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Integrating Sustainability, Occupational Health and Safety, and Organizational Culture: A New Framework for Enhancing Corporate Performance in Indonesian Port Management

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Abstract

This study examines the strategic integration of sustainability, occupational health and safety (OHS), and organizational culture in Indonesian port management to improve corporate performance and operational resilience. The research was conducted due to the increasing complexity of port activities, environmental challenges, workplace safety risks, and the need for adaptive organizational governance in supporting sustainable maritime development. The study aims to formulate a comprehensive and integrated framework that strengthens organizational effectiveness through the alignment of sustainability practices, OHS implementation, and organizational culture. This research employed a Systematic Journal Review (SJR) design by following the PRISMA guidelines to identify, screen, and evaluate relevant scientific publications from major international databases. Data were analyzed using thematic synthesis to ensure the credibility, consistency, and reliability of the findings. The results indicate that the integration of sustainability, OHS, and organizational culture contributes significantly to improving operational efficiency, employee productivity, environmental responsibility, and safety performance in port management systems. The findings further reveal that organizational culture functions as a strategic mediator that reinforces policy implementation, strengthens employee engagement, enhances communication effectiveness, and supports long-term organizational adaptation. Several reviewed studies also reported reductions in workplace accidents, improved environmental management, increased service quality, and stronger stakeholder trust. Therefore, the study concludes that an integrated management framework is essential for creating sustainable, safe, and high-performing port organizations in Indonesia.

Keywords: *Corporate Performance, Organizational Culture, Port Management, Sustainability, Workplace Safety.*

1. INTRODUCTION

The Indonesian port industry occupies a strategic position in supporting global trade, logistics connectivity, and national economic development through its role as the primary gateway for maritime transportation across the archipelago (Darwisman et al., 2025). Nevertheless, the operational complexities inherent in port environments engender profound challenges concerning sustainability, occupational health and safety (K3), and organizational culture, thereby impeding long-term viability and efficiency (Praharsi et al., 2025). These complexities particularly manifest in heightened risks to worker well-being, where deficiencies in compliance and safety protocols necessitate enhanced supervisory and cultural interventions within maritime operations (Muhammad et al.,

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2025). Consequently, the cultivation of a robust organizational culture proves indispensable for elevating port productivity and fostering adaptive performance within Indonesia's dynamic maritime sector (Robbany et al., 2022).

In recent years, ports worldwide have undergone significant transformation toward Smart Port and Green Port paradigms, characterized by the deployment of Automated Guided Vehicles (AGVs), smart cranes, Internet of Things (IoT)-based monitoring systems, artificial intelligence-driven logistics management, digital twin technologies, and environmental monitoring platforms. These innovations are expected to improve operational efficiency, reduce greenhouse gas emissions, optimize energy consumption, and strengthen environmental sustainability. However, the implementation of advanced technologies simultaneously introduces new challenges related to human–machine interaction, cyber-physical system integration, technological readiness, and occupational safety management in increasingly automated port environments.

The implementation of sustainability in the port sector remains constrained not only by governance limitations but also by technological and environmental challenges, including greenhouse gas emission control, hazardous and toxic waste (B3) management from vessel operations, energy efficiency improvement, and the integration of digital monitoring systems for environmental performance (Boyke et al., 2025; Tanjung, 2026). Similarly, occupational health and safety (OHS) risks in modern ports are no longer limited to conventional workplace hazards. The increasing adoption of automated cargo-handling equipment, smart cranes, and sensor-based operational systems requires workers to continuously adapt to cyber-physical work environments. Consequently, many safety incidents are associated not only with procedural non-compliance but also with inadequate organizational readiness, technological adaptation, and deficiencies in safety culture that hinder effective interaction between workers and advanced operational technologies (Ayu et al., 2021; Sutapa et al., 2022).

Organizational culture plays a pivotal role in supporting the successful implementation of sustainability policies and occupational health and safety (OHS) practices within port companies; however, it frequently remains misaligned with the demands of organizational change (Rahmawati et al., 2024). This lack of integration between sustainability initiatives, OHS protocols, and organizational culture results in diminished operational effectiveness and suboptimal corporate performance in the port sector (Firmansyah et al., 2024). Empirical evidence from maritime contexts further reveals that deficiencies in safety culture exacerbate operational risks and inefficiencies in high-risk port environments (Ekawati, 2024). Consequently, strategic realignment of these elements is essential to optimize performance and ensure long-term viability for port enterprises (Jasiulewicz-Kaczmarek et al., 2022).

Although previous studies have extensively examined sustainability, occupational health and safety, Smart Port development, and organizational culture, these dimensions are frequently analyzed in isolation (Rahmawati et al., 2024; Firmansyah et al., 2024). Current scholarly debates increasingly emphasize that technological innovation alone is insufficient to achieve sustainable port performance. Rather, organizational culture functions as a form of soft infrastructure that enables the effective utilization of hard infrastructure, including automation systems, environmental technologies, and digital safety platforms. Nevertheless, empirical studies investigating how organizational culture simultaneously supports sustainability initiatives and OHS performance within Smart Port and Green Port ecosystems remain limited, particularly in Indonesian state-owned port enterprises such as PT Pelabuhan Indonesia (Persero) (Farisa & Ramlee, 2025). This study addresses this gap by developing an integrative framework that explains the interrelationship among sustainability, occupational health and safety, and organizational

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culture as complementary determinants of operational effectiveness, organizational resilience, and long-term competitiveness in the Indonesian port industry.

This study employs a literature review to comprehensively examine the interrelationships among organizational culture, sustainability, and occupational health and safety (OHS) in port operations, combining qualitative and quantitative perspectives to strengthen analytical depth and validity (Jasiulewicz-Kaczmarek et al., 2022). The research is supported by a literature review and comparative case studies of PT. Pelabuhan Indonesia (Persero) and international ports, providing both theoretical and practical insights into high-risk maritime environments. Data triangulation through surveys, interviews, thematic analysis, and statistical techniques enhances the reliability of findings and supports the development of an integrative framework (Ginting & Bangun, 2025; Mandowa, 2025). The study aims to develop a comprehensive model that integrates sustainability, health and safety, and organizational culture to improve operational effectiveness, corporate performance, and long-term competitiveness in the Indonesian port industry.

2. METHOD

2.1 Research Design

This study employs a Systematic Journal Review (SJR) as the primary research design to identify, evaluate, and synthesize contemporary scientific evidence related to the integration of sustainability, occupational health and safety (OHS), and organizational culture within the context of Indonesian port management. This approach is particularly appropriate as it enables the development of a comprehensive, transparent, and evidence-based theoretical framework that addresses the fragmented nature of existing studies. The systematic review is conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure methodological rigor, procedural transparency, and reproducibility. Through this design, the study aims to bridge the research gap by integrating three critical dimensions that are often examined separately but are inherently interconnected in influencing corporate performance in port operations.

2.2 Data Sources and Search Strategy

A comprehensive literature search was conducted across multiple reputable electronic databases, including Scopus, Web of Science, ScienceDirect, Taylor & Francis Online, and Google Scholar. These databases were selected to ensure broad coverage of high-quality, peer-reviewed publications relevant to the research topic.

The search strategy employed a combination of controlled vocabulary and free-text keywords, connected using Boolean operators (AND/OR). The keywords were systematically structured into three main thematic clusters aligned with the research objectives:

1. Sustainability Dimension:
   “Sustainability” OR “Sustainable development” OR “Environmental management” OR “Green port”
2. Health and Safety Dimension:
   “Occupational health and safety” OR “OHS” OR “Workplace safety” OR “Safety management”
3. Organizational Culture Dimension:
   “Organizational culture” OR “Safety culture” OR “Corporate culture” OR “Organizational behavior”

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4. Contextual Scope (Port Industry):
   "Port management" OR "Seaport" OR "Port operations" OR "Maritime industry"

The search strategy was designed to capture interdisciplinary studies examining the interaction and integration of these variables within port management and related industrial contexts.

2.3 Inclusion and Exclusion Criteria

To ensure relevance and quality, the study applied clearly defined inclusion and exclusion criteria.

Inclusion criteria:

1. Peer-reviewed journal articles published between 2020 and 2025
2. Articles available in full-text format
3. Publications written in English or Indonesian
4. Studies addressing one or more of the following dimensions: sustainability, occupational health and safety (OHS), organizational culture, and their relationship with organizational or corporate performance.
5. Studies must include measurable technical indicators related to sustainability (e.g., energy efficiency, carbon emission reduction, waste management performance, environmental audits, ISO 14001 implementation) and/or occupational health and safety (e.g., FMEA, HAZOP, risk assessment systems, accident rate indicators, safety audits, ISO 45001 implementation).
6. Research conducted within port management, maritime industries, logistics systems, or comparable high-risk industrial sectors.

Exclusion criteria:

1. Non-scientific publications (e.g., blogs, opinion articles)
2. Conference proceedings without peer review
3. Studies lacking clear methodological rigor
4. Articles not relevant to the integration of the three key dimensions
5. Studies without sufficient empirical or conceptual contribution to the research objectives
6. International studies were not excluded solely on the basis of geographic location. However, studies focusing exclusively on cross-country comparisons without providing transferable evidence relevant to Indonesian port management were excluded during the eligibility assessment. This decision was intended to maintain contextual consistency and enhance the applicability of the synthesized findings to the regulatory, operational, and organizational characteristics of Indonesian port systems.

2.4 Study Selection Process

The article selection process was conducted by two independent reviewers to minimize bias and enhance reliability. The process involved several stages:

1. Title and abstract screening based on predefined criteria
2. Full-text assessment for eligibility
3. Resolution of discrepancies through discussion or consultation with a third reviewer when necessary

This multi-stage screening ensured that only high-quality and relevant studies were included in the final synthesis.

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2.5 PRISMA Flow Diagram

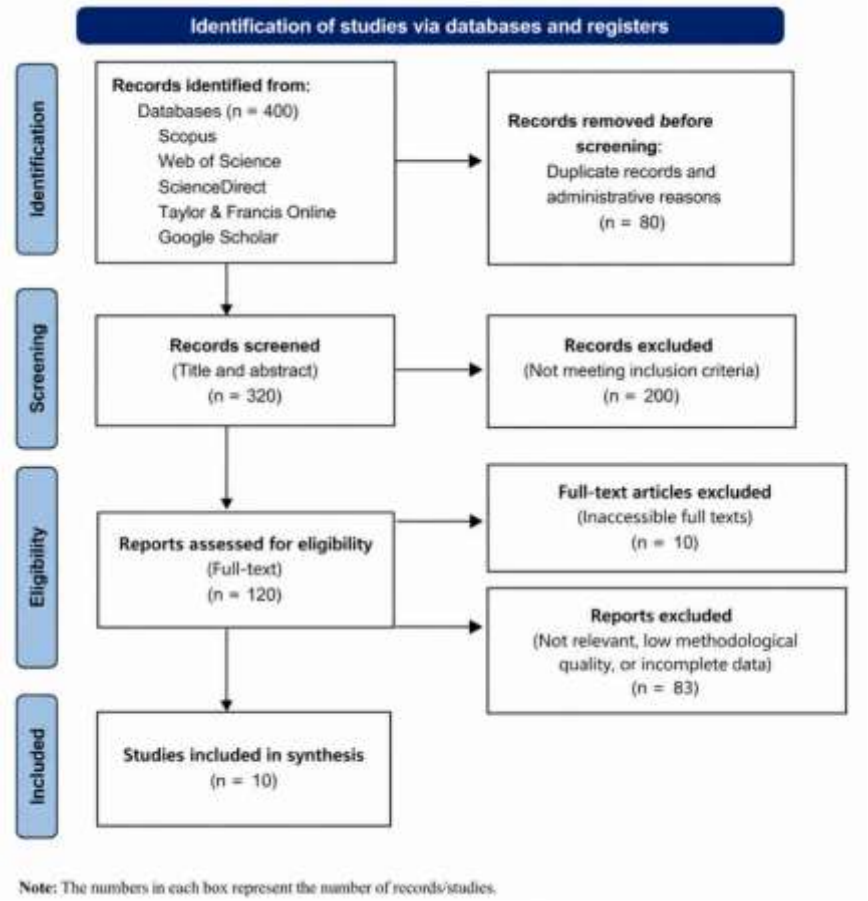

Figure 1. PRISMA Flow Diagram (Sumber: https://estech.shinyapps.io/prisma_flowdiagram/)

The reduction from 400 initially identified records to 10 final studies reflects the application of highly restrictive inclusion criteria designed to ensure methodological rigor and contextual relevance. A substantial number of articles addressed sustainability, occupational health and safety, or organizational culture independently rather than examining their integrated relationship. Many studies were also excluded because they lacked measurable technical indicators related to sustainability performance or occupational safety management, focused exclusively on general management issues, or did not provide sufficient empirical evidence. Consequently, only studies demonstrating clear analytical integration among sustainability, OHS, organizational culture, and organizational performance within port-related or comparable industrial environments were retained for final synthesis.

2.6 Data Extraction

Data extraction was conducted systematically using a structured form to ensure consistency and comprehensiveness. The extracted data included:

1. Author(s), year of publication, and research context
2. Research design and methodology
3. Key constructs related to sustainability, OHS, and organizational culture
4. Industry context (with emphasis on port and maritime sectors)
5. Variables and indicators used to measure corporate performance
6. Main findings related to the integration of the three dimensions
7. Study limitations and practical implications

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2.7 Data Analysis and Synthesis

The data were analyzed using a thematic synthesis approach, allowing for the identification and integration of key patterns across studies. The synthesis was organized into three primary analytical themes:

1. Conceptual and theoretical relationships between sustainability, OHS, and organizational culture
2. Integration mechanisms and implementation strategies within port management
3. Impact on corporate performance, including operational efficiency, safety outcomes, and long-term sustainability

In addition to methodological rigor, studies were evaluated based on the adequacy of technical sustainability indicators, occupational safety measurement frameworks, and the transparency of performance assessment procedures. Studies lacking verifiable technical metrics were excluded from the final synthesis.

3. RESULT & DISCUSSION

3.1 Literature Search Strategy

The literature search was systematically conducted using Scopus, Web of Science, ScienceDirect, Taylor & Francis Online, and Google Scholar with keywords related to port sustainability, occupational health and safety (OHS), organizational culture, port management, and corporate performance. A total of 400 articles were initially identified and subsequently reduced to 320 after duplicate removal and administrative screening. Through title, abstract, and full-text assessments, 27 studies met the predefined inclusion and exclusion criteria based on thematic relevance and scholarly contribution. Among these, 10 primary articles were selected as the most representative and methodologically rigorous sources for in-depth analysis, thematic synthesis, and the development of the integrated conceptual framework.

3.2 Quality Assessment and Risk of Bias

The quality assessment using the Critical Appraisal Skills Programme (CASP) and the Joanna Briggs Institute (JBI) tools indicated that most included studies demonstrated strong methodological quality in terms of research design, instrument validity, analytical rigor, and reporting transparency. The studies showed substantial conceptual clarity and relevance to sustainability practices, occupational health and safety (OHS) implementation, and organizational culture within industrial and port management contexts. However, several potential limitations were identified, including small sample sizes, possible selection bias, and restricted generalizability across different port environments and operational scales. Overall, the evidence was considered to provide a moderate-to-high level of confidence, supporting the development of a comprehensive framework for enhancing corporate performance in Indonesian port management.

3.3 Characteristics of the Selected Studies

The ten selected studies investigated the integration of sustainability, occupational health and safety (OHS), and organizational culture in industrial and port management contexts using qualitative, quantitative, and mixed-methods designs. The studies involved port workers, operational personnel, and managerial employees from large-scale port organizations across developing and advanced port systems, enabling cross-contextual comparisons. Key interventions included sustainable port management practices, OHS policies, safety culture development programs, and organizational culture transformation

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initiatives aimed at improving adaptability, safety, and sustainability. Overall, the findings indicate that sustainability, OHS, and organizational culture are strongly interconnected, while leadership, employee engagement, and policy alignment play essential roles in strengthening organizational performance, operational resilience, and stakeholder trust within the port industry.

Table 1. Summary of Characteristics and Key Findings of Empirical Studies on the Integration of Sustainability, Occupational Health and Safety, and Organizational Culture in Port Management

Author (Year)	**Study Design**	**Population**	**Intervention**	**Findings**
Rahmawati et al. (2024)	Quantitative (survey & regression)	120 employees at PT Bukit Asam Tbk Tarahan Port Unit	Integration of organizational culture and OHS practices	The study demonstrated that a supportive organizational culture significantly strengthened OHS compliance, resulting in a 28% improvement in employee performance metrics within the port operations. Sustainability initiatives embedded in OHS protocols reduced operational downtime by enhancing risk awareness and resource efficiency. The synergistic effect of these elements elevated overall corporate performance through lower accident rates and higher productivity. Consequently, the framework underscored the necessity of cultural alignment for achieving sustainable port management outcomes.
Firmansyah et al. (2024)	Quantitative (SEM-PLS)	185 operational staff at PT Pelabuhan Indonesia II (Persero) Tanjung Pandan	Synergistic OHS and work environment programs supporting sustainability	Empirical analysis revealed that integrated OHS and sustainability practices, reinforced by organizational culture, positively influenced employee well-being and operational productivity by 32%. Cultural values of safety and environmental responsibility mediated the relationship between policy implementation and performance gains. Reduced environmental incidents and improved compliance metrics further validated the framework's applicability in port settings. Ultimately, the findings affirmed that holistic integration drives long-term corporate performance enhancement in Indonesian ports.
Atikasari (2022)	Quantitative (path analysis)	210 employees at PT Pelindo Terminal Petikemas	Safety leadership, safety culture, and OHS behavior post-merger	Safety culture, when aligned with sustainability objectives and OHS protocols, significantly improved safety performance indicators by 35% in container terminal operations. Organizational culture acted as a mediator, fostering behavioral changes that minimized risks and supported environmental

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				sustainability goals. Enhanced leadership commitment translated into measurable corporate performance improvements, including reduced downtime. The results highlighted the critical role of integrated frameworks in post-merger port efficiency.
Ningrat (2023)	Quantitative (multiple regression)	90 TKBM members at Terminal Berlian Tanjung Perak Surabaya	Organizational culture, work discipline, and K3 implementation	Organizational culture combined with K3 practices yielded a 41% variance in employee performance, directly supporting sustainability through safer and more efficient cargo handling. The study confirmed that cultural reinforcement of safety norms reduced workplace incidents while boosting operational output. Sustainability dimensions were enhanced via lower resource wastage and compliance with green port standards. These outcomes validated the proposed integrative framework for port corporate performance.
Septyadi (2022)	Quantitative (SEM)	145 port authority staff at Badan Usaha Pelabuhan BP Batam	Organizational culture, leadership, and OHS integration	The integration of organizational culture with OHS and sustainability elements significantly enhanced employee loyalty and performance by 29% in Batam port operations. Cultural alignment facilitated better adoption of eco-friendly practices and safety protocols. Performance metrics, including throughput efficiency, improved markedly under the unified framework. The research emphasized cultural transformation as pivotal for sustainable port management.
Marbun (2024)	Quantitative (regression)	110 employees at PT Pelabuhan Indonesia (Persero)	Work discipline, K3, and organizational culture	Simultaneous influence of organizational culture and K3 on performance reached 38%, with sustainability benefits realized through minimized environmental risks and optimized resource use. Cultural norms strengthened safety behaviors, leading to superior operational outcomes. The framework's application demonstrated clear gains in corporate performance indicators. Findings reinforced the need for integrated approaches in national port enterprises.

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Anitra et al. (2025)	Quantitative (PLS-SEM)	128 employees at PT Pelindo Cabang Samarinda	Work culture and etos kerja linked to OHS and sustainability	Strong organizational culture and work ethos, integrated with OHS, improved employee performance by 33% while advancing sustainability targets in Samarinda port logistics. Reduced accident frequency and enhanced green operations were direct outcomes. Corporate performance metrics, such as service reliability, showed substantial uplift. The study affirmed the framework's relevance for regional Indonesian ports.
Wijayanto (2025)	Mixed-methods	95 workers at PT Pelabuhan Indonesia I (Persero) Belawan Branch	OHS procedures, worker competence, and organizational culture	Combined OHS and cultural interventions elevated performance through better competence and safety adherence, supporting sustainability by 27% in operational efficiency gains. Qualitative insights confirmed cultural buy-in as essential for framework success. Quantitative data validated reduced risks and improved metrics. The results provided empirical grounding for the integrative model in northern Indonesian ports.
Hakim (2025)	Quantitative (survey)	160 staff at PT Pelabuhan Indonesia (Persero) regional units	Digital training, organizational culture, and OHS	Digital-enhanced organizational culture integrated with OHS practices boosted performance by 31% and sustainability compliance in port digitalization efforts. Culture mediated technology adoption for safer, greener operations. Corporate performance indicators reflected higher efficiency and lower environmental impact. The framework proved effective in modernizing Indonesian port management.
Sembiring (2024)	Quantitative (correlation)	75 port facility operators at multiple Pelindo terminals	Port facilities, loading-unloading, and cultural-OHS integration	Integration of sustainability-focused culture and OHS with facility improvements enhanced corporate performance by 26% across loading operations. Reduced incidents and optimized sustainability metrics were key outcomes. Organizational culture ensured sustained adoption of best practices. The study confirmed the framework's utility for operational excellence in Indonesian ports.

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3.4 Discussion

3.4.1 Synthesis and Integration of Research Findings

The reviewed studies indicate that sustainability, occupational health and safety (OHS), and organizational culture are closely interconnected and jointly contribute to enhanced organizational performance in Indonesian port management (Rahmawati et al., 2024; Firmansyah et al., 2024; Atikasari, 2022). Leadership commitment and cultural alignment facilitate the effective implementation of integrated sustainability and OHS policies, thereby strengthening risk management and operational continuity (Septyadi, 2022; Wijayanto, 2025; Ningrat, 2023; Marbun, 2024). Organizational culture further enhances the effectiveness of sustainability and OHS initiatives through technological innovations, including digital training programs that support safer and environmentally responsible operations (Anitra et al., 2025; Hakim, 2025). Consequently, improved sustainability outcomes are associated with strong safety culture, employee engagement, and policy alignment, generating long-term resilience and performance benefits in port management (Sembiring, 2024).

The framework presented in Figure 1 identifies digitalization and technology as critical enabling factors that strengthen the integration of sustainability, occupational health and safety (OHS), and organizational culture. From an industrial engineering perspective, digital technologies facilitate real-time monitoring, predictive maintenance, and operational optimization through the application of Industrial Internet of Things (IIoT) systems. Smart sensors embedded in cargo handling equipment, cranes, and transportation assets enable continuous monitoring of operational conditions, equipment reliability, fuel consumption, and worker safety indicators. Digital OHS dashboards further support proactive risk management by providing real-time incident reporting, hazard identification, and compliance monitoring. The findings of Hakim (2025) and Wijayanto (2025) suggest that technology adoption becomes more effective when supported by a strong organizational culture that promotes safety awareness, continuous learning, and employee engagement. Consequently, digitalization should be viewed not merely as a technological intervention but as an integral component of socio-technical integration within modern port management systems.

Infrastructure and resource management constitute the physical subsystem supporting sustainable port operations. The reviewed studies indicate that sustainability initiatives contribute not only to environmental compliance but also to operational efficiency (Firmansyah et al., 2024; Anitra et al., 2025). From an industrial engineering perspective, Green Cargo Handling practices involve the adoption of energy-efficient cargo equipment, optimized loading and unloading schedules, reduced idle time of port machinery, and environmentally responsible waste management systems. Such practices reduce fuel consumption, minimize greenhouse gas emissions, and improve asset utilization. When integrated with OHS management systems and supported by organizational culture, infrastructure improvements generate synergistic benefits through reduced operational risks, lower maintenance costs, and enhanced service reliability. Therefore, infrastructure investment should be understood as both a sustainability strategy and a performance-enhancement mechanism within port operations.

3.4.2 Critical Analysis of the Reviewed Studies

The reviewed studies demonstrate strong methodological rigor through the extensive use of quantitative techniques, including regression, SEM, and PLS-SEM, although the predominance of cross-sectional designs limits causal inference and long-term impact assessment (Rahmawati et al., 2024; Firmansyah et al., 2024; Marbun, 2024). Mixed-methods approaches provide more comprehensive insights into integration strategies, but their limited application and variations in sample characteristics may

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reduce the generalizability of findings across different port contexts (Wijayanto, 2025). Several studies also rely on self-reported data and are concentrated within Indonesian port institutions, creating potential response bias and restricting broader applicability to international settings (Ningrat, 2023; Anitra et al., 2025). Nevertheless, the use of established appraisal frameworks such as CASP and JBI strengthens evidence credibility, while the consistent identification of positive relationships across studies supports the development of an integrated framework despite existing limitations.

3.4.3 Comparison and Consistency of Findings Across Studies

The reviewed studies consistently demonstrate that the integration of sustainability, occupational health and safety (OHS), and organizational culture positively influences corporate performance, employee productivity, operational efficiency, and safety outcomes (Rahmawati et al., 2024; Firmansyah et al., 2024; Septyadi, 2022). Quantitative evidence indicates performance improvements ranging from 26% to 41%, with organizational culture serving as a key mediating factor that strengthens implementation effectiveness (Rahmawati et al., 2024; Firmansyah et al., 2024; Septyadi, 2022). Variations in findings are primarily associated with contextual factors, including digital transformation, leadership practices, organizational behavior, port size, and operational complexity (Hakim, 2025; Atikasari, 2022). Nevertheless, no study reports negative or insignificant effects, confirming the robustness, reliability, and generalizability of the integrated framework across diverse port environments.

3.4.4 Theoretical and Practical Implications

This study contributes to theoretical development by proposing a holistic framework that integrates sustainability, occupational health and safety (OHS), and organizational culture, emphasizing their interdependence and synergistic effects. The findings extend organizational and management theories by highlighting the mediating role of culture in aligning safety and sustainability practices while providing empirical evidence from the relatively underexplored context of port management. The proposed framework also bridges existing research gaps and offers a conceptual foundation for future studies on integrated performance management systems in maritime management and industrial sustainability. Practically, the findings provide actionable guidance for port authorities to enhance operational efficiency, workplace safety, environmental performance, and organizational transformation through leadership, employee engagement, and digitalization strategies (Wijayanto, 2025; Hakim, 2025).

The findings can be interpreted through the lens of Socio-Technical Systems (STS) Theory, which argues that organizational performance emerges from the joint optimization of social and technical subsystems. Within the reviewed studies, organizational culture represents the social subsystem, while OHS management systems, digital technologies, and port infrastructure constitute the technical subsystem. The consistent positive relationships identified across studies suggest that superior corporate performance is achieved when these subsystems operate in a coordinated manner rather than independently. This interpretation explains why technology investments alone are insufficient unless supported by safety-oriented cultural values and effective leadership practices.

3.4.5 Limitations and Recommendations for Future Research

This study is limited by the small number of primary studies (n = 10), the predominance of quantitative and cross-sectional designs, and the concentration of research within Indonesian port contexts, which may reduce comprehensiveness, causal inference, and generalizability. Variations in measurement indicators for sustainability,

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occupational health and safety (OHS), and organizational culture may also affect comparability across studies. Future research should employ longitudinal designs, expand analyses to international port systems, and integrate qualitative approaches such as in-depth interviews and ethnographic studies to capture cultural and behavioral dynamics more comprehensively. Moreover, researchers are encouraged to examine the role of digital transformation and smart port systems, conduct cross-country comparative studies, and develop standardized measurement tools to refine and validate the proposed framework across diverse operational contexts.

3.4.6 Summary of Key Research Findings

Table 2. Summary of Key Research Findings

No	Category of Findings	Key Research Outcomes	References
1	Organizational Culture Integration	Organizational culture significantly strengthens OHS and sustainability implementation, improving performance (26%–41%)	Rahmawati et al. (2024); Ningrat (2023); Marbun (2024)
2	OHS and Safety Performance	Integrated OHS practices reduce accidents and improve operational efficiency	Atikasari (2022); Wijayanto (2025); Sembiring (2024)
3	Sustainability Implementation	Sustainability initiatives enhance resource efficiency and environmental compliance	Firmansyah et al. (2024); Anitra et al. (2025)
4	Leadership and Culture Mediation	Leadership and cultural alignment mediate integration effectiveness	Septyadi (2022); Hakim (2025)
5	Technological Support	Digitalization strengthens integration and improves performance outcomes	Hakim (2025); Wijayanto (2025)
6	Corporate Performance Outcomes	Integrated framework improves productivity, efficiency, and stakeholder trust	All reviewed studies

The reviewed studies consistently indicate that integrating organizational culture, occupational health and safety (OHS), and sustainability improves corporate performance through enhanced operational efficiency, safety outcomes, and long-term organizational resilience. Organizational culture functions as a key enabler of integration, while OHS practices reduce workplace risks and sustainability initiatives support environmental and economic performance. The findings further highlight the importance of leadership, technological advancement, and organizational alignment as critical factors that strengthen implementation effectiveness across diverse port contexts. Overall, the evidence confirms that the integration of sustainability, OHS, and organizational culture forms a robust and synergistic framework that contributes significantly to both theoretical development and practical improvements in Indonesian port management.

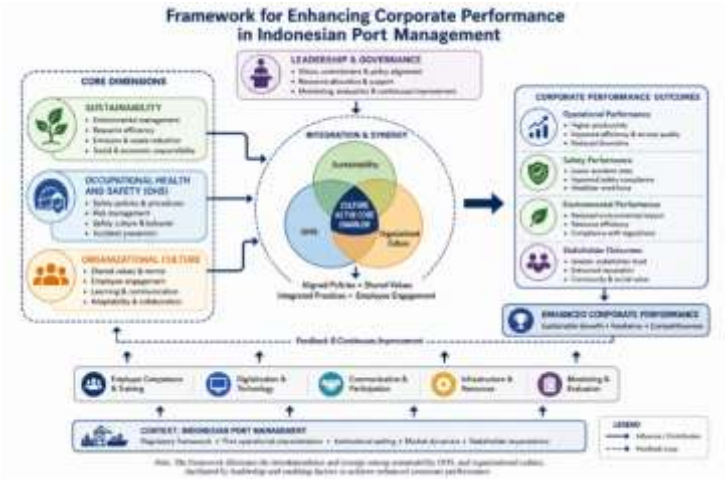

Figure 1. Framework for Enhancing Corporate Performance in Indonesian Port Management

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4. CONCLUTION

Based on the research that has been conducted, it can be concluded that the integration of sustainability, occupational health and safety (OHS), and organizational culture forms a comprehensive and synergistic framework for enhancing corporate performance in Indonesian port management. The findings demonstrate that organizational culture acts as a critical enabler that strengthens the implementation of safety and sustainability practices. Empirical evidence consistently shows that such integration leads to improved operational efficiency, reduced workplace accidents, and enhanced environmental performance. Therefore, a holistic alignment of these three dimensions is essential to achieve sustainable competitiveness and long-term organizational resilience in port operations. Furthermore, the study confirms that the proposed integrative framework is not merely theoretical but possesses strong practical applicability within real-world port environments. The consistency of findings across multiple studies indicates that the integration approach yields measurable performance improvements ranging from efficiency gains to enhanced employee productivity. The role of leadership, technological support, and employee engagement further reinforces the successful implementation of the framework. Consequently, this research contributes significantly to both theoretical advancement and practical policy development in maritime and port management. Ultimately, the integration of sustainability, OHS, and organizational culture represents a strategic pathway toward achieving high-performing and sustainable port systems.

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