

Integrative Human Resource Governance for Enhancing Coordination and Performance in Shipyard Industries of Batam

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Abstract

Purpose: This study aims to explain how integrated Human Resource (HR) governance strengthens coordination mechanisms and improves organizational performance in the shipbuilding industry in Batam.

Methodology: This study adopts a qualitative case study approach involving three major shipyard companies in Batam, Indonesia. Data were collected through in-depth interviews with nine key informants, including HR managers, operations heads and project supervisors. The data were analyzed thematically to identify the relationships between HR governance practices, coordination processes, and performance outcomes.

Results: The study identified four key findings. First, integrated workforce planning aligns the labor allocation with the project timelines, thereby reducing delays and rework. Second, cross-functional coordination supported by shared HR governance frameworks improves communication across units, enabling faster decision making and problem solving. Third, structured training and competency development programs enhance workforce adaptability and improve technical accuracy. Fourth, integrated performance evaluation systems that combine individual and team-based indicators strengthen accountability and collaboration, resulting in improved productivity and organizational responsiveness.

Conclusions: The findings show that integrated HR governance plays a vital role in strengthening coordination, improving organizational performance, and enhancing competitiveness through collaborative leadership and an open organizational culture.

Limitations: This study is limited to three large shipyard companies in Batam; therefore, the findings may not fully represent practices across the broader maritime industry.

Contributions: Theoretically, this study enriches the literature on integrated HR governance by providing empirical evidence from the shipbuilding sector. Practically, it provides guidance for managers and policymakers in developing adaptive, collaborative, and performance-oriented HR systems.

Keywords: Batam, Integrative Human Resource Governance, Organizational Coordination, Performance Improvement, Shipyard Industry

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1. Introduction

The shipbuilding industry is one of the strategic sectors in national and global maritime development and is characterized by highly complex cross-functional coordination involving engineering, production, safety, logistics, and administrative functions ([Islam, 2022](#)). In Indonesia, particularly in Batam, a major maritime industry cluster, ship construction and repair projects frequently face empirical problems such as project delays, cost overruns, rework, and weak synchronization between divisions. These conditions indicate that operational inefficiencies in shipyard companies are not merely technical but are also closely related to organizational and human resource management issues.

Empirical studies in the Batam shipbuilding context have highlighted the importance of human-related factors in shaping performance. [Yuswardi, Asri, and Valentino \(2024\)](#) demonstrate that work discipline, work quality, motivation, and leadership style significantly influence employee performance in shipyard companies in Batam. Similarly, [Lositaño \(2024\)](#) found that training and organizational culture positively affect employee performance and, in turn, overall company performance in Indonesia's shipbuilding industry. While these studies provide valuable empirical evidence, they primarily examine HR factors in a fragmented manner and do not explain how HR systems are governed and integrated to support coordination across functional units. This reveals an empirical gap in understanding how HR governance mechanisms operate holistically to address coordination and performance challenges in shipyard organizations.

From a broader theoretical perspective, effective Human Resource (HR) governance has been recognized as a critical determinant of organizational performance and competitiveness ([Natsir, Ode, Irfana, Pulungan, & Sihite, 2024](#)). Integrated HR governance emphasizes the alignment of recruitment, training, performance appraisal, and reward systems within a coherent policy and structural framework that facilitates coordination and accountability ([Costumato, 2021](#)). In governance theory, such integration is viewed as a mechanism that strengthens control, reduces organizational fragmentation, and enhances synergy between the organizational units. Furthermore, [Lima and Galleli \(2021\)](#) argue that coordination mechanisms between stakeholders and HR units are prerequisites for effective HR governance across sectors. However, these theoretical perspectives have largely been developed in general organizational or public governance contexts and have rarely been empirically tested in labor-intensive, project-based industries such as shipbuilding.

The literature on cross-functional coordination further emphasizes that effective coordination is essential for managing interdependent tasks and ensuring the smooth execution of complex operations ([Akam, Sunday, Etuk, Ejikeme, & Arikpo, 2023](#)). In theory, integrated HR governance can support coordination by establishing clear roles, standardized communication channels, and performance evaluation systems that align individual and team objectives. Nevertheless, in the shipbuilding industry, where projects are large-scale, time-sensitive, and involve multiple subcontractors and suppliers, existing research tends to focus on technological aspects, digitalization, or ship design processes rather than on holistic HR governance and its role in cross-functional coordination ([Theotokas, Lagoudis, & Raftopoulou, 2024](#)). This indicates a clear theoretical gap in understanding how HR governance frameworks function as coordination mechanisms in complex industrial settings.

Organizational performance in the manufacturing and maritime sectors is commonly assessed through productivity, cost efficiency, project completion time, and quality standards. In shipbuilding, persistent coordination failures can directly lead to delays, technical errors, and a decline in performance. Although prior studies confirm the positive influence of specific HR practices, such as training, leadership, and organizational culture on performance ([Lositaño](#) [Lositaño \(2024\)](#)), they do not simultaneously examine the interaction between integrated HR governance, cross-functional coordination, and organizational performance. Consequently, there is limited empirical evidence explaining how HR governance integration translates into improved coordination and performance outcomes in shipyard companies, particularly in Batam.

Based on these empirical and theoretical gaps, this study develops an analytical framework that positions integrated HR governance as a key organizational mechanism that strengthens cross-

functional coordination and enhances organizational performance. This study aims to explain how integrated HR governance operates in practice within shipbuilding companies in Batam and to identify the HR governance components that most significantly contribute to coordination and performance improvement. This research contributes to the literature by extending HR governance and coordination theories into the context of the shipbuilding industry, a sector that has received limited attention in HR governance studies. Practically, the findings are expected to provide managerial insights for shipyard companies and policymakers in designing adaptive, collaborative, and performance-oriented HR governance systems to improve coordination and competitiveness in Indonesia's strategic maritime industry.

2. Literature Review and Hypothesis Development

2.1 Integrated Human Resource Governance in Modern Organizations

Integrated Human Resource (HR) governance refers to a strategic and systemic approach in which core HR functions, such as workforce planning, recruitment, training, performance management, and reward systems, are aligned and coordinated to support organizational objectives ([Anwar & Abdullah, 2021](#)). From a governance perspective, this integration emphasizes policy coherence, role clarity, accountability mechanisms, and alignment between HR and business strategies. Recent studies argue that integrated HR governance enables organizations to reduce fragmentation in HR practices and enhances organizational transparency and control ([Fernando & Surjandari, 2021](#); [Obeta & Edwin, 2025](#)). Theoretically, integrated HR governance is influenced by several key factors, including leadership commitment, organizational structure, information systems, and culture.

In modern organizations, digital HR systems and standardized governance frameworks facilitate real-time information sharing and coordination across departments, thereby strengthening organizational integration. Empirical evidence shows that integrated HR governance improves interdepartmental coordination and accountability by clarifying authority structures and decision-making flows ([Obeta & Edwin, 2025](#)). However, in labor-intensive industries such as shipbuilding, governance integration is often constrained by siloed organizational structures and strong, functional boundaries. These conditions indicate that integrated HR governance functions not only as an administrative tool but also as a mechanism that enables organizational coordination.

Proposition 1 (P1): Integrated HR governance is expected to strengthen organizational coordination in shipbuilding firms.

2.2 Cross-Functional Coordination and Organizational Efficiency

Cross-functional coordination is defined as the ability of different organizational units to collaborate effectively by sharing information, aligning tasks, and synchronizing decision-making processes to achieve common goals ([Li, Wang, Huo, Zhao, & Cui, 2022](#)). From an organizational theory perspective, coordination is shaped by communication quality, task interdependence, leadership support, and shared-performance objectives. In project-based industries such as shipbuilding, coordination is critical because of the high interdependence among engineering, production, safety, and administrative units ([Kocak & Helvacioğlu](#)). Empirical research suggests that weak coordination leads to inefficiencies, such as project delays, technical errors, and resource waste. [Ang'ana and Ongeti \(2023\)](#) demonstrated that effective coordination depends on structured communication systems, transparent responsibility allocation, and collaborative leadership. Theoretically, integrated HR governance provides formal mechanisms that support coordination by aligning roles, performance indicators, and communication flows across departments.

Proposition 2 (P2): Effective cross-functional coordination is likely to contribute to improved organizational performance in the shipbuilding industry.

2.3 The Relationship Between HR Governance and Organizational Performance

Organizational performance reflects the extent to which an organization achieves productivity, cost efficiency, quality, and timeliness. In complex manufacturing sectors, performance outcomes are strongly influenced by the alignment between human resource management and operational processes ([Autsadee, Jeevan, Othman, & Salleh, 2023](#); [Bans-Akutey, Abdullahi, & Afriyie, 2021](#)). From a resource-based view, integrated HR governance enhances performance by developing human capital,

fostering commitment, and ensuring the strategic alignment of competencies. Empirical studies indicate that organizations with strong HR governance systems tend to achieve higher performance levels due to reduced inter-departmental conflict, faster decision-making, and improved employee engagement ([Alabdali, Khan, Yaqub, & Alshahrani, 2024](#)). In shipbuilding contexts characterized by technical complexity and time pressure, HR governance integration plays a critical role in coordinating human resources to meet performance requirements.

Proposition 3 (P3): Integrated HR governance is likely to enhance organizational performance in shipbuilding companies.

2.4 Integration of HR Functions as a Coordination Strengthening Mechanism

The integration of HR functions, such as workforce planning, project-based training, and performance evaluation, improves not only administrative efficiency but also cross-functional coordination ([Momeni & Martinsuo, 2024](#)). From a systems theory perspective, HR integration creates interdependencies that encourage collaboration, shared responsibility, and information exchange across organizational units. Empirical evidence shows that HR systems aligned with operational structures help synchronize work processes and reduce information gaps ([Alam, Jumady, Fajriah, Halim, & Hatta, 2024](#)). In shipyard organizations, such integration supports the coordination between HR policies and project execution requirements.

Proposition 4 (P4): The integration of HR functions strengthens the relationship between cross-functional coordination and organizational performance.

2.5 The Role of Leadership and Organizational Culture in HR Governance

Leadership and organizational culture are important contextual factors influencing the effectiveness of integrated HR governance. Participatory and collaborative leadership styles promote trust, engagement, and open communication, which are essential for governance integration ([Dissanayake & Nandasena, 2019](#); [Wang, Hou, & Li, 2022](#)). Likewise, an organizational culture that supports collaboration and openness helps overcome functional siloing. In the shipbuilding industry, leadership commitment and a supportive culture are enabling conditions that determine whether HR governance integration can effectively support coordination and performance.

Proposition 5 (P5): Collaborative leadership and an open organizational culture support the effective implementation of integrated HR governance.

2.6 Human Resources Governance and Maritime Industry Competitiveness

At the industry level, competitiveness in the maritime sector is increasingly shaped by the effectiveness of human resource governance and the ability to adapt to technological and market changes ([Akpınar & Ozer-Caylan, 2022](#)). Integrated HR governance contributes to competitiveness by enhancing productivity, reducing turnover, and supporting innovation ([Khemraj, 2023](#)). For Batam's shipbuilding industry, which faces intense global competition, HR governance integration is essential not only for internal coordination but also for sustaining long-term competitiveness in the industry.

Proposition 6 (P6): Integrated HR governance is likely to contribute to the shipbuilding industry's competitiveness.

3. Methodology

3.1 Types and Approaches to Research

This study adopted a qualitative approach with a multiple-case study design. This approach was chosen because the main objective of the research was to obtain an in-depth understanding of how integrated human resource governance is implemented in real organizational settings and how it strengthens cross-functional coordination and organizational performance in the shipbuilding industry in Batam. Qualitative research is particularly suitable for exploring complex organizational phenomena involving governance structures, coordination mechanisms, and human interactions that cannot be adequately captured through quantitative measurements alone. The case study design enables a holistic examination of integrated HR governance as a system that operates across multiple organizational functions. Following the case study logic, this research is guided by theoretical propositions derived from the literature, which serve as analytical lenses rather than hypotheses to be statistically tested

([Viera, 2023](#)). These propositions help structure data collection, analysis, and interpretation, while allowing flexibility to capture context-specific dynamics within each case company.

3.2 Research Framework

The research framework of this study is built on the assumption that integrated human resource governance functions as a central organizational mechanism that influences cross-functional coordination and, ultimately, organizational performance and its competitiveness. Within this framework, integrated HR governance encompasses workforce planning, training, performance management and policy alignment. These governance elements are expected to shape coordination processes across departments, such as engineering, production, and project management, which in turn affect performance outcomes. Leadership and organizational culture are positioned as contextual enabling factors that support or constrain the effectiveness of HR governance integration in the military. The framework was explored qualitatively by examining how these elements interact in practice within shipyard companies. This conceptual structure guided the identification of key themes during data analysis and provided a logical basis for linking empirical findings with existing theories of HR governance and coordination.

3.3 Location, Population, and Sampling Techniques

The research was conducted in three large shipyard companies located in Batam City, selected because they represent complex organizational structures and large-scale project-based operations characteristic of Indonesia's strategic maritime industry. These companies rely heavily on cross-functional coordination among the engineering, production, safety, and human resource units. The research population included individuals directly involved in HR governance and project coordination processes. A purposive sampling technique was employed to ensure that the informants possessed relevant experience, authority, and knowledge of HR governance and coordination practices. A total of nine key informants participated in the study, comprising three HR managers, three heads of operations, and three project supervisors. This composition enables the triangulation of perspectives across the strategic, operational, and project execution levels.

3.4 Data Collection Techniques and Instruments

Data collection followed a systematic and sequential process. The process began with a preparation stage involving the development of the research design, formulation of the research framework and propositions, preparation of interview guidelines, and acquisition of research permits. Field data were then collected through limited participatory observation, semi-structured in-depth interviews, and document analysis ([Khan, Khalique, & Saini, 2025](#)). Observations focused on coordination practices such as project meetings, training activities, and interdepartmental communication, while interviews lasting 45–90 minutes explored issues related to integrated HR governance, coordination mechanisms, leadership, and organizational performance. Relevant documents, including SOPs, HR policies, training records and performance evaluation reports, were also analyzed. Following data collection, the interview data were transcribed and verified through member checking. The verified data were analyzed using thematic analysis, supported by qualitative software. Finally, the empirical findings were interpreted by linking them to relevant theoretical perspectives to formulate conclusions and practical implications. Method and source triangulation were applied throughout the process to enhance the credibility of the data.

3.5 Data Analysis Techniques

Data analysis was conducted using thematic analysis following an iterative process: familiarization with the data, initial coding, theme development, theme review, and interpretation. The analysis was performed both within and across cases to identify consistent patterns and contextual variations among the three companies. NVivo software was used to support data management, coding, and the visualization of thematic relationships. The analytical process was guided by the research framework and propositions, allowing the empirical findings to be systematically compared with theoretical expectations related to integrated HR governance and cross-functional coordination ([Lochmiller, 2021](#)).

3.6 Data Validity and Reliability

To ensure the trustworthiness of the findings, this study applied several qualitative rigor strategies. Credibility was ensured through source triangulation, method triangulation, and member checking (Meydan & Akkaş, 2024). Dependability and confirmability were enhanced through peer debriefing, involving two independent researchers who reviewed the coding consistency and thematic interpretations. Transferability is supported by providing detailed contextual descriptions of the research setting and organizational characteristics, enabling readers to assess the applicability of the findings to similar contexts.

4. Results and Discussions

4.1 Integrated HR Governance and Improved Coordination

The results show that integrated human resource governance significantly improves organizational coordination. The integration of HR functions into the work process allows for alignment between workforce planning, training, and project needs. HR no longer functions only as an administrative manager but also as a *strategic partner* that ensures that the working relationship between the parts runs synchronously and efficiently. Field observations show that at the beginning of the project, HR facilitated cross-sectional coordination meetings to determine labor allocation and set joint production targets.

The HR manager of shipyard company A emphasized the importance of this integration by saying, *"We always hold cross-section coordination meetings before the project starts, so that there is no overlap of work between units. HR is the main link between production, engineering, and finance."* (MA, interview, August 5, 2025). The same company's chief operating officer added, *"If HR does not participate at the beginning, often the production schedule is disrupted due to a shortage of manpower at a certain time"* (KA, interview, August 7, 2025). While the project supervisor emphasizes the technical aspect, *"HR integration lets us know who's ready to work in the field and who needs additional training, so work can go faster."* (SA, August 9, 2025). Based on the triangulation of the interview results and observations, H1 was accepted because integrated HR governance has been proven to increase the effectiveness of cross-functional coordination in organizations.

4.2 Cross-Functional Coordination and Organizational Performance

Cross-functional coordination has been proven to positively impact organizational performance. Intensive and transparent communication between production, engineering, and HR departments accelerates decision-making and reduces the potential for errors in project execution. Analysis of internal documents shows that after the cross-functional coordination system was formally implemented, the efficiency of project completion time increased by 12–15%, and complaints related to delays in work between departments decreased by 20 %.

The HR Manager of company B said, *"We have a weekly coordination system between departments, so every department head knows the status of the project's progress. This is very helpful in monitoring daily targets"* (MB, interview August 10, 2025). Its head of operations added, *"HR is now more proactive in monitoring production schedules. If there are technical obstacles, a meeting between departments will be facilitated immediately for a quick solution."* (KB, interview, August 12, 2025). The project supervisor of the same company explained, *"The scheduled coordination makes us not wait for a long decision from the superiors, because all the data is available and decisions can be taken immediately"* (SB, interview August 14, 2025). Based on this data, H2 was accepted, as cross-functional coordination has been shown to significantly improved organizational productivity and performance.

4.3 Integrated HR Governance and Organizational Performance

Integrated human resource governance also directly improves organizational performance. HR plays an active role in planning, implementing, and evaluating projects to encourage continuous improvement. The results of the observations show that there is an improvement in the quality of the workforce after the implementation of project-based training tailored to operational needs. In addition, project delays decreased by up to 18% after implementing a data-driven performance evaluation system. The project supervisor of Company A said, *"Before HR is involved in evaluation, job appraisals are often*

subjective. Now there are clear indicators, such as daily productivity and attendance, so everyone feels fair." (SA, interview, August 15, 2025). From Company B, the HR manager added, "We connect the results of performance evaluations with training needs, so that the workforce that is lacking in one aspect can be immediately strengthened" (MB, interview August 17, 2025). Meanwhile, the head of operations of company C said, "HR helps us find patterns of delays in certain parts, and from there we can make improvements in the production process." (KC, August 19, 2025, interview). Based on data analysis, H3 was accepted because empirically integrated HR governance improves organizational performance through evaluation mechanisms and continuous learning.

4.4 Integration of HR Functions as a Reinforcement of Coordination and Performance Relationships

The integration of HR functions strengthens the relationship between cross-functional coordination and organizational performance. The HR System dashboard implemented across all three companies allows for real-time cross-unit performance monitoring. Observations show that when there is a deviation from production targets, the HR department immediately facilitates cross-sectional meetings to make policy corrections and field actions. With this mechanism, the time required to resolve technical issues can be reduced by up to 30%.

The HR Manager of Company C explained, "We have a reporting system that is directly integrated between HR, production, and engineering. As soon as there is a delay, the HR team immediately facilitates a meeting to determine the solution." (MC, interview, August 21, 2025). The same company's chief operating officer added, "Now supervision is easier because all data is centralized, HR not only monitors attendance, but also project performance" (KC, interview August 22, 2025). The project supervisor confirmed, "If in the past problems could drag on, now they are immediately overcome through a fast HR dashboard system" (SC, interview, August 23, 2025). Based on the results of data triangulation, H4 was accepted because the integration of HR functions has been proven to strengthen cross-functional coordination relationships with improved organizational performance.

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4.6 Collaborative Leadership and Organizational Culture

Collaborative leadership and an open organizational culture are important factors for strengthening the implementation of integrated HR governance. Observations show that in weekly meetings, company leaders provide space for all section heads and supervisors to express their opinions, including criticism and proposed solutions to the problem. This builds a culture of open discussion and strengthens the sense of ownership of company policies. The HR manager of Company A explained, "Leaders always encourage open discussions. There is no rigid hierarchy; each part can speak and give input" (MA, interview August 24, 2025). Company B's chief operating officer added, "We are used to resolving

problems with cross-sectional meetings. This culture makes everyone feel involved" (KB, interview August 25, 2025). The project supervisor of Company C confirmed, "We feel trusted, and it makes coordination smoother. If there is a problem, we immediately find a solution together without waiting for long instructions" (SC, interview August 26, 2025). Thus, H5 was accepted because collaborative leadership and an open culture have been proven to strengthen the implementation of integrated HR governance.

4.7 Integrated HR Governance and Shipbuilding Industry Competitiveness

The latest findings show that integrated human resource governance has helped increase the shipbuilding industry's competitiveness. Documentation data showed a 15% increase in the value of export contracts after the implementation of integrated HR. The efficiency of production time and consistency of product quality increase customer confidence and expand cooperation opportunities with international clients.

The HR manager of Company B said, "After the HR system is integrated, we can maintain the quality and speed of production. Clients become more trustworthy, and export contracts increase" (MB, interview August 27, 2025). The head of operations of Company C added, "HR integration allows us to optimize our workforce without excessive overtime, but still be on time in delivery" (KC, interview August 28, 2025). Company A's project supervisor emphasized, "Overseas clients often assess not only the ship's output but also the efficiency and management of the project. Now that is our advantage" (SA, interview August 29, 2025). Based on these findings, H6 was accepted because integrated human resource governance positively affects the competitiveness of the shipbuilding industry in Batam.

4.8 Discussion

This study shows that the implementation of integrated human resource governance in the Batam shipyard industry can strengthen cross-functional coordination and significantly improve organizational performance. This result is in line with the concept of governance in organizations, which emphasizes the importance of synergy between units to achieve work efficiency ([Koeswayo, Haryanto, & Handoyo, 2024](#)). When HR functions are actively involved in planning, training, and evaluation with production units, work processes become more synchronous and adaptive to changing operational conditions ([Prihandaka, Rohman, & Wijaya, 2022](#)). This proves that the position of HR as a strategic partner plays an important role in creating added value for the organization. Theoretically, these findings reinforce the Resource-Based View (RBV) that systemically managed human resources can be a competitive advantage ([Gerhart & Feng, 2021](#)).

Cross-functional coordination contributes positively to improving organizational performance. Field data show an increase in project completion time efficiency of up to 15% and a 20% reduction in inter-sector complaints. These results reinforce previous research confirming that open communication and a clear responsibility structure are critical elements for project success ([Herath & Chong, 2021](#)). In the context of a complex shipyard industry, effective coordination between parts is the foundation of successful production planning. The implementation of weekly coordination meetings, digital reporting systems, and cross-unit communication forums has accelerated the resolution of technical and administrative issues. Thus, cross-functional coordination not only streamlines workflows but also improves overall organizational efficiency.

The implementation of integrated HR governance also directly influences organizational performance. The integration of workforce planning, project-based training, and ongoing performance evaluation can reduce project completion delays by as much as 18%. These results are consistent with research confirming the importance of mature workforce planning in project-based industries ([Micheli et al., 2023](#)). In practice, shipyard companies that implement HR integration systems can be more efficient in allocating resources, adapting workforce skills to project needs, and minimizing time and cost waste. Conceptually, this reinforces the relevance of organizational efficiency theory in labor-intensive industries.

Moreover, the integration of HR functions strengthens the relationship between cross-functional coordination and performance improvement. The existence of a human resource dashboard system allows the synchronization of data between the production, administration, and finance departments in real time, which speeds up decision-making by up to 30%. These results are consistent with research that states that digital-based management control systems improve the effectiveness of internal coordination ([Nibel & Yunus, 2025](#)). The practical implication of these findings is that companies must invest in HR integration systems capable of supporting cross-functional communication processes. This approach reinforces the argument that good HR governance depends not only on policies but also on the organization's ability to manage information efficiently.

Collaborative leadership factors and an open organizational culture are also supporting elements in the successful implementation of integrated HR governance. The findings show that the active participation of section heads and staff in coordination forums promotes a sense of shared ownership of the organization's goals. This is in line with the view that a collaborative work culture and inclusive leadership style can strengthen motivation and encourage innovation across departments ([Subrahmanyam, 2025](#)). In the hierarchical shipbuilding industry, a change towards an open work culture is a strategic step to accelerate the integration process. The contribution of this study emphasizes that the success of the HR governance system is greatly influenced by organizational contextual factors such as leadership style and cultural values.

Furthermore, the implementation of integrated HR governance has been proven to increase a company's competitiveness in the global market. Improved internal coordination and production efficiency contributed to an increase in the value of export contracts by 15% and increased trust in international clients. These results support the view that effective human resource management is a key factor in strengthening the competitiveness of Indonesia's maritime industry ([Admiral, 2024](#)). With an integrated HR system, shipyards can maintain consistency in quality, production speed, and compliance with international standards. The strategic implication of these findings is the need for a more proactive HR orientation to support global business goals.

Although it provided significant results, this study had some limitations. Data collection was only carried out on three large companies in Batam; therefore, the results may not fully reflect the condition of the entire national maritime industry. In addition, the qualitative approach limits generalization of the findings. Other factors, such as the influence of government regulations, labor market dynamics, and supply chain conditions, have not been analyzed in depth. Follow-up research is recommended to use a quantitative approach with a wider sample coverage and include additional variables such as the digitization of HR processes and national maritime industry policies. Thus, an integrated HR governance model can be developed more comprehensively to support sustainable improvements in the sector's competitiveness.

Overall, this study makes a conceptual and practical contribution to the development of human resource governance in labor-intensive industries, especially in Batam shipyards. The findings reinforce the argument that HR is not just an administrative element but a coordination and innovation center that determines the success of an organization. By combining the principles of collaboration, digitalization, and participatory leadership, integrated HR governance can be a strategic foundation for improving the performance and competitiveness of Indonesia's maritime industry at the global level. Therefore, the results of this research are expected to be a reference for academics, practitioners, and policymakers in formulating human resource policies that are more adaptive and directed towards national competitive advantage.

5. Conclusions

5.1 Conclusion

This study concludes that the implementation of integrated human resource governance is a strategic factor in strengthening cross-functional coordination and improving organizational performance in the Batam shipbuilding industry. The integration of key functions, such as workforce planning, project-based training, performance evaluation systems, and cross-departmental communication, encourages

the creation of responsive, efficient, and collaborative work synergies. Integrated governance enables HR to play the role of not only administrative managers but also strategic partners in ensuring alignment between human resource policies and the company's operational objectives. This has an impact on increasing work effectiveness, production time efficiency, and consistency of work quality in a competitive maritime industry.

In addition, this study confirms that the success of the implementation of integrated HR governance is greatly influenced by collaborative leadership factors and an open organizational culture. Participatory leadership creates an egalitarian communication space and reinforces a sense of shared ownership of the organization's vision, whereas a transparent work culture encourages innovation and continuous learning. Thus, the integration of human resource governance not only improves the organization's internal system but also strengthens the competitiveness of the shipbuilding industry in Batam in facing global challenges. These findings make a conceptual contribution to the development of HR governance theory and offer practical implications for companies and policymakers in designing adaptive, collaborative, and sustainable HR management systems in the national strategic industrial sectors.

5.2 Research Limitations

This study had several limitations. First, the research was conducted in only three large shipyard companies located in Batam, which may limit the generalizability of the findings to other shipbuilding firms or maritime industries in different regions. Organizational structures, management practices, and operational complexities may vary across companies and geographical areas. Second, the study employed a qualitative multiple-case study approach with a relatively small number of informants, which focuses on in-depth understanding rather than statistical generalization.

Although triangulation and thematic analysis were applied to enhance the credibility of the findings, the perspectives obtained still reflect the experiences of specific organizational actors within selected companies. Third, this study primarily emphasizes internal organizational factors related to HR governance and coordination, while external factors such as regulatory policies, supply chain dynamics, and global maritime market conditions were not explored in depth. These aspects may also influence organizational performance and industry competition.

5.3 Suggestions and Direction for Future Studies

Future research should expand the scope of the investigation, both methodologically and empirically. Quantitative or mixed-method approaches involving a larger number of shipyard companies could provide broader evidence regarding the relationship between integrated HR governance, coordination mechanisms and organizational performance. Comparative studies across different maritime clusters or industrial sectors may also offer deeper insights into how contextual factors influence the effectiveness of HR governance. Future studies could explore the role of digital HR systems, workforce analytics, and technological innovation in supporting coordination and decision-making processes in complex industrial environments. Further investigation into policy frameworks and industry-level governance mechanisms would be valuable for understanding how integrated HR governance contributes to long-term competitiveness in the maritime sector.

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Author Contributions

IMSW contributed to the conceptualization, research design, supervision, and manuscript drafting. DAP contributed to the data collection, field interviews and preliminary data analysis. RA contributed to the methodology development and literature reviews. MIB contributed to the data interpretation and

manuscript revision. MAB contributed to the final review, editing, and approval of manuscript. All authors have read and approved the final version of this manuscript.

References

- Admiral, Y. M. (2024). Education and Training to Improve the Quality of Human Resources in the Maritime Transportation Industry. *Journal of Education and Technology Development*, 2(1), 50-59.
- Akam, M. J., Sunday, E. G., Etuk, I. U., Ejikeme, O. B., & Arikpo, N. N. (2023). The Role of Integrated Coordination in Supply Chain Performance of Firms in the Manufacturing Industry. *International Journal of Integrated Supply Management*, 16(1), 26-51. doi:<https://doi.org/10.1504/IJISM.2023.127650>
- Akpınar, H., & Ozer-Caylan, D. (2022). Managing Complexity in Maritime Business: Understanding the Smart Changes of Globalization. *Competitiveness Review: An International Business Journal*, 32(4), 582-599. doi:<https://doi.org/10.1108/CR-10-2020-0128>
- Alabdali, M. A., Khan, S. A., Yaqub, M. Z., & Alshahrani, M. A. (2024). Harnessing the Power of Algorithmic Human Resource Management and Human Resource Strategic Decision-Making for Achieving Organizational Success: An Empirical Analysis. *Sustainability*, 16(11), 1-30. doi:<https://doi.org/10.3390/su16114854>
- Alam, S., Jumady, E., Fajriah, Y., Halim, A., & Hatta, S. (2024). Integrating Total Quality Management with Strategic, Operational, and Human Resource Management: A Qualitative Exploration of Synergies for Enhanced Organizational Performance. *Golden Ratio of Marketing and Applied Psychology of Business*, 4(2), 88-100. doi:<https://doi.org/10.52970/grmapb.v4i2.439>
- Ang'ana, G. A., & Ongeti, W. J. (2023). Collaborative Leadership and Performance: Towards Development of a New Theoretical Model. *Journal of Business and Management Sciences*, 11(6), 297-308. doi:<https://doi.org/10.12691/jbms-11-6-1>
- Anwar, G., & Abdullah, N. N. (2021). The Impact of Human Resource Management Practice on Organizational Performance. *International Journal of Engineering, Business and Management*, 5(1), 35-47. doi:<https://doi.org/10.22161/ijeblm.5.1.4>
- Autsadee, Y., Jeevan, J., Othman, M. R. B., & Salleh, N. H. M. (2023). Evolution and Current Trends of Human Resource Development in the Maritime Industry through Performance Analysis and Science Mapping Procedures. *Journal of Maritime Research*, 20(2), 148-161.
- Bans-Akutey, A., Abdullahi, A. M., & Afriyie, E. O. (2021). Effect of Recruitment and Selection Practices on Organisational Strategic Goals. *Annals of Management and Organization Research*, 3(1), 35-51. doi:<https://doi.org/10.35912/amor.v3i1.1171>
- Costumato, L. (2021). Collaboration among Public Organizations: A Systematic Literature Review on Determinants of Interinstitutional Performance. *International Journal of Public Sector Management*, 34(3), 247-273. doi:<https://doi.org/10.1108/IJPSM-03-2020-0069>
- Dissanayake, D., & Nandasena, N. (2019). Elements Influencing the Success of Human Resource Information System. *Annals of Management and Organization Research*, 1(1), 65-75. doi:<https://doi.org/10.35912/amor.v1i1.299>
- Fernando, L., & Surjandari, D. A. (2021). The Impact of Internal Control, Cultural Control, Incentives, and Work Discipline on Employee Performance (Case Study in PT Lestari Jaya Raya). *Annals of Management and Organization Research*, 2(3), 209-223. doi:<https://doi.org/10.35912/amor.v2i3.743>
- Gerhart, B., & Feng, J. (2021). The Resource-Based View of the Firm, Human Resources, and Human Capital: Progress and Prospects. *Journal of management*, 47(7), 1796-1819. doi:<https://doi.org/10.1177/0149206320978799>
- Herath, S., & Chong, S. (2021). Key Components and Critical Success Factors for Project Management Success: A Literature Review. *Operations and Supply Chain Management: An International Journal*, 14(4), 431-443. doi:<https://doi.org/10.31387/oscm0470314>
- Islam, M. (2022). *Methodology for Managing Shipbuilding Project by Integrated Optimality*. Newcastle University, United Kingdom. Retrieved from <http://hdl.handle.net/10443/5680>
- Khan, N., Khalique, F., & Saini, K. (2025). Qualitative Research Methods: Harnessing Interviews, Focus Groups, Observations, and Document Analysis. In Y. Kurt (Ed.), *Qualitative Research Methods in Air Transport Management* (pp. 27-56). Hershey: IGI Global Scientific Publishing.

- Khemraj, S. (2023). Enhancing Competitive Advantage through Learning Capabilities and Innovative Human Resource Management. *Intersecta Minds Journal*, 2(1), 26-41.
- Kocak, S. T., & Helvacioğlu, I. H. Cooperation in Shipbuilding Projects from the Perspective of Main Contractor Candidate. *Contract Management for Shipbuilding and Repair: Technical Perspective and Settlement of Legal Disputes*, 91-118.
- Koeswayo, P. S., Haryanto, H., & Handoyo, S. (2024). The Impact of Corporate Governance, Internal Control and Corporate Reputation on Employee Engagement: A Moderating Role of Leadership Style. *Cogent Business & Management*, 11(1), 1-34. doi:<https://doi.org/10.1080/23311975.2023.2296698>
- Li, S., Wang, K., Huo, B., Zhao, X., & Cui, X. (2022). The Impact of Cross-Functional Coordination on Customer Coordination and Operational Performance: An Information Processing View. *Industrial Management & Data Systems*, 122(1), 167-193. doi:<https://doi.org/10.1108/IMDS-04-2021-0265>
- Lima, L., & Galleli, B. (2021). Human Resources Management and Corporate Governance: Integration Perspectives and Future Directions. *European Management Journal*, 39(6), 731-744. doi:<https://doi.org/10.1016/j.emj.2021.02.004>
- Lochmiller, C. R. (2021). Conducting Thematic Analysis with Qualitative Data. *The Qualitative Report*, 26(6), 2029-2044. doi:<https://doi.org/10.46743/2160-3715/2021.5008>
- Lositaño, L. (2024). Organizational Culture and Work Performance Among Filipino Seafarers of a Greek-owned Maritime Shipping Company. *Aloysian Interdisciplinary Journal of Social Sciences, Education, and Allied Fields*, 1(2), 16-25.
- Meydan, C. H., & Akkaş, H. (2024). The Role of Triangulation in Qualitative Research: Converging Perspectives. In A. Elhami, A. Roshan, & H. Chandan (Eds.), *Principles of Conducting Qualitative Research in Multicultural Settings* (pp. 101-132). Hershey: IGI Global Scientific Publishing.
- Micheli, G., Martino, A., Porta, F., Cravello, A., Panaro, M., & Calabrese, A. (2023). Workforce Planning in Project-Driven Companies: A High-Level Guideline. *Frontiers in Industrial Engineering*, 1, 1-12. doi:<https://doi.org/10.3389/fieng.2023.1267244>
- Momeni, K., & Martinsuo, M. (2024). Human Resource Management in Project-Oriented Organizations *Management of Project Business* (pp. 107-128): Tampere University.
- Natsir, I., Ode, H., Irfana, T. B., Pulungan, D. R., & Sihite, M. (2024). An Analysis of the Role of Human Resource Management in Enhancing Organizational Efficiency and Effectiveness. *International Journal of Economics (IJE)*, 3(2), 1089-1097. doi:<https://doi.org/10.55299/ijec.v3i2.1097>
- Nibel, J. S., & Yunus, M. (2025). Strategy for Strengthening the Capacity of Government Internal Supervisory Apparatus to Increase the Effectiveness of Internal Supervision. *KnE Social Sciences*, 10(18), 97-113. doi:<https://doi.org/10.18502/kss.v10i18.19449>
- Obeta, R. U., & Edwin, E. I. (2025). Exploring the Role of Digital Governance in Enhancing Transparency and Accountability in Human Resource Management Practices in Nigerian Organizations. *Arabian Journal of Business and Management Review (Kuwait Chapter)*, 14(1), 13-18. doi:<https://doi.org/10.12816/0062330>
- Prihandaka, D. J. P., Rohman, I. Z., & Wijaya, N. H. S. (2022). Supportive Leadership and Employee Creativity: Will Leader-Member Exchange Mediate the Relationship. *Annals of Management and Organization Research*, 4(1), 35-45. doi:<https://doi.org/10.35912/amor.v4i1.1477>
- Subrahmanyam, S. (2025). Fostering a Collaborative Culture: The Role of Leadership. In Z. Hussain, A. Khan, M. A. Qureshi, M.-N. S. Sharipudin, & İ. Alkara (Eds.), *Knowledge Sharing and Fostering Collaborative Business Culture* (pp. 377-396). Hershey: IGI Global Scientific Publishing.
- Theotokas, I. N., Lagoudis, I. N., & Raftopoulou, K. (2024). Challenges of Maritime Human Resource Management for the Transition to Shipping Digitalization. *Journal of Shipping and Trade*, 9(1), 1-23. doi:<https://doi.org/10.1186/s41072-024-00165-0>
- Viera, C. A. (2023). Case Study as a Qualitative Research Methodology. *Performance Improvement*, 62(4), 125-129. doi:<https://doi.org/10.56811/PFI-23-0005>

- Wang, Q., Hou, H., & Li, Z. (2022). Participative Leadership: A Literature Review and Prospects for Future Research. *Frontiers in Psychology*, 13, 1-12. doi:<https://doi.org/10.3389/fpsyg.2022.924357>
- Yuswardi, Y., Asri, D. H., & Valentino, J. (2024). The Influence of Work Discipline, Work Quality, Work Motivation, Leadership Style and Employee Satisfaction on Employee Performance at Shipyard Companies in Batam City. *REVITALISASI: Jurnal Ilmu Manajemen*, 13(1), 64-73. doi:<https://doi.org/10.32503/revitalisasi.v13i1.4800>