

Workplace Safety: A Conceptual Review

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DOI: https://dx.doi.org/10.47772/IJRISS.2025.914MG0055

Received: 06 March 2025; Accepted: 13 March 2025; Published: 17 April 2025

ABSTRACT

This study presents a comprehensive empirical review of workplace safety, with discourse centred on examining the evolution of workplace safety practices, factors influencing workplace safety, emerging trends in workplace safety, and dimensions of workplace safety. The review deployed the Resource-Based View (RBV) theory perspective on workplace safety to examine how organisations can optimally align their safety engagements with the environmental dynamics of the contemporary workplace to attain a sustained competitive advantage. The narrative literature review methodology engaged for the study significantly provides relevant discourse to the topical interest in workplace safety by providing a synthesized narrative of relevant hindsight, insight, and forecast, highlighting the strategic essence for organizations to evolve safety practices to strategically fit with the changing workplace environment. Furthermore, the study unveiled the strategic significance of integrating safety as a core organisational priority and key success measure, which enhances employee performance and operational efficiency. The study positively enhances relevant knowledge on workplace safety by providing various thematic discourses on the variables influencing the workplace safety field and offering recommendations for future studies.

Keywords: workplace safety, resource-based view (RBV) theory, workplace environment

INTRODUCTION

Workplace safety is a topical discourse that has gathered attention from both academia and industry on safety strategies for the redefined and evolving nature of risk in a multi-dimensional contemporary workplace, being that a safe workplace enhances a productive, sustainable, and positive work climate (Adetunji, 2022). Organisational management has long featured workplace safety as a critical aspect of its operation, which spans beyond employee welfare to encompass the effectiveness and sustainability of organisations; there is a reorientation and topical discourse on the essence of workplace safety and this emphasis has been triggered by the evolving global business landscape, reforms in regulatory frameworks, rapid technological development and adoption, and emerging health (i.e. mental) and pandemic (i.e. COVID 19) disruptions (Bahadurzada et al., 2024; Koh & Tan, 2024; Pamidimukkala & Kermanshachi, 2021). Hence, the conventional denotation of workplace safety to physical safety has been remodelled to incorporate psychosocial factors, work-life balance, and organizational culture (Bahadurzada et al., 2024; Bautista-Bernal et al. 2024; Dirma, 2022); this new reality has made workplace safety a multidimensional construct that demands a comprehensive approach.

Traditionally, the emergency of workplace safety is anchored to the growth of the Industrial Revolution, which recorded an increased hazardous work climate; regardless of the increased safety consciousness that deployed safety regulations, protocols, and equipment, the re-occurrence of workplace accidents has globally resulted in significant socioeconomic costs (Hrymak & Pérezgonzález, 2007).

The recurrent evidence of workplace injuries and accidents regardless of the decades of safety practices and advancements reinforces the necessity for continuous safety research and strategies (Almaskati, et al. 2024;



ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue IV March 2025 | Special Issue on Management

Bes & Strzałkowski, 2024). Extant empirical studies have evidenced that optimised safety strategies should not be limited to legal compliance and regulatory standards but must advance a holistic organizational safety culture (Bautista-Bernal, 2024; Salguero-Caparrós et al. 2020). The workplace research scope has addressed various domains; risk assessment, safety culture, employee behaviour, hazard identification, safety training, and leadership influence on safety outcomes (Jiang et al. 2024; Martínez-Córcoles et al. 2011). The human factor (i.e. individual's attitude, behaviour, and perceptions) attributed to safety policies has a significant correlation to the safety performance of organizations, and this is a critical influence on safety outcomes (Reason, 1990; Sarvari et al. 2024). Another topical debate is anchored on the increasing adoption and integration of artificial intelligence and automation in the workplaces, and the influence of these technologies on safety dynamics and risk emergence (El-Helaly, 2024; Koh & Tan, 2024; Rybak & Hassall, 2024), Hence, the restructuring of the work environment to incorporate boundless work climate and timing (i.e. freelancers, remote work, digital workspace, third party engagement, etc.) has redefined the scope of workplace safety and the implementation of safety strategies (EU-OSHA, 2022; Haque, 2023; Nilsen & Kongsvik, 2023; Niveditha & Balu, 2023).

This literature review examines postulations from various relevant studies on workplace safety, examining the evolution of workplace safety practices, factors influencing workplace safety, emerging trends in workplace safety, dimensions of workplace safety, and a Resource-Based View (RBV) perspective on workplace safety. This review aims to examine and provide a clear understanding of the dynamics of workplace safety. This is achieved from critical analysis of literature, identification of gaps, and theoretical discourse. The study adopted the narrative literature methodology to achieve these aims.

The Evolution of Workplace Safety Practices

The 20th-century trajectory of workplace safety had a safety orientation that was more focused on avoiding physical accidents and injuries; this safety orientation was enshrined in engineering model solutions targeted at enhancing a safe work climate and decreasing hazardous machinery via physical interventions (Benson et al. 2024; Dyreborg, et al. 2022; Heinrich, 1950; Heinrich et al. 1980); these models were anchored on the assumptions that workplace accidents were majorly based on employee's unsafe acts and negligence as postulated by Heinrich's Domino Theory; which observed accidents as a resultant effect of human errors.

The safety re-orientation from Heinrich's Domino Theory advanced the understanding of workplace safety with the introduction of systems structure and human factors engineering, whose major argument postulates that workplace accidents and injuries were a resultant effect of multi-dimensional interactions between people, machines, and organizational systems. Also, the system theory postulates that understanding the relationship and interactions between various components of the work system (i.e. people, processes, technology, and organizational culture) is critical to the prevention of workplace accidents (Aven, 2022; Leveson, 2004). This encompassing perspective enriched the development of modern safety management systems, which capture and integrate workplace safety policies and practices across organizational levels and prioritise risk analysis, active hazard identification, and continuous learning and improvement.

The emergence of safety culture is a critical concept that has added to contemporary discourse on workplace safety; workplace culture further redefined the system perspective on safety. Safety culture connotes the holistic beliefs, values, and behaviours that depict an organization's safety commitment (Harvey, 2002; Jaroenroy et al. 2024). Workplace safety culture influences the optimization of safety management systems; with leaders actively involved in fostering safety initiatives and practices, and other organizational members actively participating, communicating, and understanding safety priorities (Harvey, 2002; Jaroenroy et al. 2024).

Factors Influencing Workplace Safety

The effectiveness and optimization of safety practices are significantly influenced by human factors (behaviour and psychology). Employee's perception, interpretation, and action on safety engagement are critical for





ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue IV March 2025 | Special Issue on Management

optimised safety management as human error is considered a major influence on workplace accidents (Reason, 1990; Sarvari et al. 2024). Behaviour-based safety approach reveals individual behaviour's role in the prevention of accidents; hence, individual perc eption of risk and compliance with safety protocols influence workplace safety outcomes (Al-Hemoud & Al-Asfoor, 2006; Vinodkumar & Bhasi, 2010; Zohar, 2002).

Organisational leadership and culture are significantly critical actors in influencing safety outcomes. Safety leadership reveals that managers at all organizational cadres are significant contributors to safety culture outcomes via their communication, behaviour, and decision-making (Jiang et al. 2024; Martínez-Córcoles et al. 2011; Vinodkumar & Bhasi, 2010). Hence, organizational leaders can create a work climate where employees are motivated to prioritise safety engagement via the leader's active safety advocacy, modelling, and expectations. Leaders adopting the transformational approach to leadership can proactively drive workplace safety via the motivation, inspiration, and involvement of employees in adopting and practising safety initiatives that advance safety outcomes (Al-Hemoud & Al-Asfoor, 2006; Jiang et al. 2024; Martínez-Córcoles et al. 2011; Vinodkumar & Bhasi, 2010). Organizational culture connotes norms, practices, and values that guide organizational members' engagement and possibly influence employee engagement and safety outcomes. A safety-centric culture enhances open communication, advances proactive safety measures, and facilitates transparency and accountability in handling unsafe work conditions (Bautista-Bernal et al. 2024; Harvey, 2002; Jaroenroy et al. 2024; Shea et al. 2021).

The contemporary workplace has increased the adoption and integration of robotics, automation, and artificial intelligence (AI) which offers opportunities and challenges for organizational safety (El-Helaly, 2024; Koh & Tan, 2024; Rybak & Hassall, 2024). While the integration of these technologies can significantly reduce the human error risk in a work environment, it arguably may raise new elements of risk (i.e. human-machine interface, and system failures). Alternatively, the effectiveness of systems or technology in reducing risk is dependent on how integrated they are to safety protocols and employees' competence in engaging these technologies (El-Helaly, 2024; Koh & Tan, 2024; Rybak & Hassall, 2024).

Emerging Trends in Workplace Safety

The evolving nature of workplace safety is redefining its components; mental health and psychological safety are gaining ground as a critical component of workplace safety. Employee work burnout, stress, and psychological dispositions are influencing safety outcomes; empirical studies have revealed that high levels of anxiety, depression and stress can weaken cognitive, emotional, and psychomotor decision-making which increases accident risk (Dong et al. 2024; Kahn, 1990; Wowor & Dewi, 2022). Employee mental health concerns are critical for organizational optimal performance, and there is increasing priority in enabling a safe mental environment for employee mental health (Edmondson, 1999; Kahn, 1990). Psychological safety has been observed to advance innovativeness and safety performance (Edmondson, 1999; Kahn, 1990; Vinodkumar & Bhasi, 2010; Zohar, 2002).

Diversity, Equity, and Inclusion (DEI) is also redefining workplace safety components. Arguably, DEI (i.e. marginalised groups; racial minorities, women, and people with disabilities) are reported to face higher workplace injuries and have limited safety resource access (Dang et al. 2024). The DEI narrative in the safety context is focused on accessing how power dynamics and structural inequalities impact workplace safety outcomes. As organisations invest in furthering principles of justice in the workplace, the integration of DEI principles in safety considerations, policies, and practice denotes an evolving research area; this integration can potentially decrease injury disparity and enable equitable safety resource access.

Workplace safety priorities were further redefined in light of the COVID-19 pandemic with regard to remote work engagement and prevention of infectious diseases. There are increasing studies on how workplace safety practices are redefined to accommodate COVID-19 preventive measures (i.e. social distancing, hygiene measures, and remote work policies) (Bahadurzada et al., 2024; Pamidimukkala & Kermanshachi, 2021). Organizations after the pandemic are redefining safety practices for hybrid and diverse work climates.





ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue IV March 2025 | Special Issue on Management

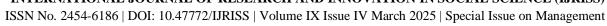
Dimensions of Workplace Safety

Physical Workplace Safety (PWS) connotes organizational practices and policies engaged to limit or prevent physical injuries and harm to organizational members (Asselt at al. 2012; Beus et al. 2010; Beus et al. 2016; Burke et al. 2002; Burke & Signal, 2010; Christian, 2009). PWS is a significant organizational concern with critical implications for organizational member's efficiency, effectiveness, and engagement; PWS components involve hazard identification, regulatory compliance, ergonomic factors, personal protective equipment (PPE), and environmental variables (i.e. noise, temperature, lighting, etc.) (Bahadurzada et al., 2024; Pamidimukkala & Kermanshachi, 2021). PWS is focused on mitigating diverse physical hazards (i.e. hazardous materials, electrical, mechanical, fire hazard, and environmental factors) that can lead to an unsafe and accident-prone work environment (Asselt et al. 2012; Beus et al. 2010; Beus at al. 2016; Burke et al. 2002; Burke & Signal, 2010; Christian, 2009). The PWS is further explained on the assumptions of diverse theories that demonstrate safety behaviour influence and development; the Human Error Theory reveals that accidents and injuries in the workplace are a resultant effect of intricacies enshrined on organizational member's failures and organizational latent conditions (Benson et al. 2024; Dyreborg, et al. 2022; Heinrich, 1950; Heinrich et al. 1980; Reason, 1990; Sarvari et al. 2024). He further argued that organizations deliberate about a hazard-free work environment, must address human errors and systemic intricacies (i.e. inadequate training, poor work design, unclear procedures, etc.). The Safety Culture Model is anchored on advancing safety via the instrumentality of workplace culture and leadership; hence the safety climate is anchored on cultures (i.e. safety practices, procedures, and policies), and these cultures have been known to enhance safety performance (Bautista-Bernal et al. 2024; Harvey, 2002; Jaroenroy et al. 2024; Shea et al. 2021), and leadership is critical on influencing safety behaviour and outcomes (Jiang et al. 2024; Martínez-Córcoles et al. 2011). PWS is mostly anchored on regulatory compliance driven by protection and prevention of harm to organizational members; although there is a debate on how effective regulatory frameworks are in preventing harm, hence, the need for a proactive safety management system (Aven, 2022; Leveson, 2004). Regardless of the virtue of PWS, the practices of underreporting accidents, fear of job loss or disciplinary action, and lack of expertise and resources in safety programs undermine PWS.

Psychological Workplace Safety (PyWS) is focused on organizational member's mental and emotional welfare and the conditioning of a workplace climate where employees are secured from psychological hazards (i.e. bullying, stress, discrimination, harassment, role ambiguity and conflict, job insecurity, work-life conflict, and burnout) (Bahadurzada et al., 2024; Dong et al. 2024; Kahn, 1990; Wowor & Dewi, 2022). There is a growing interest in employee mental and emotional health and its influence on organizational interest, which has necessitated the need to develop and foster a safe and supportive PyWS; PyWS also denotes employee's perception of work-related engagement without psychological fear or harm (Kahn, 1990; Wowor & Dewi, 2022). Kahn (1990) posits that psychological safety is essential for employee engagement; employee psychological safety advances their commitment and further attainment of organizational interest. Organizations in advancing strategies that foster a PyWS have amongst other things deployed training and development programs, leadership practice, employee support programmes, and culturing a positive work climate (Bahadurzada et al., 2024; Dong et al. 2024; Wowor & Dewi, 2022), hence, PyWS goes beyond the absence of psychological hazards to ensuring that organizations via policies and practise priorities organizational members mental and emotional state.

A Resource-Based View (RBV) Perspective on Workplace Safety

The increasing interest in workplace safety is anchored on enhancing employee well-being and optimising organisational interest; while diverse theories have been adopted to discuss workplace safety, the RBV theory offers unique perspectives to assess organizational resources and safety outcomes. The RBV as argued by Wernerfelt (1984), and later developed by Barney (1991) and other scholars, is focused on a firm's attainment of sustained competitive advantage via the engagement of valuable, rare, inimitable, and non-substitutable (VRIN) resources. This theoretical lens is focused on organizational safety-related resources (i.e. safety management systems, human capital, safety management practices, safety culture, and safety technologies) and their possible influence on an organization's safety performance; hence the examination of RBV (organizational safety-related resources) application to workplace safety (i.e. accident prevention, high safety





performance, and optimised organisational outcomes). The RBV angle on workplace safety denotes that organisational resources are critical to minimising risk, preventing accidents, and advancing a safety-cultured work climate; hence by engaging VRIN safety resources, organisations proactively ensure regulatory compliance, manage safety risk, and optimise safety management systems that advance safety sustainability and competitive advantage (Barney, 1986, 1991; Wernerfelt, 1984, 1989).

CONCLUSION

This literature review has examined the evolution of workplace safety, factors influencing safety outcomes, emerging trends, and the application of the RBV theory in influencing safety practices. The review observed the fluid trajectory of safety engagement from a compliance-based approach to an integrated and proactive approach with multi-dimensional implications as the work environment is continuously been redefined. Future studies should examine how organizations can explore emerging trends in organisational safety affairs and the dynamic work environment. Also, further studies may evaluate RBV assumption implications in redefining safety engagement and sustaining competitive advantage in an evolving risk-work environment, and finally, examine the interplay of workplace safety with societal issues (i.e. marginalized groups; women and racial minorities) and diversity, equity, and inclusion (DEI).

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