



HUMAN RESOURCE MANAGEMENT IN MARITIME SUPPLY CHAIN DISRUPTIONS: A SYSTEMATIC LITERATURE REVIEW OF WORKFORCE CHALLENGES AND RESILIENCE STRATEGIES

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Abstract

Maritime supply chains, responsible for global trade flows, face increasing disruptions from pandemics, climate events, and geopolitical tensions. This study examines the role of Human Resource Management (HRM) in addressing workforce challenges and enhancing resilience in such contexts. A qualitative systematic literature review was conducted using PRISMA guidelines. Data were collected from major academic databases and analyzed through thematic analysis to identify key workforce challenges and HRM strategies. Findings reveal critical workforce issues including labor shortages, skill gaps, stress, and mobility restrictions. HRM strategies such as flexible planning, training, digital coordination, and well-being initiatives significantly improve resilience and operational continuity. HRM plays a strategic role in transforming disruption-induced challenges into resilience, ensuring sustainable maritime operations and workforce adaptability.

Keywords: HRM, Maritime Supply Chain, Disruptions, Workforce Resilience, Sustainability
Introduction

Global maritime supply chains are the backbone of international trade, as they facilitate the movement of about 80-90% of world goods across continents (Notteboom et al., 2021; Li et al., 2023). These intricate networks interlink ports, shipping companies, logistics providers, and labor forces, which ensures the smooth movement of commodities and raw materials. Over the last few years, however, the disruptions in maritime supply chains have been increasing due to pandemics, port congestion, geopolitical tensions, climate-related events, and technological transitions (Verschuur et al., 2020; Becker et al., 2018). The COVID-19 pandemic was one of the events that revealed systemic vulnerabilities and how disruptions quickly spread among global logistics systems (Notteboom et al., 2021).

With such a dynamic environment, the workforce emerges as a very important factor in ensuring continuity in operations. Seafarers, port workers, logistics managers, and other personnel are the key participants in the process of ensuring maritime activities under the conditions of uncertainty and high risks (Warren & Gibson, 2025; Theotokas et al., 2024) are the key participants in the process. However, even with the advent of automation and digitalization, human resources will not be sent to the trash, in terms of making decisions and responding to crises, as well as adaptive coordination (Nurimansjah, 2023). Past studies have emphasized that workforce-related issues, such as labor shortages, health hazards, fatigue, skill deficiencies, and mobility limitations, play a crucial role in supply chain resilience and performance (Esan et al., 2024; Caesar, 2023).

As a result, Human Resource Management (HRM) takes a more strategic approach in dealing with disruptions. HRM does not just play an administrative role anymore, but rather it is



actively involved in workforce resilience, crisis preparedness, and organizational flexibility (Yamin et al., 2024; Ugrinov et al., 2025). Flexibility in planning the workforce, employee welfare programs, development of digital skills, and crisis communication are among the HRM practices that have been emphasized in the contemporary literature as priceless tools to overcome disruptions (Čižiūnienė et al., 2025; Theotokas et al., 2024). Nevertheless, these lessons are still fragmented across various disciplines, with minimal integration peculiar to the maritime environment (Nguyen et al., 2022).

Although there is a growing awareness of the significance of HRM in managing disruption in maritime supply chains, there is no consolidated knowledge about the role of HRM in disruption management in maritime supply chains (Zohaib & Zaidi, 2022). The current literature is disjointed, as it frequently addresses the workforce issues or resilience strategies separately, without providing a comprehensive synthesis (Akpınar & Ozer-Caylan, 2022; Karanam et al., 2024). Past research has studied particular problems, such as the welfare of seafarers in times of pandemic or labour shortages in ports, but has not systematically linked these results in a single HRM model.

This disintegration results in a vacuum in both theory formulation and practice. There is no clear, evidence-based picture of how HRM can be effectively used to address disruptions in the workforce and increase resilience (Chen et al., 2025; Padovano & Ivanov, 2025). Thus, to synthesize the existing knowledge, identify the key themes, and present an integrated perspective on the role of HRM in managing the maritime supply chain disruptions, a systematic literature review is required.

Research Objectives

1. To systematically review existing literature on HRM in maritime supply chain disruptions.
2. To identify and synthesize HRM strategies enhancing workforce resilience and adaptability.

Research Questions

1. What workforce challenges arise during maritime supply chain disruptions?
2. What HRM practices are used to manage these challenges?
3. How do HRM strategies contribute to workforce resilience and organizational continuity?

The study contributes to the literature of maritime supply chain and HRM significantly by filling the gap between the literature of HRM and maritime supply chain (Zohaib & Zaidi, 2022). It contributes to the field of knowledge by bringing together scattered results into a coherent structure, thereby enhancing both the HRM theory and the discourse on supply chain resilience (Ambrogio et al., 2022; Li et al., 2023).

In a practical perspective, the research offers great information to maritime organizations, human resource professionals, and policy makers. It emphasizes evidence-based HRM solutions, which can enhance the resilience of the workforce, continuity in the case of disruption, and sustainable operations of the maritime industry (Esan et al., 2024; Ugrinov et al., 2025). Finally, the results can inform policy-making and organizational practices that can help to create more adaptive and resilient maritime supply chains in an increasingly uncertain global environment (Chen et al., 2025; Padovano & Ivanov, 2025).

Methodology

The research design was a qualitative systematic literature review, in which the role of Human Resource Management (HRM) in disruptions of the maritime supply chain was investigated,



with a specific focus on human resource management (HRM) and the strategies to mitigate its impact on the supply chain. The qualitative methodology was chosen to allow a comprehensive investigation of the existing knowledge, perceptions, and conceptual understanding of various studies. The research was conducted according to an interpretivist paradigm because the aim of the research was not to simply quantify the findings but to comprehend underlying meanings, patterns, and themes that were related to HRM practices in crisis situations. This method enabled the research to develop a fragmented literature synthesis and come up with a complete conceptualization of the workforce resilience in the maritime disruption.

Review Protocol

The rigor and replicability were ensured by following a structured and transparent review protocol. The study was based on the available systematic review guidelines, particularly PRISMA framework, which provided a systematic approach to identifying, screening, and selecting the relevant studies. The review process was carried out in a series of steps in a row. First of all, the area and purpose of the study were well-established. Second, the predefined keywords were used to systematically search relevant databases using predefined keywords. Third, studies that were retrieved were filtered on the basis of inclusion and exclusion criteria. Fourth, the eligible studies were evaluated in terms of relevance and quality. Lastly, thematic analysis was used to analyze and synthesize the selected articles. This step-by-step process was used to guarantee methodological transparency and reduce selection bias.

Data Sources and Search Strategy

Data were collected from four major academic databases: Scopus, Web of Science, Google Scholar, and Science Direct. These databases were chosen because they cover in detail peer-reviewed literature in the fields of management, logistics, and maritime studies. The systematic search strategy was used with a combination of keywords and Boolean operators. Keywords were HRM, Maritime Supply Chain, Disruptions, Workforce Challenges, and Resilience Strategies. To narrow down search results and make them more relevant, these terms were combined using Boolean operators like AND and OR. As an example, search terms like Human Resource Management AND Maritime Supply Chain AND Disruptions, and Workforce Challenges OR Resilience Strategies were used. The search process was successful in providing a wide range of studies, which were then narrowed down by the use of screening procedures.

Inclusion and Exclusion Criteria

To ensure the quality and relevance of the review, specific inclusion and exclusion criteria were applied. The studies were included based on the following criteria: the studies had to be peer-reviewed journal articles, they had to be focused on maritime, logistics or supply chain disruption, and had to be addressing HRM-related issues. Articles published in English during 2010-2025 were included to reflect the latest trends in the discipline. On the other hand, non-academic sources like reports, blogs, and opinion pieces were not included. The other studies that were not related to the maritime or supply chain context were also excluded unless they provided any significant conceptual insights in the context of HRM and resilience. Duplicate records detected in different databases were eliminated to ensure data integrity.

Study Selection Process

The selection process of the study was based on four primary steps: identification, screening, eligibility and final inclusion. The identification stage involved the retrieval of all the relevant articles in the chosen databases. During the screening stage, titles and abstracts were looked at to rule out apparent irrelevant studies. The other articles were then evaluated based on the

eligibility criteria by reading the full text of the article, and ensuring that it met the inclusion criteria. Lastly, a narrowed down group of studies were incorporated to be analyzed in detail. This procedure increased the dependability and openness of the review and could be represented visually in later sections in a PRISMA flow diagram.

Data Extraction

A systematic data extraction process was used to systematically organize data of the chosen studies. The main information retrieved in each of the articles was the author(s) and year of publication, the context of the study, research methodology and the main findings. Further, particular focus was put on determining HRM practices, workforce issues, and resilience strategies that were discussed in each study. Such standardized extraction process helped to make comparative analysis and provide the consistency throughout the dataset. To make the process of reviewing and summarizing the information in the selected studies more transparent and provide a structured overview of the selected studies, the main peculiarities of the reviewed literature were systematized. These are author information, context of the study, the methodology, and the key findings in relation to the HRM practices and workforce resilience. The summary of these studies is presented in Table 1.

Table 1: HRM, Workforce Challenges, and Resilience in Maritime Supply Chain Disruptions

Author(s) & Year	Study Context	Methodology	Key Focus / Findings	HRM / Resilience Contribution
Akpınar & Özer-çaylan (2022)	Maritime business resilience	Systematic Literature Review	Identified key dimensions of organizational resilience in maritime sector	Emphasized resilience frameworks linking workforce and organizational adaptability
Ambrogio et al. (2022)	Manufacturing & supply chain disruptions	Quantitative / Analytical	Highlighted disruption as opportunity for digital innovation	Suggested workforce adaptation through technological integration
Arowosegbe et al. (2024)	Global shipping & logistics	Conceptual	Identified vulnerabilities in supply chains	Recommended risk management strategies including workforce planning
Assem et al. (2025)	Port industry resilience	Empirical	Human capital enhances resilience against socioeconomic challenges	Highlighted strategic HRM and workforce capability development
Becker et al. (2018)	Climate change & ports	Conceptual	Climate risks affect supply chains and port operations	Emphasized need for workforce preparedness and safety
Bygballe et al. (2023)	Supply chain disruptions	Conceptual	Resource interaction is key in disruption management	Supported RBV perspective on



				human capital importance
Caesar (2023)	Maritime workforce sustainability	Conceptual	Skill gaps and workforce training needs identified	Proposed skill resilience framework for workforce development
Chen et al. (2025)	Maritime supply chain resilience	Empirical	Developed resilience framework	Highlighted HRM's role in enhancing workforce adaptability
Čižiūnienė et al. (2025)	Logistics sector emergencies	Empirical	Sustainable HRM practices improve crisis response	Emphasized employee well-being and HRM strategies
Esan et al. (2024)	Logistics & transportation	Review	HR strategies enhance resilience	Identified training, communication, and workforce planning as key HRM tools
Febrian & Sani (2023)	Shipping companies	SLR	Talent management supports sustainability	Highlighted crewing and HR practices for long-term resilience
Ismail et al. (2025)	Industry 4.0 & supply chains	SLR	Digitalization improves disruption management	Emphasized digital HRM and remote workforce management
Karanam et al. (2024)	Global supply chains	Conceptual	Identified disruption management strategies	Highlighted workforce flexibility and resilience planning
León-Mateos et al. (2021)	Port resilience	Empirical	Developed Port Resilience Index	Included workforce preparedness as resilience factor
Li et al. (2023)	Maritime supply chain	Bibliometric	Identified research trends in resilience	Highlighted growing focus on human factors
Nguyen et al. (2022)	Maritime disruptions	SLR	Synthesized disruption management literature	Emphasized need for integrated HRM strategies
Notteboom et al. (2021)	Ports & shipping disruptions	Empirical	COVID-19 impact on maritime operations	Highlighted workforce shortages and operational challenges
Nurimansjah (2023)	HRM dynamics	Conceptual	Integration of technology and adaptability	Emphasized strategic HRM in modern organizations



Padovano & Ivanov (2025)	Supply chain resilience	Empirical	Developed multidimensional resilience model	Highlighted HRM and workforce coordination
Sawyer & Harrison (2019)	High-reliability organizations	Conceptual	Lessons for resilient supply chains	Emphasized leadership and organizational culture
Shi et al. (2022)	Maritime supply chain	Empirical	Integration improves resilience	Highlighted coordination among workforce actors
Sun et al. (2023)	Maritime risk management	Analytical	Identified risk mitigation strategies	Highlighted resilience strategies in supply chains
Surucu-Balci et al. (2024)	Digital maritime supply chains	Conceptual	Blockchain and digital platforms enhance capabilities	Emphasized digital workforce adaptation
Tabaklar (2024)	Maritime transformation	Conceptual	Innovative disruption strategies identified	Highlighted HRM role in transformation
Theotokas et al. (2024)	Maritime HRM & digitalization	Empirical	Identified HR challenges in digital transition	Highlighted need for reskilling and HRM innovation
Theotokas et al. (2024)	E-HRM in shipping companies	Empirical	Factors influencing HR digitalization	Emphasized organizational culture and innovation
Ugrinov et al. (2025)	Maritime HRM sustainability	Conceptual	Sustainable HR practices improve resilience	Highlighted HRM role in long-term sustainability
Verschuur et al. (2020)	Port disruptions	Empirical	Natural disasters impact logistics	Highlighted workforce vulnerability
Villar et al. (2023)	Supply Chain 5.0	Conceptual	Human-centric supply chains emphasized	Highlighted workforce resilience and sustainability
Warren & Gibson (2025)	Maritime labor & crisis	Conceptual	Labor challenges in global crises	Highlighted workforce stress and vulnerabilities
Yamin et al. (2024)	HRM & AI in supply chains	Empirical	HRM and AI improve agility and resilience	Highlighted strategic HRM role
Zavala-Alcívar et al. (2020)	Supply chain resilience	Conceptual	Developed resilience framework	Highlighted adaptability and sustainability



Zohaib & Zaidi (2022)	Pharmaceutical supply chain	Empirical	Identified resilience antecedents	Highlighted workforce-related resilience factors
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Table 1 presents a synthesis of the chosen studies in a comprehensive way, revealing the differences in research contexts, methodological approaches, and significant contributions to the knowledge on the topic of HRM in disruptions in the maritime supply chain. The table further demonstrates how various studies have tackled the issue of workforce and suggested resilience measures. This systematic review assists the next thematic analysis by determining common patterns and conceptual associations in the literature.

Data Analysis Method

Thematic analysis was used to analyze the extracted data and it was deemed suitable to identify patterns and synthesize qualitative data. Multi-stage coding was used to conduct the analysis. The first step was open coding, which aimed to determine the initial concepts and repetitive ideas in the data. This was then preceded by the use of axial coding where similar codes were clustered together into larger categories according to the conceptual relationships. Lastly, these categories were narrowed down to broad themes that reflected key dimensions of HRM practices, workforce issues and resiliency strategies in maritime supply chain disruptions. This methodical coding procedure made it possible to create a consistent thematic framework, which would offer a complete picture of the role of HRM in promoting workforce resilience.

Thematic Findings and Analysis

The thematic analysis provided a synthesis of the findings of the selected studies and identified key patterns regarding workforce challenges and HRM responses in the disruption of maritime supply chains. The results were consistent with the research aims and showed how the HRM practices led to the workforce resilience and organizational continuity (Nguyen et al., 2022; Akpınar & Ozer-Caylan, 2022).

Workforce Challenges in Maritime Disruptions

The review found that maritime supply chains encountered various challenges related to workforce when disrupted. The issue of labor shortages was particularly acute, particularly during the COVID-19 pandemic, when the travel restrictions and quarantine rules limited the supply of workforce (Notteboom et al., 2021). The previous study had shown that ports and shipping companies were grappling with the issue of ensuring that the level of staffing was adequate, which had an impact on the efficiency of operations.

The problem of the skill gaps was also cited as a major issue especially in the context of the digital revolution and automation. Most employees did not have the required technical skills to fit in new systems and technologies that were introduced during disruptions (Theotokas et al., 2024; Surucu-Balci et al., 2024). Moreover, mental stress and burnout were also widely reported, especially among seafarers who were challenged by extended contracts, isolation, and uncertainty (Warren & Gibson, 2025). Other researchers had demonstrated that with time, exposure to such conditions had negative impacts on the performance of the employees and their well-being.

The health and safety issues were more eminent during the crisis, where the workers were more exposed to the health risks and lack of protection in certain situations. In addition, mobility restrictions significantly disrupted the workforce deployment, with border closures and travel bans limiting the changes in the workforce and its mobility (Verschuur et al., 2020). All these challenges were indicative of the vulnerability of the maritime workforce in the event of disruptions.



HRM Response Strategies

The results indicated that HRM was at the center of alleviating the workforce issues by employing a number of strategic interventions. The flexibility and workforce planning became trendy and helped organizations to redistribute the resources, introduce shifts rotation, and address the problem of workforce shortages effectively (Esan et al., 2024). Previous research has emphasized the importance of flexible staffing patterns in enabling operational continuity in the face of disruptions.

Remote workforce management is one of the strategies that were found to be important and especially in the areas of administrative and logistics services. Organizations used the digital tools to enable coordination and communication between the dispersed teams (Ismail et al., 2025). Another important HRM role was crisis communication, which provided transparency, information sharing in a timely manner, and engagement of the employees in the uncertain situation.

The wide application of training and upskilling schemes was to bridge the skills gap and enhance the flexibility of the workforce. Research showed that those organizations that invested in continuous learning and digital training were in a better position to respond to disruptions (Caesar, 2023). All these HRM strategies helped in raising the workforce preparedness and sustainability of the organization.

Employee Well-being and Support Systems

The well-being of employees became the key theme of the literature. Organizations began to appreciate the need to have psychological support systems to counter the stress and mental health issues (Čižiūnienė et al., 2025). Past research indicated the adoption of counseling services, helplines, and wellness programs to assist employees in times of crisis.

The work-life balance programs were also implemented, especially among the onshore workers, to cope with the burden of remote work and the heavy workloads. Supportive policies and flexible working hours contributed to the decrease of burnout and improvement of employee satisfaction. Besides this, safety measures, including the provision of personal protective equipment (PPE), health protocols, and workplace sanitation were given priority to ensure the safety of employees (Becker et al., 2018). These well-being programs did not only enhance employee morale, but also boosted trust and commitment, which was critical in ensuring workforce stability during disruptions.

Leadership and Organizational Culture

The issue of leadership was critical in influencing the organizational reactions to disruption. It was revealed that effective leadership enabled the decision-making process, crisis management, and employee engagement (Sawyer & Harrison, 2019). Those leaders who exhibited empathy, transparency, and adaptability had better chances of leading their organizations through the uncertainty.

Resilience outcomes were also affected by the organizational culture. An organizational culture that encouraged collaboration, learning and flexibility allowed organizations to be more responsive to disruption. Earlier research suggested that strong organization cultures stimulated knowledge exchange and innovation that promoted adaptive responses (Villar et al., 2023). In this way, the role of leadership and culture as critical enablers of HRM effectiveness in crisis situations reinforced the significance of strategic leadership in maritime situations.

HRM and digital transformation

The digital transformation has become one of the key sources of change in the field of HRM practices. HR technologies became increasingly popular in organizations as a means to manage



workforce operations, such as digital communication platforms, workforce management systems, and e-learning tools (Surucu-Balci et al., 2024). These technologies helped to coordinate remotely and enhance the efficiency of operations.

Workforce dynamics were also affected by automation which forced employees to adjust to new roles and responsibilities. The past research indicated that organizations that incorporated digital tools with HRM practices were more likely to react to disruptions (Ismail et al., 2025). Nonetheless, the shift also posed some challenges connected with the development of skills and workforce preparedness. In general, the digital transformation redefined the functions of HRM and was a key factor in allowing the resilience of the workforce.

Workforce Resilience and Adaptability

The idea of resilience of the workforce was repeatedly highlighted throughout the studies reviewed. The conceptualization of resilience was based on the ability of employees and organizations to adapt, recover, and maintain performance under disruptive conditions (Zavala-Alcívar et al., 2020). Individual and organizational variables both had an impact on the outcomes of resilience.

At the personal level, flexibility, psychological robustness, and competencies of skills were determined as the main factors influencing resilience. HRM practices, leadership support, and organizational culture were important factors at the organizational level (Chen et al., 2025). According to previous studies, organizations that encouraged continuous learning, engagement of employees and conducive environments developed greater levels of resilience.

In a summary, the results showed that the resilience of the workforce was a dynamic capacity that was influenced by the HRM strategies and organizational practices (Sun et al., 2023). Successful HRM interventions increased flexibility and allowed maritime organizations to better cope with disruptions (Padovano & Ivanov, 2025).

Discussion

Integration of Findings

This systematic literature review directly answers the research questions by offering a comprehensive understanding of workforce issues, HRM practices, and resilience outcomes of maritime supply chain disruptions (Nguyen et al., 2022; León-Mateos et al., 2021; Li et al., 2023). The review shows that workforce challenges—such as labor shortages, skill gaps, mental stress, and mobility restrictions—consistently emerge across studies as critical barriers to operational continuity (Notteboom et al., 2021; Warren & Gibson, 2025). These issues had been previously identified in isolation, but this study brings them together in a single framework, showing how they are interrelated, and how they cumulatively affect maritime operations.

Moreover, the analysis establishes that HRM practices are at the center of the challenges of managing these issues. Among the strategies that are widely reported across the studies as effective responses to disruptions are flexible workforce planning, crisis communication, employee well-being initiatives, and training programs (Esan et al., 2024; Čižiūnienė et al., 2025; Sun et al., 2023). Although the previous research was limited to a particular intervention, this review identifies a more general trend: organizations that implement integrated HRM strategies are more likely to experience a higher degree of resilience and adaptability (Padovano & Ivanov, 2025). The results also indicate convergence in various contexts, which implies that regardless of the regional and operational differences, similar HRM strategies are implemented in the global context in the case of maritime disruptions (Tabaklar, 2024).

Theoretical Implications



This work is a valuable addition to the HRM theory as it supports the strategic position of HRM in the context of crisis and disruption. It transforms the traditional perspective of HRM as an administrative role to a dynamic capability that enables the organization to be resilient (Yamin et al., 2024). The results are consistent with the Resource-Based View (RBV) where human capital is always found to be a valuable and strategic resource that helps organizations to navigate uncertainty (Bygballe et al., 2023). This connection had been proposed by previous research, and the current synthesis supports this argument by showing how HRM practices can improve the capabilities and resilience of the workforce.

The research also adds to the theory of supply chain resilience by adding the human aspect to the theory of resilience. Although the existing literature has tended to focus on the technological and operational conditions, the current review has revealed the critical nature of workforce resilience in supporting supply chain performance (Shi et al., 2022). The results are also consistent with the Social Exchange Theory (SET), where organizations that invest in employee well-being and support systems are likely to have reciprocal commitment and engagement by employees (Ugrinov et al., 2025). Therefore, the research combines HRM, RBV, and SET viewpoints to offer a comprehensive insight into resilience in maritime supply chains.

Practical Implications

Practically, the results provide a number of suggestions to maritime organizations and policymakers. To begin with, organizations need to focus on strategic workforce planning and flexibility to deal with labor shortages and operational uncertainties (Shi et al., 2022). Second, the training and upskilling programs should be invested in to close the skill gap and facilitate the digital transformation (Arowosegbe et al., 2024). Third, to increase the stability and productivity of the workforce, organizations need to increase employee well-being programs, such as mental health support and work-life balance policies (Čižiūnienė et al., 2025).

HR policies are also to be updated to include crisis preparedness and resilience-building initiatives. For example, policies related to remote work, health and safety, and crisis communication should be formalized and integrated into organizational frameworks (Ismail et al., 2025; Febrian & Sani, 2023). Adaptive and empathetic leadership should be highlighted in leadership development programs to effectively manage disruptions (Sawyer & Harrison, 2019). In sum, the study highlights the importance of proactive and combined approaches to HRM to create resilient maritime organizations.

Research Gaps

Although the literature is increasing, there are still some gaps in research. To start with, there is a lack of empirical studies that may focus on unexplored areas, especially developing countries where the maritime activities can be subjected to certain peculiarities (Chen et al., 2025). Second, the literature has not found any longitudinal research that can examine the long-term effects of HRM practices on the resilience of the workforce and the performance of the organization. The majority of the available research uses cross-sectional designs, which restrict the insights into the dynamic changes over time (Akpınar & Özer-Caylan, 2022).

Also, there is a shortage of qualitative studies that can offer a detailed analysis of employee experiences and organizational practices within the maritime setting. Although quantitative research prevails in the sphere, qualitative methods might provide deeper and more insightful understanding of HRM and resilience. The filling of these gaps would contribute to the

increased strength of future studies and help form a more comprehensive picture of HRM in disruptions in the maritime supply chain (León-Mateos et al., 2021).

Conceptual Framework

The conceptual framework of the proposed research posits a systematic route between the disruption of maritime supply chains and continuity of organizations through the mediating role of workforce issues, HRM policy, and workforce resiliency (Zavala-Alcivar et al., 2020; Padovano & Ivanov, 2025). It shows how the external shocks contribute to the internal workforce-related problems and their solutions through the help of strategic interventions in HRM to gain resilience and continuity of operations. The first trigger in the framework is the disruption of maritime supply chains which is accompanied by the pandemics, port congestion, geopolitical conflicts, climate-related events, and technological changes (Notteboom et al., 2021; Becker et al., 2018). By these interferences, there are uncertainty and instability in the international logistics systems. Consequently, such workforce-related problems as shortages of labor, skills gaps, stress, and mobility will emerge (Warren & Gibson, 2025; Caesar, 2023). The HRM strategies, including the workforce planning, training, communication, and well-being programs are aimed at overcoming these problems and providing workforce resilience, which, in its turn, will guarantee the continuity and the long-term sustainability of the organization. The conceptual framework can be summarized as a sequential process in figure 1:

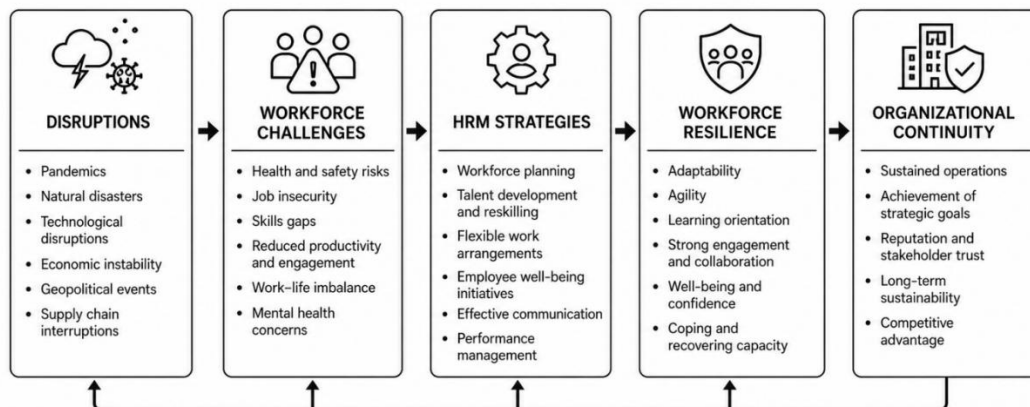


Figure 1: Conceptual framework illustrating how disruptions create workforce challenges, addressed by HRM strategies to build resilience and ensure organizational continuity.

This flow indicates the essentiality of HRM in converting disruption-related issues into resilience-related outcomes, which ultimately leads to sustainable maritime supply chain operations (Tabaklar, 2024).

Limitations of the Study

In this study, several constraints are identified that may influence the scope, as well as the generalizability of the research findings. Firstly, there existed some limitations in databases, as the review was conducted primarily with the help of the selected academic databases e.g. Scopus, Web of Science, Google Scholar and ScienceDirect. Though these sources cover a wide range of peer-reviewed literature, this is not to say that relevant studies indexed in other databases or unpublished sources were not covered by these sources. This could lead to the analysis not considering some potentially valuable insights.

Second, there is another restriction, publication bias. The study only used peer-reviewed articles of journal articles and peer-reviewed journal articles are more prone to report



significant and positive results, as compared to non-significant ones. As per past studies, such bias can limit the range of views as well as over-reporting on successful HRM practices and underreporting on challenges or failed strategies. This is capable of affecting the overall balance of the results produced.

Third, there was a restriction in the language since only studies published in English were included. Such criterion did not include research published in other languages, especially research published in non-English-speaking maritime areas. Therefore, valuable local knowledge and evidence in a context-specific way could have been overlooked. These limitations suggest that the size of the database, the availability of grey literature and the significance of multilingual materials should be taken into account to enhance the scope of the study and its validity.

Conclusion

This study presents a synthesis of literature on the role of Human Resource Management (HRM) in workforce issues and resilience in the context of maritime supply chain disruption. The results indicate that the disruptions, such as pandemics, geopolitical tensions, and operational uncertainties had greatly impacted the stability of the workforce, resulting in such issues as labour shortage, skills gap, mental stress, and mobility limitations. Although these challenges were also identified individually in previous studies, this review combines all these challenges into a coherent framework with emphasis on the interconnected effect of these challenges on organizational performance.

The research concludes that HRM has strategic and transformative role in alleviating such challenges and promoting resilience. HRM practices are defined as the most important mechanisms that contribute to the workforce flexibility and organizational continuity. The results support the fact that workforce resilience is not an innate characteristic but a dynamic capability, which is achieved with the help of the effective HRM intervention, supportive leadership, and organizational culture. In this regard, HRM comes out as one of the key pillars in the provision of sustainable and resilient maritime operations.

In a more general context, the study underscores the increasing significance of the incorporation of human-centered approaches into supply chain resilience models. It highlights that technology and operational solutions cannot be efficient without a strong and efficiently controlled workforce. Thus, organizations are advised to implement proactive, integrated, and strategic HRM strategies to effectively manage any type of disruption in the future.

Future research directions are that there is a need to have more empirical studies in the underexplored regions especially in the developing economies to capture those variations by context in the maritime workforce challenges. Also, longitudinal studies are needed to investigate the role of long-term effects of HRM practices on resilience and performance. More qualitative studies are also required to learn more about employee experiences and organizational reactions. The continued increase in research in these fields will further enhance the development of theories and offer practical advice on the way to strengthen resilience in maritime supply chains.

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