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The effect of training and work experience on performance: The mediating role of competence at PT Chandra Asri Pacific

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Abstract
Purpose: This study investigates the direct and indirect effects of training and work experience on employee performance, with competence serving as a mediating variable in the Marine Division of PT Chandra Asri Pacific.
Methodology: Using a quantitative approach, data were collected from all 66 employees through structured questionnaires and analyzed with Partial Least Squares–Structural Equation Modeling (PLS-SEM). Validity, reliability, and mediation tests ensured robust findings.
Results: The results show that work experience and competence significantly influence employee performance directly, while training has no direct effect. However, training enhances competence, which fully mediates its impact on performance. Work experience also affects performance indirectly through competence, indicating partial mediation. The model demonstrates strong explanatory ($R^2 = 0.616$) and predictive ($Q^2 > 0.34$) power.
Conclusions: Competence is the central mechanism translating training and experience into performance outcomes. Training is only effective when it strengthens competence, whereas work experience contributes both directly and indirectly.
Limitations: The study's scope is restricted to a single division with a male-dominated workforce, a cross-sectional design, and exclusive use of quantitative methods, limiting generalizability and contextual depth.
Contribution: Theoretically, this research validates competence as a mediator in human capital development. Practically, it highlights the importance of aligning training with competence-building, leveraging experiential learning, and implementing structured HR strategies to strengthen performance in safety-critical industrie.

Keywords: *Competence, Employee Performance, Training, Work Experience*

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1. Introduction

In the era of global competition and industrial transformation, human capital development is increasingly recognized as a strategic determinant of organizational success. Companies operating in high-risk and technology-intensive industries, such as petrochemicals, face particularly complex challenges in ensuring that their workforce possesses not only technical expertise but also the adaptive capabilities to respond to dynamic operational demands (Alshukri, Seun Ojekemi, Öz, & Alzubi, 2024). Within this context, employee competence is a critical element that serves as a bridge between individual learning processes and organizational performance outcomes (Khan et al., 2025).

Competence does not emerge automatically from training or accumulated experience; it requires a systematic process of knowledge integration, skill refinement, and behavioral adaptation.

PT Chandra Asri Pacific, Indonesia's largest integrated petrochemical company, provides an illustrative setting for exploring these dynamics. Its Marine Division is a strategic unit responsible for maritime logistics, distribution, and compliance with international safety standards. The division's workforce must navigate demanding tasks, such as vessel operations, port coordination, and adherence to strict safety procedures. Despite the importance of these functions, field observations have revealed several critical issues that raise questions about the effectiveness of current human resource development practices (Alfawaire & Atan, 2021). Employees often report that informal mentoring from senior colleagues provides more practical value than formal training programs, suggesting a potential misalignment between training content and operational realities (Ammirato, Felicetti, Linzalone, Corvello, & Kumar, 2023). Moreover, the absence of structured evaluation systems limits the organization's ability to assess whether training and work experience are effectively translated into enhanced competence and measurable performance improvement. Operational indicators such as timeliness, productivity, and service quality also demonstrate persistent room for improvement, reflecting the existence of competency gaps that have not yet been systematically addressed.

These challenges underscore the urgency of empirically examining the mechanisms through which training and work experience affect employees' performance. While training is generally intended to upgrade knowledge and skills, its effectiveness depends on whether it enhances competence relevant to daily operational tasks (Urbancová, Vrabcová, Hudáková, & Petrů, 2021). Similarly, work experience contributes to tacit knowledge and situational awareness; however, its impact may vary depending on how competence is developed and applied (Pilbeam & Karanikas, 2023). In other words, training and experience are necessary but not sufficient conditions; competence serves as the mediating factor that translates these inputs into performance outcomes (Abubakar, Elrehail, Alatailat, & Elçi, 2019). Without such mediation, investments in training may fail to yield significant performance improvements, and accumulated experience may not automatically lead to enhanced effectiveness in the workplace. Theoretically, prior research has highlighted the importance of competence as a mediator between learning interventions and performance (Shen, Bi, Gao, & Wang, 2020).

However, most empirical studies have been conducted in service, education, or healthcare contexts where the operational environment is fundamentally different from heavy industries (Benson, Obasi, Akinwande, & Ile, 2024). In contrast, the petrochemical sector is characterized by hazardous working conditions, reliance on advanced technologies, and strict compliance requirements, which amplify the strategic importance of competence (Sobaih & Elshaer, 2022). However, studies that empirically explore these dynamics in such contexts remain limited. Furthermore, existing research often relies on descriptive statistics or simple correlational analysis, without employing advanced modeling techniques that can rigorously test mediating effects (Guenther, Guenther, Ringle, Zaefarian, & Cartwright, 2023). This gap highlights the need for context-specific, methodologically robust research that can offer both theoretical advancements and practical implications for human resource development in high-risk industries.

To address this gap, the present study investigates the direct and indirect effects of training and work experience on employee performance, with competence as a mediating variable, within the Marine Division of PT Chandra Asri Pacific. This study is grounded in the Theory of Attitude and Behavior, which posits that individual actions and performance outcomes are shaped by competence developed through experience and reinforced by structured learning. Methodologically, this study employs variance-based Structural Equation Modeling (PLS-SEM). Compared to covariance-based SEM (CB-SEM), PLS-SEM is more suitable for research with smaller sample sizes, predictive objectives, and exploratory theoretical developments. Given that this study involves a relatively small population of 66 employees and aims to explain how competence mediates the relationship between training, work experience, and performance, PLS-SEM provides a rigorous yet flexible analytical approach that aligns with the objectives of this study.

The contributions of this study are twofold. From a theoretical perspective, this study extends competence-based human capital theory by empirically validating the mediating role of competence in a high-risk, technology-intensive industrial context. By demonstrating how structured training and experiential learning interact to influence performance, this study enriches the literature on competence as a central construct in organizational performance research. From a practical standpoint, the findings are expected to inform HR development strategies in the petrochemical sector. Specifically, the study provides evidence-based recommendations on how training programs can be better aligned with operational realities, how work experience can be systematically leveraged for competence development, and how evaluation mechanisms can be institutionalized to ensure that investments in human capital translate into measurable performance improvement. Ultimately, this study seeks to offer both scholarly insight and actionable guidance for strengthening workforce capabilities in industries where competence is not only a driver of productivity but also a safeguard for safety and sustainability.

2. Literature review and hypothesis/es development

2.1. Training, Work Experience, and Employee Performance

Training has long been recognized as a strategic tool to enhance employee knowledge, skills, and attitudes, thereby enabling individuals to perform their roles more effectively (Capatina, Juarez-Varon, Micu, & Micu, 2024). In line with Human Capital Theory (Becker, 1993), training is viewed as an investment that increases employees' economic value and productivity (Oltulular, 2025). Beyond direct skill acquisition, training facilitates the internalization of competencies that sustain long-term performance improvements. However, training does not automatically yield performance gains unless the acquired knowledge is effectively transferred to the workplace (Pervin & Begum, 2022). This indicates that competence is the mechanism through which training translates into measurable performance outcomes. In contrast, work experience represents a process of learning by doing, where individuals accumulate tacit knowledge, situational judgment, and technical capabilities through exposure to real tasks. Kolb's Experiential Learning Theory (1984) underscores the cyclical process of concrete experience, reflection, conceptualization, and experimentation that characterizes experiential learning (Xu, Lu, Yu, & Ding, 2025). In organizational contexts, work experience enhances technical mastery and strengthens problem-solving and adaptability, attributes that are central to sustained performance (Nson, 2024). Thus, both training and work experience contribute to performance, but their effects are more fully realized when they foster the competence.

2.2. Competence as a Mediating Mechanism

Competence has been conceptualized as a blend of knowledge, skills, attitudes, and behavioral attributes that enable individuals to perform effectively. From a Competency-Based Management perspective, competence is not merely an individual attribute but a strategic resource that underpins organizational effectiveness (Zheng & Dong, 2025). In this framework, competence mediates the influence of developmental inputs such as training and experience on performance, ensuring that learning is transformed into capabilities aligned with organizational objectives (Dutta, Mishra, & Budhwar, 2022). Empirical studies consistently confirm this mediating role, showing that the impact of training and experience on performance is magnified when filtered through the lens of competence.

This mediating role is especially crucial in the petrochemical industry, particularly within PT Chandra Asri Pacific's Marine Division. Maritime logistics involves complex coordination, compliance with strict international safety regulations, and the operation of advanced technologies under high-risk conditions (Seran, Kase, & Nursalam, 2022). In such an environment, training without competence integration may remain theoretical, while experience without competence development may lead to routine execution without innovation or improvement (Ichdan, 2024). Competence ensures that knowledge gained through training and skills accumulated from experience are consolidated into effective actions, minimizing errors and enhancing operational reliability (Ichdan & Maryani, 2024). Thus, competence serves as a linchpin between employee development and performance outcomes in safety-critical and technology-driven settings.

2.3. Theoretical Integration and Conceptual Framework

Integrating the above perspectives, Human Capital Theory positions training and experience as strategic investments in human resources, whereas Experiential Learning Theory explains how experience-driven learning cycles build tacit and adaptive skills (Meyer et al., 2021). Competency Theory and Competency-Based Management provide the conceptual foundation for understanding competence as both an individual and organizational capability that mediates the effects of training and experience on performance (Blanka, Krumay, & Rueckel, 2022). Supporting frameworks such as the Transfer of Training Theory and Social Learning Theory further reinforce the importance of the organizational context and interpersonal dynamics in determining whether training and experience effectively translate into competence.

Based on this synthesis, the present study builds a conceptual framework in which training (X1) and work experience (X2) are expected to influence employee performance (Y) both directly and indirectly through competence (M). The inclusion of competence as a mediating variable reflects the theoretical and practical consensus that developmental interventions alone are insufficient unless they are internalized into capabilities that match organizational requirements. In the case of Chandra Asri Pacific's Marine Division, where errors can have critical safety and financial consequences, competence development is not only desirable but also essential for ensuring operational effectiveness, reliability, and competitive advantage.

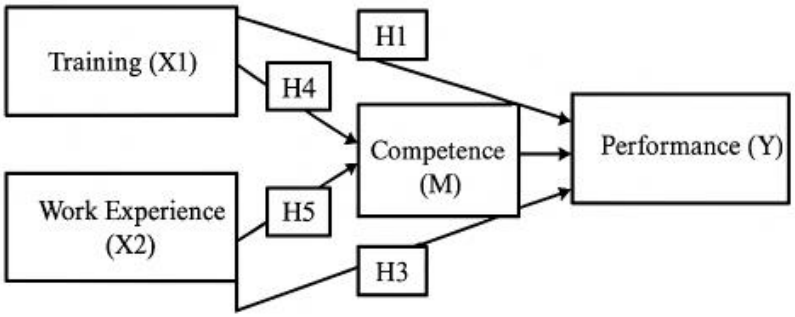

Figure 1. Conceptual Framework

3. Methodology

This study was conducted among all 66 permanent employees of the Marine Division at PT Chandra Asri Pacific, representing the entire accessible population because of the division's strategic role in maritime logistics, chemical distribution, and operational efficiency (Ghanad, 2023). A census sampling technique was employed to achieve full representation, minimize sampling bias, and ensure comprehensive insights into the relationships between training, work experience, competence and performance (Kotronoulas et al., 2023). Only employees with at least six months of service and active during the data collection period were included, while temporary workers and those on extended leave were excluded from the study.

3.1. Respondent Characteristics

The participants consisted of 56 male (84.8%) and 10 female (15.2 %) employees, reflecting the gender imbalance typically observed in maritime operations. In terms of age distribution, 21.2% were below 30 years, 43.9% were between 30 and 39 years, 24.2% were between 40 and 49 years, and 10.6% were above 50 years. Regarding tenure, 28.8% had worked for less than 5 years, 39.4% between 5 and 10 years, and 31.8% for more than 10 years. Based on job position, 65.2% were operational staff, 24.2% supervisors, and 10.6% managers. These characteristics provide important context for interpreting the findings, as performance and competence may vary across demographic and positional lines of the participants.

3.2. Instrument Development

Primary data were collected using a structured questionnaire complemented by direct observation, company documentation (e.g., training records, work logs, and performance evaluations), and a

literature review. The questionnaire employed a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) and was based on validated constructs adapted from previous studies. The adaptation process involved a translation–back-translation procedure to ensure semantic equivalence, followed by expert judgment tests with two HR specialists and one academic expert to refine item relevance and clarity. A pilot test with 10 employees outside the Marine Division was conducted to assess reliability, resulting in minor adjustments to the wording before the full survey was distributed.

3.3. Data Analysis

Partial Least Squares structural equation Modeling (PLS-SEM) using SmartPLS 3 was applied because of the relatively small sample size, non-normal data distribution, and the study's predictive and exploratory nature. The measurement model (outer model) was evaluated through indicator reliability (outer loadings ≥ 0.70 or ≥ 0.60 in exploratory contexts), convergent validity (AVE ≥ 0.50), and construct reliability (Composite Reliability and Cronbach's alpha ≥ 0.70, with ≥ 0.60 acceptable in exploratory studies). Discriminant validity was established using both the Fornell–Larcker Criterion and the HTMT ratio (HTMT < 0.90, with < 0.85 for stricter standards).The structural model (inner model) was then examined by testing the path coefficients (significant if $t > 1.96$, $p < 0.05$), R^2 values (0.25 = weak, 0.50 = moderate, 0.75 = strong explanatory power), f^2 effect sizes (0.02 = small, 0.15 = medium, 0.35 = large), and Q^2 predictive relevance ($Q^2 > 0$). Variance Inflation Factor (VIF) values were also reviewed to confirm the absence of multicollinearity (< 5 or < 3.3 conservatively). To test the hypotheses, non-parametric bootstrapping with 5,000 resamples was conducted to generate robust t-statistics and p-values.

3.4. Hypotheses Development

Drawing from Human Capital Theory, Competency-Based and Experiential Learning Theory, training and work experience are conceptualized as antecedents of performance, with competence serving as the key mediating mechanism (Becker, 1993). Prior research has consistently demonstrated that training enhances performance indirectly through competence, while work experience contributes directly to performance and indirectly by fostering higher competence. Thus, competence is expected to act as a full mediator in the relationship between training and performance and as a partial mediator between work experience and performance.

Based on this theoretical synthesis, the following hypotheses were formulated.
H1: Training has a significant direct effect on employee performance.
H2: Work experience has a significant direct effect on employee performance.
H3: Training significantly affects employee competence.
H4: Work experience significantly affects employee competence.
H5: Competence significantly affects employee performance.
H6: Competence mediates the relationship between training and employee performance.
H7: Competence mediates the relationship between work experience and employee performance.

These hypotheses form the basis for the empirical testing of the conceptual framework, which positions competence as the pivotal mechanism through which training and work experience contribute to performance in the Marine Division of PT Chandra Asri Pacific.

4. Results and discussion

4.1. Research Results

4.1.1. Respondent Profile

The following table presents the demographic and job-related characteristics of the 66 respondents from the Marine Division of PT Chandra Asri Pacific:

Table 1. Respondent Profile

No	Category	Sub-category	Frequency	Percentage (%)
1	Gender	Male	65	97.06%
		Female	1	2.94%

2	Age Group	20–29 years	8	11.76%
		30–39 years	27	40.91%
		40–49 years	24	36.36%
		50–55 years	7	10.61%
3	Job Position	Operator	51	77.27%
		Supervisor	9	13.64%
		Engineer	5	7.58%
		Manager	1	1.52%
4	Work Experience	1–5 years	12	18.18%
		5–10 years	16	24.24%
		More than 10 years	38	57.58%
5	Training Completed	IMO Level 3 + Fire + ISPS Code 3.24	50	75.76%
		IMO Level 2 + Fire + PFSO + IMDG + Loading Master	9	13.64%
		Other Combinations	7	10.60%

Source: Results of researchers' data processing (2025)

The respondent profile indicates that the Marine Division is a highly male-dominated environment (97.06%), with most employees in the productive age range of 30–49 years (over 77% of the employees). Most of them serve as operators (77.27%), reflecting the operational and technical nature of the division. In terms of tenure, more than half of the respondents have worked at the company for over ten years, suggesting a well-experienced workforce. Training participation is high, with 100% of employees completing multiple certifications, primarily in marine safety and hazardous material handling.

4.1.2. Data Distribution

Table 2. Summary of Mean Scores by Research Variable

Variable	Number of Indicators	Mean Score Range	Overall Mean	Interpretation
Training (X1)	8	4.35 – 4.47	4.42	Agree – Positive Perception
Work Experience (X2)	8	4.26 – 4.37	4.29	Agree – Valuable Experience
Competence (Z)	7	4.34 – 4.54	4.46	Strong Agreement – High Competence
Performance (Y)	12	4.31 – 4.46	4.41	Strong Agreement – Excellent Performance

Source: Results of researchers' data processing (2025)

The results of the descriptive analysis indicate that all four variables–training, work experience, competence, and performance–received strong positive responses from the 66 employees in the Marine Division of PT Chandra Asri Pacific.

1. Training (X1): Employees generally agree that the training is relevant, well delivered, and motivational. They felt that the training objectives were clear and achieved with high participation and applicability in daily tasks.
2. Work Experience (X2): Respondents confirmed that their experience is diverse, useful, and includes exposure to complex tasks requiring high accuracy, which supports the development of job-specific skills.
3. Competence (Z): The highest overall score among all variables, indicating that employees possess strong technical knowledge, discipline, teamwork skills, and mastery of job procedures.
4. Performance (Y): Employees reported high productivity, time management skills, autonomy, and loyalty. The ability to complete work on time and use resources efficiently highlights a strong-performance culture.

In summary, the descriptive statistics strongly support the hypothesis that training and experience contribute meaningfully to the development of employee competence and performance in high-risk operational settings, such as the Marine Division. These findings provide a solid foundation for further inferential analysis in the following sections.

4.1.3. Research Quality Testing

Table 3. Outer Model Evaluation: Construct Reliability and Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE	Interpretation
Training (X1)	0.913	0.929	0.622	Reliable and valid
Work Experience (X2)	0.925	0.938	0.656	Reliable and valid
Competence (M)	0.916	0.932	0.664	Reliable and valid
Performance (Y)	0.939	0.948	0.603	Reliable and valid

Source: Results of researchers' data processing (2025)

All constructs demonstrated high internal consistency (Cronbach's alpha > 0.90) and composite reliability (> 0.92), confirming that the indicators within each construct were stable and cohesive. The AVE values were all above 0.60, indicating strong convergent validity.

Table 4. Discriminant Validity (Fornell-Larcker Criterion)

Construct	Performance (Y)	Competence (M)	Training (X1)	Work Experience (X2)
Performance (Y)	**0.777**	0.748	0.579	0.708
Competence (M)	0.748	**0.815**	0.653	0.736
Training (X1)	0.579	0.653	**0.789**	0.643
Work Experience (X2)	0.708	0.736	0.643	**0.810**

Source: Results of researchers' data processing (2025)

Each construct's square root of the AVE (bold diagonal) is greater than its correlation with any other construct, indicating adequate discriminant validity across the model.

Table 5. Inner Model Evaluation: R^2, Q^2, and Effect Size (f^2)

Endogenous Variable	R^2	Q^2	Predictor	f^2 Effect Size	Effect Size Interpretation
Competence (M)	0.597	0.387	Training (X1)	0.137	Medium
			Work Experience (X2)	0.421	Strong
Performance (Y)	0.616	0.343	Competence (M)	0.232	Medium
			Training (X1)	0.006	Weak
			Work Experience (X2)	0.109	Weak

Source: Results of researchers' data processing (2025)

The results of the outer and inner model evaluations demonstrate that the proposed research model is both statistically robust and practically relevant. The R^2 values, which are 0.597 for competence and 0.616 for performance, indicate a strong explanatory power of the model in predicting the endogenous constructs. Additionally, the Q^2 values of 0.387 for competence and 0.343 for performance confirm that the model has strong predictive relevance, meaning it can reliably forecast outcomes beyond the observed data. In terms of effect sizes (f^2), Work Experience emerged as the most substantial contributor to Competence, while Competence itself played a central role in driving employee performance. Although Training also contributes positively, its direct effect on both Competence and Performance is relatively weaker. This suggests that while training is valuable, its impact is more indirect and may require reinforcement through practical applications and experience.

Taken together, the analysis confirms that the outer model meets all validity and reliability criteria, ensuring accurate measurement of constructs, while the inner model reveals statistically meaningful

relationships among the variables. The findings support the theoretical assumption that employee development, particularly through accumulated experience and strengthened competence, significantly influences performance outcomes. This highlights the importance of strategic investment in experience-based learning and competency development within the Marine Division of PT Chandra Asri Pacific.

4.2. Hypothesis Testing

Hypothesis testing in this study was conducted using the Partial Least Squares (PLS) method with the bootstrapping technique to determine the statistical significance of the relationships between constructs. Hypothesis testing in PLS is based on two key indicators: the t-statistic and p-value. A hypothesis is accepted (statistically significant) if the t-statistic exceeds the critical value, and the p-value is less than 0.05. For one-tailed tests (direct effects), the threshold t-value was 1.65, whereas for two-tailed tests (indirect effects), it was 1.96. This study examined both direct (from independent to dependent variables) and indirect effects through the mediating role of competence. A mediating variable serves to explain the *how* and *why* behind the relationship between two variables and may strengthen or weaken that relationship.

The findings indicate the following:

1. Work Experience (X2) and competence (M) have a significant direct effect on performance (Y).
2. Training (X1) does not have a significant direct effect on performance, but it does significantly influence competence, which in turn affects performance, indicating full mediation.
3. Work Experience (X2) also significantly affects performance, both directly and indirectly through competence, representing a partial mediation.

These results demonstrate the importance of competency development as a pathway through which training and experience translate into enhanced employee performance.

Table 5. Hypothesis Testing Results

Code	Hypothesis Description	Path Coefficient (O)	T-Statistic	P-Value	Result	Conclusion
H1	Training (X1) → Performance (Y)	0.066	0.506	0.613	Not Significant	Rejected
H2	Work Experience (X2) → Performance (Y)	0.319	2.108	0.036	Significant	Accepted
H3	Competence (M) → Performance (Y)	0.470	3.325	0.001	Significant	Accepted
H4	Training (X1) → Competence (M)	0.307	2.729	0.007	Significant	Accepted
H5	Work Experience (X2) → Competence (M)	0.538	4.417	0.000	Significant	Accepted
H6	Training (X1) → Competence (M) → Performance (Y)	0.144	2.194	0.029	Significant	Accepted (Full Mediation)
H7	Work Experience (X2) → Competence (M) → Performance (Y)	0.253	2.349	0.019	Significant	Accepted (Partial Mediation)

Source: Results of researchers' data processing (2025)

These findings underscore the crucial role of competence as a mediating factor in improving employee performance and highlight the effectiveness of experience-based development over training alone in the context of the Marine Division at PT Chandra Asri Pacific Company.

4.3. Discussion

Based on the results of the data analysis, the following findings were obtained.

H1: Training has a positive and significant effect on Employee Performance (Rejected)
The findings indicate that training (X1) does not have a direct and significant effect on employee performance (Y), with a t-statistic of 0.506 and p-value of 0.613. This result suggests that although training is perceived positively, it does not automatically lead to improved performance. This finding contrasts with the general assumption of Triandis' Theory of Attitude and Behavior (1980), which posits that behavior (performance) is influenced by attitudes (such as motivation gained through training). The insignificance of this direct effect may reflect a gap in training implementation or misalignment with the actual job tasks. This result aligns with Desa and Asaari (2019), who found that training programs may not directly impact job performance if they lack managerial support, follow-up, or task relevance. However, this contrasts with Baakeel (2019), who confirmed a significant training-performance link.

H2: Work Experience has a positive and significant effect on Employee Performance (Accepted)
Work experience (X2) significantly impacts employee performance (Y), with a t-statistic of 2.108 and a p-value of 0.036. This supports Triandis' theory, in which accumulated experiences shape behavior and increase efficiency. This finding is consistent with Zveglich Jr, Rodgers, and Laviña (2019), who emphasized the role of work experience in enhancing productivity and job readiness. This aligns with Abazeed (2019), who found that experience positively correlated with quality and decision-making. The results highlighted that accumulated knowledge and practical exposure significantly contributed to improved task execution, decision-making, and confidence.

H3: Competence has a positive and significant effect on Employee Performance (Accepted)
The analysis confirms that competence (Z) strongly influences performance (Y), with a t-statistic of 3.325 and p-value of 0.001. This is directly aligned with Triandis' Theory, which views competence as an internalized factor driving behavior. This is in line with studies such as Mahardiana and Thahir (2019); Mayasari and Tridayanti (2019), who affirmed that competence is a dominant predictor of performance. Furthermore, Wahyuni and Aliyaturrahma (2019) emphasized that competency improves job accountability and execution. This reinforces the need to focus on internal capability building (knowledge, skills, and attitudes) as a key lever for enhancing output and operational quality.

H4: Training has a positive and significant effect on Competence (Accepted)
Training significantly impacted competence (t-statistic = 2.729, p = 0.007), indicating that structured learning contributed to employee capabilities. This aligns with Triandis' view that attitudinal inputs (from training) lead to skill acquisition and behavioral competence. These results are consistent with Baakeel (2019), who emphasized that training improves both technical and behavioral competencies. Similarly, Wahyuni and Aliyaturrahma (2019) found that skill training in vocational contexts improved competence by over 82%. This finding supports the effectiveness of targeted training in building the knowledge and behavioral capacities required for high-risk maritime operations.

H5: Work Experience has a positive and significant effect on Competence (Accepted)
Work experience significantly enhances competence (t-statistic = 4.417, p = 0.000), which is consistent with experiential learning theory and Triandis' model, which considers experience as a key antecedent of competence development. This result is supported by Gagliardi, Grinza, and Rycx (2023), who found that longer work exposure led to better job fit, decision-making, and adaptive capabilities. Complex work experiences nurture high cognitive competence. In practice, this finding implies that structured exposure to diverse tasks strengthens practical knowledge, aligning with theory and prior empirical results.

H6: Competence mediates the relationship between Training and Employee Performance (Accepted – Full Mediation)
Although the direct effect of training on performance was not significant (H1), the mediation test showed that competence significantly mediated this relationship (t-statistic = 2.194, p = 0.029). This indicates full mediation, where training enhances performance only when it first improves competence. This is in line with Mayasari and Tridayanti (2019); Dewanti and Artaya (2019), who also found that training alone may not yield performance improvement unless it builds job-relevant competencies. The mediation process supports Triandis' notion that behavior (performance) results from internalized

capabilities, not simply attitude changes. This finding urges managers to shift their focus from training as a standalone intervention to training that explicitly targets competence outcomes.

H7: Competence mediates the relationship between Work Experience and Employee Performance (Accepted – Partial Mediation)
Competence partially mediated the effect of work experience on performance (t-statistic = 2.349, p = 0.019). Since both direct (H2) and indirect effects were significant, this indicates partial mediation. This aligns with Triandis' theory, which suggests that while experience directly shapes behavior, its effect is enhanced when translated into internalized competence. Al-Sakarneh (2019); Jonge and Peeters (2019) reinforce that competence transforms raw experience into productive, sustainable performance. This suggests that organizations must facilitate reflection, mentoring, and knowledge-sharing mechanisms to transform experience into meaningful competence.

The results of this study provide new insights into the relationship between training, work experience, competence, and employee performance within the Marine Division of PT Chandra Asri Pacific. While some findings confirm established theories, others deviate from conventional expectations, requiring theoretical and contextual interpretations. First, the insignificant direct effect of training on performance (H1) diverges from Triandis' Theory of Attitude and Behavior, which posits that attitudes shaped through training should manifest as improved behavior and performance. This discrepancy may be explained by the contextual characteristics of the Marine Division. Training in this setting is highly standardized, certification-driven, and compliance-oriented (e.g., IMO, ISPS Code, Fire, and IMDG). Such programs ensure regulatory compliance and safety preparedness but may not directly translate into immediate productivity gains for the company. Unlike developmental or skill-focused training in other industries, maritime training often equips employees with the baseline competencies required to operate safely rather than with advanced performance-enhancing capabilities. Thus, while training is necessary for minimum job readiness, it does not ensure superior performance outcomes.

Second, the mediation results provide critical insights into this apparent inconsistency. Although training does not directly improve performance, it significantly enhances competence (H4), which leads to improved performance (H6). This indicates that the impact of training is contingent on the internalization of knowledge and skills into competence. In other words, training serves as an input mechanism, but it only influences job outcomes when employees translate what they have learned into applied capabilities. This finding refines Triandis' model by suggesting that in technical and high-risk operational contexts, competence operates as a necessary "conversion mechanism" between attitude-oriented inputs (training) and behavioral outcomes (performance).

Third, the significant effects of work experience on both competence (H5) and performance (H2) reinforce the critical role of experiential learning in the workplace. Unlike training, experience directly shapes performance by exposing employees to complex, dynamic, and often unpredictable tasks. In maritime logistics, on-the-job challenges require quick decision-making, situational awareness, and procedural mastery, factors that are often acquired only through years of exposure. Prior studies have highlighted how work experience contributes to job adaptability and performance efficiency. This study extends these findings by demonstrating that experience not only has a direct effect on performance but also indirectly contributes to competence (H7). This dual pathway underscores the importance of structured reflection and knowledge sharing in transforming raw experience into sustainable competence.

Fourth, the mediating role of competence emerges as a central mechanism that integrates training and work experience with performance. Competence fully mediated the training–performance relationship and partially mediated the experience–performance relationship. This synthesis suggests that while work experience can enhance performance both directly and indirectly, training requires competence as an intermediary. These findings are consistent with those of studies such as Ghanad (2023), which argue that training alone is insufficient without competency building. They also align with experiential learning theory, which emphasizes that transforming experience into competence is essential for improving performance. Finally, this study contributes to the literature by highlighting the contextual

boundaries of theoretical assumptions. While Triandis' theory remains a useful foundation, its direct attitude-behavior link is less straightforward in safety-critical, regulation-driven industries, such as maritime logistics. Here, competence functions as a necessary mediator, ensuring that both formal training and practical experience are converted into effective job performances. By integrating theoretical reasoning with contextual explanations, this study strengthens the understanding of how human resource development strategies must be tailored to organizational realities.

5. Conclusions

5.1. Conclusion

Based on the results of the data analysis and hypothesis testing, this study concludes that training does not have a significant direct effect on employee performance. Instead, its contribution becomes meaningful when it strengthens employees' competence. In contrast, work experience and competence have significant direct effects on performance, with both training and work experience enhancing competence. These results highlight that competence functions as the key mediating variable, transforming inputs from training and work experience into measurable-performance outcomes. Accordingly, organizations should prioritize employee empowerment through diverse work experiences and structured competence development programs to achieve sustainable performance improvements.

5.2. Implications

The findings highlight that employee competence, shaped primarily by work experience and supported by targeted training, is a critical driver of performance. Therefore, organizations should move beyond generic training approaches and design structured competence development programs that emphasize real task engagement, mentoring, and opportunities to apply skills in practice. HR departments must integrate learning pathways that combine experiential learning with formal training, ensuring that employees not only acquire knowledge but also develop the competence necessary to perform effectively in demanding operational contexts.

Strategic Implications

From a broader perspective, investing in competence-building initiatives contributes to long-term organizational competitiveness. By strengthening competence, companies can enhance operational efficiency, ensure compliance with safety standards, and increase workforce adaptability in dynamic environments, such as maritime logistics. Beyond practical relevance, this study reinforces the theoretical understanding that competence acts as a key mediating mechanism linking training and work experience with performance. This finding provides empirical support for the competency-based perspective in the HR literature, highlighting its central role in bridging individual development practices with organizational outcomes.

5.3. Limitations

Despite providing valuable insights, this study has some limitations. First, it was restricted to a single division within one company, limiting the generalizability of the results across different industries or organizational contexts. Second, the respondent demographics were heavily skewed toward male employees, which may have biased perceptions of training, experience, and performance. Third, the study employed a cross-sectional design that cannot capture changes over time or establish causality. Finally, the exclusive use of quantitative methods limits the depth of understanding of contextual or behavioral factors. Future studies should overcome these limitations by including diverse organizational settings, balanced demographics, longitudinal designs, and mixed-method approaches.

5.4. Recommendations

Based on the study findings, organizations should take strategic steps to enhance employee performance through competency development. First, training programs should be redesigned to align closely with job-specific requirements and incorporate real-world applications, such as simulations, field practices, or scenario-based exercises. Such approaches improve the transfer of learning to practical workplace performance. Second, work experience, which plays a critical role in shaping both competence and performance, should be enhanced through structured career-development initiatives. These may include

cross-functional assignments, mentoring, coaching, and job rotation, providing employees with diverse exposure and opportunities to develop essential skills. Third, organizations should implement structured, measurable, and job-aligned competence development programs, recognizing competence as a central factor in translating training and experience into tangible performance improvements.

For future research, it is recommended to expand the population and sample size beyond a single company to increase the generalizability of the findings. Addressing respondent diversity is also essential, particularly in terms of gender and organizational roles, to capture a wider range of perspectives and reduce the demographic bias. Additionally, adopting a mixed-methods approach that combines quantitative surveys with qualitative techniques, such as interviews or focus group discussions, can provide deeper insights into the contextual and organizational factors influencing the relationship between training, work experience, competence, and performance. Such approaches can uncover nuances that are not fully captured through quantitative analysis alone, thereby enriching both theoretical understanding and practical applications of the research topic.

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