informal (Singgih & Bawono, 2010). Experience is not simply the length of time worked, but rather the extent to which an individual has mastered technical knowledge and skills and is confident in responding to the dynamics of the work environment (Sedarmayanti, 2013; Handoko, 2013).

3. Training

Training is a structured activity aimed at developing employee skills, knowledge, and attitudes to meet current organizational needs (Mathis, 2008; Panggabean, 2012). The effectiveness of training is determined by the quality of the instructor, the relevance of the material, the appropriateness of the method, and the enthusiasm of the participants in the learning process (Dessler, 2015; Rivai, 2014).

4. Job Skills

Job skills encompass an individual's ability to perform various job tasks by utilizing their mental and physical potential (Robbins, 2016). Skills are a manifestation of the application of knowledge and continuous training that enables employees to complete difficult tasks creatively and with a focus on quality improvement (Triton, 2009; Budi, 2009).

5. Employee Performance

Performance is the tangible result of an individual's work behavior, evaluated against specific standards or criteria established for a specific position (Sutrisno, 2016; Robbins, 2016). Performance is influenced by individual factors (effort, ability, role perception) and environmental factors (infrastructure, supervision, and training).

Previous Studies and Research Gap

Previous research shows that work experience, training, and job skills are important determinants in improving employee performance. Extensive work experience provides independence and responsiveness in work (Sedarmayanti, 2013). Effective training programs have been shown to significantly improve employee technical competence and motivation (Dessler, 2015). Similarly, robust job skills enable the efficient completion of complex tasks (Robbins, 2016).

Based on the literature, there is a close relationship, with training and work experience serving as the foundation for developing job skills. However, several research gaps remain. First, many previous studies have focused solely on the direct influence of experience and training on performance, while the mediating role of job skills has not been explored in an integrated manner. Second, these variables are often tested in parts, rather than within a complete structural model. Third, empirical evidence specific to certain organizational contexts with high work dynamics still requires further exploration.

Therefore, this study aims to fill this gap by integrating work experience and training into a single model that examines work skills as a mediating variable influencing employee performance.

Conceptual Framework and Hypotheses

Based on the literature review and conceptual framework, the research hypotheses are formulated as follows:

1. H1: Work experience has a significant effect on work skills.
2. H2: Training has a significant effect on work skills.
3. H3: Work experience has a significant effect on employee performance.
4. H4: Training has a significant effect on employee performance.
5. H5: Work skills have a significant effect on employee performance.
6. H6: Work skills mediate the relationship between work experience and employee performance.
7. H7: Work skills mediate the relationship between training and employee performance.

Research Methods

This study adopts a quantitative explanatory research design aimed at examining causal relationships among variables through hypothesis testing. The research focuses on investigating the influence of work experience and training on employee performance, with work skills acting as a mediating variable. The empirical analysis is conducted within the context of crew members of the MT Griya Enim Oil Tanker.

The population of this research consists of all crew members of the MT Griya Enim vessel. Due to the relatively small number of population members, a total sampling technique was applied, involving all 41 crew members as research respondents. Primary data were collected directly from respondents through structured questionnaires designed based on the indicators of each research variable.

The collected data were analyzed using path analysis to examine both direct and indirect relationships among the variables in the research model. Prior to hypothesis testing, the research instrument was evaluated through validity and reliability tests to ensure measurement accuracy. The statistical analysis was conducted using SPSS software to determine the significance of the causal relationships among work experience, training, work skills, and employee performance.

Research Findings and Discussion

1. Research Findings

The assessment of the measurement instrument's validity was conducted using the Pearson Correlation test through SPSS version 23 to ensure that each indicator used in this study accurately measures the intended variables. The validity test results for all variables Work Experience (X_1), Training (X_2), Work Skill (Z), and Employee Performance (Y) indicate that all 20 research indicators have an r-statistic value significantly higher than the r-table value of 0.31 for a sample size of 41 respondents at a significance level of $\alpha = 0.05$. For example, the indicators measuring Work Experience show correlation values ranging from 0.897 to 0.949, while the indicators measuring Work Skill range from 0.873 to 0.966. These results demonstrate that each indicator used in the questionnaire is valid and capable of accurately representing the variables examined in this study.

In addition to the validity test, reliability testing was conducted using Cronbach's Alpha to determine the consistency of the measurement instrument. The results show that all variables meet the reliability criteria, with Cronbach's Alpha values exceeding the threshold of 0.70. This indicates that the questionnaire used in this study has a high level of internal consistency and reliability. Therefore, the measurement instrument can be considered dependable for collecting data related to work experience, training, work skills, and employee performance among the crew members of MT Griya Enim.

The hypothesis testing was performed using Path Analysis to evaluate the direct and indirect relationships within the structural model. Based on the sub-

structure analysis and the t-test (significance level of 0.05), the findings are as follows:

- **Work Experience (X1) → Work Skill (Z):** The analysis indicates a significant positive effect. With a majority of respondents (over 85%) agreeing that their tenure at sea has enhanced their technical capabilities, the statistical result confirms that previous experience is a primary driver of current work skills. Therefore, the hypothesis is accepted.
- **Training (X2) → Work Skill (Z):** The path analysis shows a significant positive relationship. Respondents highly rated instructor competence (75.6% agreement) and material relevance (68.3%). This indicates that structured training programs on the MT Griya Enim effectively upgrade the crew's mental and physical capacities. Therefore, the hypothesis is accepted.
- **Work Experience (X1) → Employee Performance (Y):** The data reveals that work experience significantly influences performance. Crew members with over 10 years of experience (48.8% of the sample) demonstrated higher efficiency and better response times in critical situations. Therefore, the hypothesis is accepted.
- **Training (X2) → Employee Performance (Y):** Testing results indicate that training has a significant effect on performance. Effective training leads to work quality that meets company standards, as confirmed by 65.9% of respondents who feel their performance reflects corporate expectations. Therefore, the hypothesis is accepted.
- **Work Skill (Z) → Employee Performance (Y):** Work skill is proven to have a significant positive effect on performance. The ability to handle complex tasks (75.6% agreement) directly translates into effective goal achievement and operational success on the tanker. Therefore, the hypothesis is accepted.
- **Mediation Analysis (Work Experience → Work Skill → Performance):** The mediation test (Sobel Test) indicates that Work Skill significantly mediates the relationship between Work Experience and Performance. This suggests that experience alone is not enough; it must manifest as refined skills to truly optimize shipboard performance. Therefore, the hypothesis is accepted.
- **Mediation Analysis (Training → Work Skill → Performance):** Work Skill is proven to act as a significant mediator between Training and Performance. Training provides the theoretical foundation and practical skills that subsequently drive high-quality work results. Therefore, the hypothesis is accepted.

2. Discussion

This study examines the interplay between experience, training, skills, and performance among the crew of the MT Griya Enim.

- **The Impact of Work Experience:** Unlike the banking study where service quality was a "basic requirement," in the maritime industry, Work Experience

(X1) remains a critical differentiator. Manulang (2013) defines experience as the process of forming knowledge through task execution. For oil tanker crews, where safety risks are high, the 48.8% of "senior" crew members (over 10 years) provide a stabilizing effect, as they can respond faster to signs of danger compared to junior members.

- **The Strategic Role of Training:** The significant impact of Training (X2) aligns with Panggabean (2012), who emphasizes that training is focused on specific task execution. The high satisfaction with instructors and methods on the MT Griya Enim suggests that the bank's investment in human capital is effectively translated into operational readiness.
- **Work Skill as a Mediator:** Robbins (2016) posits that skills involve the capacity to complete tasks using mental and physical abilities. Our findings show that Work Skill (Z) is the "engine" that converts experience and training into actual Performance (Y). On a tanker, having "creative ideas for efficiency" (agreed by 73.2% of respondents) is a manifestation of high work skills that directly leads to effective performance.
- **Performance Excellence:** The positive perception of performance (65.9% – 78% agreement) across quality, quantity, and timeliness indicates a highly competent crew. This supports the satisfaction–loyalty framework in a different context: just as satisfied customers stay loyal, skilled and well-trained crew members perform reliably, ensuring the vessel's safety and the company's competitive advantage in the shipping industry.

Conclusion

Based on the findings of this study, the following conclusions can be drawn:

1. There is a significant influence between Job Experience and Job Skills.
2. There is a significant influence between Training and Job Skills.
3. There is a significant influence between Job Skills and Work Performance
4. There is a significant influence between Work Experience and Performance.
5. There is a significant influence between Training and Performance.
6. Job Skills mediate the influence between Job Experience and Performance.
7. Job Skills mediate the influence between Training and Performance.

Recommendations

Based on the research findings, several recommendations can be provided for the company and future researchers:

For the Company

1. Given the significant influence of work experience on work skills and employee performance, the management of MT Griya Enim should continuously encourage the development of crew members' practical experience. Providing opportunities for crew members to participate in diverse operational activities and technical tasks can enhance their professional competence and readiness in handling complex situations at sea.

2. Since training has a significant role in improving work skills and performance, the company should continuously evaluate and optimize its training programs. Training activities should remain relevant, well-structured, and aligned with the latest developments in the maritime and shipping industry to ensure that crew members possess up-to-date knowledge and technical capabilities.
3. The findings highlight the strategic role of work skills as a mediating variable between work experience, training, and employee performance. Therefore, the company should prioritize skill development programs that focus on technical proficiency, safety management, crisis response, and operational efficiency to strengthen the overall competence of the ship crew.
4. To further enhance performance, the company may implement a structured system for monitoring and evaluating the development of crew competencies. Regular assessments and performance feedback can help identify skill gaps and support continuous improvement among crew members.
5. The company should also consider implementing a recognition and reward system for crew members who demonstrate significant improvements in their work skills and performance. Such initiatives can increase motivation, encourage active participation in training programs, and foster a culture of continuous professional development on board.

For Future Research

1. Future researchers are encouraged to develop a more comprehensive conceptual model by incorporating additional variables that may influence the relationship between work experience, training, work skills, and performance. Variables such as motivation, leadership, organizational culture, or work environment may provide a broader understanding of the factors affecting employee performance.
2. Future studies may consider applying a longitudinal research design to observe the development of these variables over time. By collecting data at multiple time points, researchers can identify trends and changes in the relationships among work experience, training, work skills, and performance.
3. Further research may also integrate qualitative methods, such as in-depth interviews or case studies, to complement quantitative findings. This approach can provide deeper insights into contextual factors that may not be fully captured through survey-based quantitative analysis.
4. Future research could expand the scope of the study by involving respondents from different ships, shipping companies, or maritime sectors. This broader scope would improve the generalizability of the findings and

provide a more comprehensive understanding of crew performance in the maritime industry.

5. Researchers may also examine potential moderating variables such as leadership style, safety culture, or technological readiness to understand how different organizational conditions influence the relationship between work experience, training, work skills, and employee performance.

References

- Budi. (2009). *Pengaruh Pembelajaran VCT Model Games Terhadap Penguatan Nilai dan Keterampilan Sosial Siswa*. Tesis: Program Studi Pendidikan Dasar, UPI Bandung.
- Dessler, G. (2015). *Fundamentals of Human Resource Management*. 4th Edition, Global Edition, Pearson International.
- Handoko, T. Hani. (2013). *Manajemen Personalia dan Sumber Daya Manusia*. Edisi kedua. Yogyakarta: BPFE.
- Mangkunegara. (2016). *Manajemen Sumber Daya Manusia Perusahaan*. Bandung: PT. Remaja Rosdakarya.
- Manullang, M. (2013). *Manajemen Sumber Daya Manusia*. Jakarta: Ghalia Indonesia.
- Mathis, R.L., & Jackson, J.H. (2008). *Manajemen Sumber Daya Manusia*. Jakarta: Salemba Empat.
- Panggabean, M. S. (2012). *Manajemen Sumber Daya Manusia*. Cetakan Pertama. Jakarta: Ghalia Indonesia.
- Rivai. (2014). *Manajemen Sumber Daya Manusia untuk Perusahaan*. Edisi ke-6. Depok: PT. Raja Grafindo Persada.
- Robbins, S.P., & Judge, T.A. (2016). *Organizational Behavior*. 17th Edition. Pearson Education Limited.
- Sedarmayanti. (2013). *Manajemen Sumber Daya Manusia: Reformasi Birokrasi dan Manajemen Pegawai Negeri Sipil*. Bandung.
- Singgih, E. M., & Bawono, I. R. (2010). *Faktor-faktor dalam Diri Auditor dan Kualitas Audit (Studi pada KAP Big Four di Indonesia)*. Jurnal Nasional.
- Sutrisno. (2016). *Manajemen Sumber Daya Manusia*. Jakarta: Kencana Prenada Media Group.
- Triton. (2009). *Mengelola Sumber Daya Manusia*. Yogyakarta: Penerbit Oriza.