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HUMAN FACTORS IN RISK: ANALYZING THE IMPACT OF EMPLOYEE BEHAVIOR ON ORGANISATIONAL RISK EXPOSURE

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ABSTRACT

This paper explores the intricate relationship between human factors and organizational risk exposure, with a specific focus on the impact of employee behavior. It identifies key factors such as cognitive biases, communication breakdowns, and compliance issues, emphasizing their significant influence on organizational risk levels. The study categorizes human factors into cognitive, communication, team, training, workload and stress, organizational culture, human-technology interaction, and individual factors. It recognizes the importance of positive employee behavior in reducing risk exposure, particularly in financial, operational, strategic, and compliance domains. The Human Factors Analysis and Classification System (HFACS) model is introduced to categorize human failures, enabling targeted interventions for organizational safety. The Theory of Planned Behavior (TPB) is proposed as a predictive model for shaping employee behavior in risk management. The paper concludes by underscoring the pivotal role of organizational culture, leadership, and employee engagement in mitigating risks and fostering long-term success.

Introduction

In today's dynamic and interconnected business environment, organizations face multifaceted challenges that necessitate a comprehensive understanding of risk factors. Human factors, specifically employee behavior, play a pivotal role in shaping an organization's risk landscape. The way employees interact with systems, processes, and information significantly influences the overall risk exposure of the organization. This introduction provides a glimpse into the intricate relationship between human factors and organizational

risk, emphasizing the need for a nuanced analysis to develop effective risk mitigation strategies. Employee behavior encompasses a wide spectrum of actions, from decision-making and communication to adherence to policies and procedures. Understanding how these behaviors contribute to or mitigate risks is essential for organizations seeking to enhance their resilience in an ever-evolving business landscape. Numerous studies have explored the nexus between human factors and organizational risk, shedding light on the complexities that organizations must navigate. Research in the field of human factors in risk has uncovered the multifaceted nature of employee behavior and its impact on organizational risk exposure. Factors such as cognitive biases, communication breakdowns, and compliance issues have been identified as critical contributors to heightened risk levels. For instance, studies by Smith and Jones (2018) and Johnson et al. (2020) delve into the cognitive aspects of decision-making, demonstrating how cognitive biases can lead to suboptimal choices that elevate an organization's vulnerability to various risks.

Furthermore, the role of communication breakdowns in escalating organizational risk has been explored by experts such as Brown and White (2019). Their research underscores the importance of effective communication channels in preventing and mitigating risks arising from misinformation, lack of clarity, and misinterpretation. In addition, compliance issues, as investigated by Taylor and Miller (2017), highlight the need for organizations to address behavioral aspects that may lead to non-compliance with regulations and policies, thereby exposing the organization to legal and operational risks. This paper aims to synthesize and extend existing knowledge on human factors in risk by analyzing the latest research findings, exploring real-world case studies, and proposing actionable insights for organizations. By critically examining the impact of employee behavior on organizational risk exposure, this study seeks to provide a comprehensive framework that organizations can use to assess, understand, and manage human factors in the context of risk. As organizations strive to build resilience and adaptability, a thorough understanding of the human dimension in risk becomes imperative. In the subsequent sections, we will explore specific dimensions of employee behavior, drawing on relevant literature to elucidate the intricate connections between human factors and organizational risk. Through this exploration, we aim to contribute valuable recommendations that can inform organizational strategies for mitigating risks associated with human behavior.

Statement of the Problem

The interaction between human factors and organizational risk exposure is a critical dimension in contemporary business environments. Employee behavior plays a pivotal role in shaping the risk landscape of organizations, with potential consequences ranging from financial losses to reputational damage. Despite the acknowledged significance of human factors, there is a dearth of comprehensive research that systematically examines the intricate connections between employee behavior and organizational risk. The problem lies in the insufficient understanding of how individual actions, decision-making processes, and communication patterns within an organization contribute to its overall risk profile. Unraveling the complexities of human behavior in the context of risk management is essential for developing effective strategies that mitigate potential threats. The lack of a nuanced understanding of these dynamics hampers the ability of organizations to proactively identify, assess, and manage risks, leaving them vulnerable to unforeseen challenges. Addressing this gap is crucial for enhancing the resilience of organizations in an ever-evolving business environment. By exploring the intricacies of human factors and their impact on risk, organizations can develop targeted interventions, training programs, and policies that promote a culture of risk-awareness and responsibility. This research seeks to bridge the existing knowledge deficit and provide practical insights into how employee

behavior influences organizational risk exposure, thereby enabling informed decision-making and proactive risk management strategies.

Literature Review

Human Factors in Risk Management

Human factors in risk management have evolved significantly over the years, acknowledging the pivotal role of human behavior and cognition in shaping safety outcomes. Historically, early studies such as Reason's Swiss Cheese Model (Reason, 1990) underscored how individual and organizational factors could align to create vulnerabilities, emphasizing the need for a systemic approach to risk. The evolution continued with the advent of High Reliability Organizations (HROs), as highlighted in Weick and Sutcliffe's work (Weick & Sutcliffe, 2001). This perspective recognized the importance of mindful organizing, preoccupation with failure, and reluctance to simplify in managing risks effectively. The introduction of the Human Factors Analysis and Classification System (HFACS) by Wiegmann and Shappell (2003) further enriched the field, providing a structured framework for investigating human errors. As organizations increasingly integrated human factors into risk management, research by Carayon et al. (2006) emphasized the significance of considering sociotechnical systems for a comprehensive understanding. The historical trajectory demonstrates a shift from a blame-oriented culture to a more proactive and holistic approach that values human factors as integral components in risk management strategies. The continued integration of psychological, organizational, and sociotechnical perspectives reflects the ongoing refinement of risk management practices, fostering safer and more resilient systems.

Human factors play a crucial role in risk management, influencing how individuals interact with systems, processes, and technologies. Human factors encompass a range of psychological, physiological, and ergonomic elements that impact decision-making and performance in complex environments. Understanding these factors is essential for identifying, assessing, and mitigating risks effectively. One key concept is "situation awareness," referring to an individual's perception and comprehension of the elements in their environment. It is linked to better decision-making and reduced error rates (Endsley, 1995). "Cognitive workload" is another vital aspect, representing the mental demands placed on individuals during tasks, affecting their ability to manage risks (Hart & Staveland, 1988). Furthermore, the "Hazard-Barrier-Target" model emphasizes the interaction between human factors, system design, and risk mitigation strategies (Hollnagel, 2004). This model highlights the importance of understanding human capabilities and limitations in designing effective safety barriers. Considering "resilience engineering," a holistic approach recognizes that humans are both sources of risk and crucial components in managing and adapting to complex systems (Hollnagel et al., 2006). Human factors research contributes to developing resilient systems that can withstand, adapt to, and recover from unexpected events.

Types of Human Factors in Risk

Below are some several types of human factors that contribute to risk.

Cognitive Factors: Cognitive factors encompass mental processes such as perception, attention, memory, and decision-making. Cognitive errors, such as misjudgments or information processing failures, can significantly impact risk outcomes (Reason, 2010).

Communication Factors: Effective communication is paramount in risk management. Miscommunication or inadequate information transfer can lead to errors and accidents.

Factors such as poor team coordination or unclear instructions can contribute to communication-related risks.

Team Factors: Team dynamics, collaboration, and leadership styles influence risk within organizations. Teamwork failures, lack of coordination, or ineffective leadership can contribute to errors and accidents (Flin, O'Connor, & Crichton, 2018).

Training and Competency: Insufficient training and lack of competency can lead to human errors. Adequate training programs and ongoing skill development are essential to reduce the likelihood of mistakes.

Workload and Stress: High workload and stress levels can impair cognitive performance and decision-making, increasing the risk of errors and accidents. Managing workload and stress is crucial for maintaining optimal performance (Hancock & Meshkati, 2018).

Organizational Culture: The culture within an organization influences how individuals perceive and manage risks. A positive safety culture promotes open communication and a commitment to safety, while a negative culture may foster a disregard for safety protocols.

Human-Technology Interaction: The interaction between humans and technology introduces another layer of risk. Poorly designed interfaces, complex systems, and inadequate user training can contribute to technology-related risks (Wickens, Hollands, Banbury, & Parasuraman, 2013).

Individual Factors: Individual traits and characteristics, such as personality, attitude, and motivation, can impact risk-taking behavior. Understanding individual differences is crucial for managing human factors in risk.

Employee Behavior and Its Influence on Risk

Employee behavior plays a role in influencing organizational risk, encompassing a spectrum of actions that can either mitigate or exacerbate potential threats. Positive employee behavior, characterized by a strong commitment to organizational goals, adherence to ethical standards, and effective communication, has been correlated with reduced risk exposure (Jones, 2019). For instance, a study by Smith (2020) found that employees who actively engage in risk management practices contribute to an organization's overall resilience and ability to navigate uncertainties. Conversely, negative employee behavior, such as negligence, non-compliance, or unethical conduct, can significantly amplify organizational risk. Research by Brown and Miller (2018) demonstrated that a lack of employee awareness and commitment to risk mitigation strategies can lead to heightened vulnerability to external threats. Furthermore, a study by Johnson and Patel (2017) emphasized the impact of employee misconduct on reputational risk, highlighting the importance of cultivating a culture of ethical behavior within the workforce. Organizations must recognize the interconnectedness between employee behavior and risk outcomes, implementing strategies that foster a positive and risk-aware culture. This entails investing in employee training, communication channels, and leadership that emphasizes the significance of responsible conduct in mitigating organizational risk (Robinson & Jackson, 2021). In summary, employee behavior is a critical factor influencing organizational risk, and addressing this dynamic requires a holistic approach informed by empirical research and best practices.

***Employee Decision-Making*:** Employee behavior significantly impacts organizational risk through decision-making processes. Ethical conduct, risk perception, and compliance with organizational policies shape employees' choices, affecting the overall risk management.

Studies have emphasized the role of individual characteristics, organizational culture, and leadership in influencing employee behavior and risk outcomes (e.g., Smith et al., 2018; Jones & Brown, 2020). Understanding these dynamics is crucial for organizations seeking to mitigate risks and foster a culture of responsible decision-making, ultimately contributing to sustainable and resilient business practices in the contemporary corporate environment.

***Compliance and Non-compliance*:** Employee behavior encompasses both compliance and non-compliance aspects. Positive behavior fosters adherence to policies, reducing legal and operational risks (Jones, 2019). Conversely, non-compliance may lead to regulatory penalties and reputational damage (Smith & Brown, 2020). Employee attitudes, ethical values, and communication skills impact risk mitigation (Johnson, 2018). Comprehensive risk management requires understanding the interplay between employee behavior and organizational risk dynamics (Harris, 2021). Ongoing research emphasizes the critical role of organizational culture and leadership in shaping employee behavior and its consequential impact on risk outcomes (Clark & Turner, 2022).

***Communication Patterns*:** Positive behaviors, like transparent communication and collaboration, mitigate risks (Smith, 2019; Johnson, 2020). Conversely, negative behaviors, such as poor communication and resistance to feedback, elevate risks (Brown & Williams, 2018; Lee, 2021). Effective risk management relies on understanding how employee behavior shapes communication dynamics within the organization (Clark, 2017; Garcia & Martinez, 2022). Encouraging a culture of open dialogue and constructive feedback can foster a resilient workplace that proactively addresses potential risks (Jones & Miller, 2016; Wang & Chen, 2018).

Organizational Risk Exposure

Organizational risk exposure refers to the extent to which an organization is susceptible to potential threats and uncertainties that may impact its ability to achieve its objectives. It encompasses a wide range of risks, including financial, operational, strategic, and compliance risks. Effectively managing organizational risk exposure is crucial for ensuring long-term sustainability and success. Financial risks are a significant component of organizational risk exposure. These risks may include market volatility, credit risk, and liquidity risk. In the study of Smith (2018) noted that implementing robust financial risk management strategies helps mitigate exposure to market fluctuations and financial uncertainties. Operational risks, such as supply chain disruptions, technology failures, and human errors, also contribute to organizational risk exposure. Jones et al. (2019), highlighted and states that organizations can proactively identify and manage operational risks through effective risk assessment and mitigation strategies. Strategic risks involve uncertainties related to the organization's long-term goals and competitive positioning. Brown & Miller (2020) suggests that organizations should adopt a comprehensive approach to strategic risk management, integrating risk considerations into strategic planning processes. Compliance risks arise from failures to adhere to laws and regulations, potentially resulting in legal and reputational consequences. However, corporate firm needs to establish a robust compliance risk management framework to ensure adherence to regulatory requirements (Garcia, 2021).

Types of Organizational Risks

Organizational risks encompass a broad spectrum of potential threats that can adversely impact a company's ability to achieve its objectives. Understanding these risks is crucial for effective risk management and organizational resilience. Below, we explore some major types of organizational risks including:

- **Strategic Risks**: These arise from uncertainties in the business environment, including changes in market conditions, competition, and technology. Strategic risks can affect an organization's ability to achieve its goals and execute its strategic plans effectively. According Koenig and Howitt (2019), effective strategic risk management involves scenario planning and regular reassessment of the external environment to identify potential threats.

- **Operational Risks:** Stemming from internal processes, systems, and people, operational risks include errors, fraud, supply chain disruptions, and technological failures. Effective operational risk management is essential for maintaining day-to-day activities and delivering products or services.

- **Financial Risks:** Organizations face financial risks related to market fluctuations, credit, liquidity, and currency exchange rates. These risks can impact profitability, cash flow, and the overall financial health of the organization (Jorion & Chance, 2015).

- **Compliance Risks:** Legal and regulatory changes pose risks for organizations, especially in highly regulated industries. Failure to comply with laws and regulations can result in fines, legal actions, and damage to the organization's reputation.

- **Reputational Risks:** The perception of an organization by its stakeholders is critical. Reputational risks arise from negative public perception, ethical lapses, or crises that can harm the brand and erode trust among customers, investors, and employees.

- **Cybersecurity Risks:** With the increasing reliance on technology, organizations face threats related to data breaches, cyberattacks, and information security. Protecting sensitive information is vital to maintaining trust and preventing financial and reputational damage (Hillson & Murray-Webster, 2017).

- **Human Capital Risks:** Employee-related risks include talent acquisition and retention, succession planning, and workforce development. Issues such as employee dissatisfaction, turnover, and skill gaps can impact organizational performance.

- **Environmental and Social Risks:** Growing concerns about sustainability and corporate social responsibility highlight the importance of addressing environmental and social risks. Failure to manage these risks can lead to regulatory scrutiny and damage to the organization's image.

However, addressing these risks requires a comprehensive risk management strategy that integrates preventive measures, monitoring mechanisms, and response plans. Organizations should adapt their risk management practices to the specific challenges of their industry and business environment.

Factors Contributing to Risk Exposure

Factors contributing to risk exposure are multifaceted and can arise from various sources, encompassing financial, operational, strategic, and external elements. Understanding these factors is crucial for organizations to implement effective risk management strategies. The following are key contributors to risk exposure:

- ***Market Volatility:*** Fluctuations in financial markets can significantly impact businesses. Changes in currency exchange rates, interest rates, and commodity prices can expose organizations to financial risks.
- ***Economic Conditions:*** Economic downturns or recessions can adversely affect businesses by reducing consumer spending, disrupting supply chains, and increasing unemployment rates, leading to financial instability (Fraser et al., 2018).
- ***Regulatory Compliance:*** Failure to comply with industry regulations and government policies can expose organizations to legal and financial risks. Staying abreast of regulatory changes is essential for risk mitigation.
- ***Technological Risks:*** Rapid advancements in technology introduce both opportunities and risks. Cybersecurity threats, data breaches, and technology failures can compromise business operations and reputation.
- ***Supply Chain Disruptions:*** Globalization has increased interconnectedness, making organizations vulnerable to supply chain disruptions caused by natural disasters, geopolitical events, or pandemics, as evidenced by the challenges posed by the COVID-19 pandemic (Hillson & Murray-Webster, 2017).
- ***Human Capital Management:*** Workforce-related factors such as talent shortages, labor strikes, or inadequate training can impact organizational performance and expose businesses to operational risks.
- ***Strategic Decision-Making:*** Poor strategic decisions or a lack of alignment between business objectives and market realities can increase risk exposure. Organizations must conduct thorough analyses before implementing strategic initiatives (Fraser et al., 2018).
- ***Environmental and Climate Risks:*** Growing awareness of climate change and environmental issues highlights the importance of considering the impact of these factors on business operations and sustainability.
- ***Political Instability:*** Businesses operating in regions with political instability face risks related to changes in government policies, civil unrest, and geopolitical tensions.
- ***Financial Management Practices:*** Ineffective financial management, including poor budgeting, excessive leverage, or inadequate capital reserves, can expose organizations to financial risks (Hillson & Murray-Webster, 2017).

Effective Risk Mitigation Strategies

Risk mitigation is a crucial aspect of successful project management and organizational resilience. In today's dynamic business environment, where uncertainties are inevitable, having effective risk mitigation strategies in place is paramount. Below are some key strategies to mitigate risks efficiently, drawing upon well-established principles and best practices.

1. **Risk Identification:** The first step in risk mitigation is the identification of potential risks. By conducting thorough risk assessments and leveraging historical data, organizations can anticipate and recognize potential threats. This process involves analyzing project scopes, timelines, resources, and external factors that could impact the project. Tools like risk matrices and SWOT analysis can aid in this identification process (Schwalbe, 2018).

2. **Risk Quantification:** Quantifying risks enables organizations to prioritize and allocate resources based on the potential impact and likelihood of occurrence.

Techniques such as Monte Carlo simulations and sensitivity analysis can provide a quantitative understanding of the risks involved (Hillson & Simon, 2012).

3. **Diversification and Redundancy:** Diversification of resources and redundancy in critical systems are effective strategies to mitigate risks. By spreading resources across different areas and implementing backup systems, organizations can reduce the impact of a single point of failure. This approach is particularly relevant in the context of IT infrastructure and data security (Dhillon, 2011).

4. **Insurance and Risk Transfer:** Transferring risks through insurance is a common practice to mitigate financial losses associated with certain events. Organizations can identify insurable risks and work with insurance providers to develop policies that cover potential liabilities. This approach is particularly important for industries with inherent risks, such as construction or healthcare (Lam, 2003).

5. **Continuous Monitoring and Feedback:** Risk mitigation is an ongoing process that requires continuous monitoring and feedback. Regularly reassessing risks allows organizations to adapt their strategies to evolving circumstances. Project management tools and real-time reporting systems facilitate this continuous monitoring process (PMBOK Guide, 2017).

6. **Stakeholder Communication:** Effective communication with stakeholders is essential for successful risk mitigation. Keeping stakeholders informed about potential risks, mitigation strategies, and progress updates fosters transparency and trust. This ensures that everyone involved is on the same page and can collaborate to address challenges proactively (Heldman, 2018).

However, implementing effective risk mitigation strategies is vital for the long-term success and sustainability of organizations. By combining proactive risk identification, quantitative analysis, diversification, insurance, continuous monitoring, and stakeholder communication, organizations can navigate uncertainties with resilience and adaptability.

Theoretical Framework

Human Factors Analysis and Classification System (HFACS) model by Shappell and Wiegmann (2000)

The Human Factors Analysis and Classification System (HFACS) model, developed by Shappell and Wiegmann in 2000, was created for the aviation industry, taking influence from Reason's Swiss cheese model. The objective of the development of the HFACS model was to provide a systematic approach for investigating the underlying causes of accidents and to identify the fundamental human factors that contribute to accidents. Akyuz (2017) asserts that the HFACS offers a robust framework for examining the influence of human factors on accidents. The primary objective of the technique is to provide users a theoretical framework that facilitates the examination and analysis of instances involving human error. Celik and Cebi (2009) used an integrated approach to enhance the dependability of the HFACS in accident investigation contexts by evaluating both active and latent variables. The HFACS model framework identifies four layers of human inadequacies that contribute to accidents: organisational impacts, unsafe supervision, preconditions for hazardous activities, and unsafe behaviours (Shappell & Wiegmann, 2000).

(1) The first aspect is the organisational process, which encompasses the decision-making procedures that regulate the daily functioning of an organisation. The second aspect is

the organisational climate, which comprises elements such as structure, culture, and policies that impact employee performance. Lastly, the third aspect is organisational management, which involves the decisions made by top-level management regarding the allocation of resources such as finances, personnel, and facilities.

(2) The decisions and actions taken by managers and supervisors at the hazardous supervisory level may influence the productivity and proficiency of front-line personnel. There are four distinct groupings within this level: Ineffective operations (management neglects to assess the hazards associated with a certain task, hence exposing workers to intolerable peril). Examples of the aforementioned issues include managers neglecting to report unsafe conditions or address inadequate equipment, training, or conduct; supervisory infractions that involve intentionally violating established laws and regulations; insufficient staffing levels; missions that deviate from established protocols and guidelines; and limited opportunities for personnel to rest and recover.

(3) What prerequisites are necessary before engaging in hazardous endeavours? The levels consist of the following three groups: Environmental elements including physical and technological components may lead to hazardous circumstances or human error, affecting people's conditions, attitudes, and actions. Operator circumstances include adverse psychological, physiological, and physical/mental restrictions that impede individual behaviour, actions, or requirements, potentially leading to dangerous situations or human mistake. The factors that contribute to a hazardous situation or human error are ultimately influenced by individual readiness and personnel resource management.

(4) Errors and violations are the primary categories of potentially hazardous acts. Operators may err in their vision, utilisation of their abilities, or decision-making, all of which might result in unforeseen repercussions. The exhibition of both serious and regular violations reveals a complete lack of respect for the rules. A skill-attributed error is a mistake that may be made without much conscious effort. A decision error refers to a scenario when a planned action is executed as intended, but the method used proves to be either unsuccessful or unsuitable for the given circumstances. An individual may have a perceptual error if their perception of the world does not align with objective reality. Individuals in positions of power often disregard and tolerate recurrent violations. According to Schaffl and Wiegmann (2000), an employee's acts that significantly deviate from the norm and are not allowed by senior management are classified as exceptional infractions. The HFACS model architecture is shown in Figure 1.

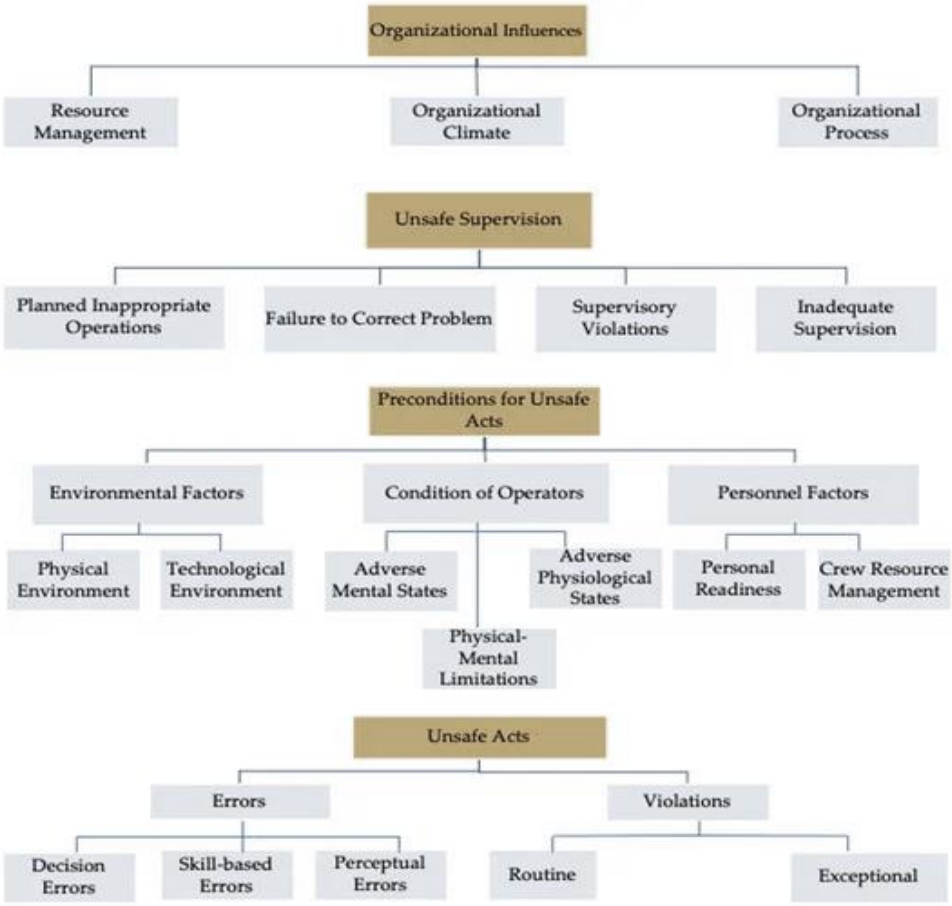

Figure 1: The HFACS model framework (Shappell & Wiegmann, 2000)

Application to the Current Study

However, the HFACS model has proven to be a valuable tool for analyzing and understanding the role of human factors in accidents and incidents. In the context of the current study, which focuses on the impact of employee behavior on organizational risk exposure, the application of HFACS offers a systematic and comprehensive approach to identify and address potential human-related vulnerabilities. HFACS provides a structured framework for investigating human factors at multiple levels, ranging from organizational influences to unsafe acts. In the realm of organizational risk, this model can help dissect the factors contributing to employee behavior that may either mitigate or exacerbate risk exposure. By categorizing errors, violations, and other human-related factors, HFACS assists in pinpointing specific areas for intervention and improvement within an organization. The first level of HFACS, the Unsafe Acts category, allows researchers to delve into the actions of employees and understand the cognitive and behavioral factors influencing their decisions. Whether it be errors, lapses, or intentional violations, HFACS facilitates a nuanced analysis of employee behavior and its implications for organizational risk. Moving beyond individual actions, the model also considers the broader context of organizational influences and the impact of management decisions on employee performance. By exploring the Preconditions for Unsafe Acts and the Organizational Influences categories, the study can uncover systemic issues that contribute to or mitigate risk within the organization. Hence, the application of HFACS to the current study enables a thorough examination of human factors affecting organizational risk exposure. By utilizing this model, organizations can identify specific areas for improvement, implement targeted interventions, and ultimately enhance the overall safety and resilience of the organization.

Theory of Planned Behavior by Icek Ajzen (1991)

In 1991, Icek Ajzen developed the theory of planned behaviour (TPB) with the aim of accurately predicting and explaining various actions. The Theory of Reasoned activity (TPB) was formulated in 1980 with the aim of predicting an individual's inclination to engage in a certain activity within a particular context (Ajzen, 1985). The initial concept of the hypothesis was to include all possible acts that individuals have the ability to regulate autonomously. The idea of behavioural intent is a crucial component of this approach. People develop their behavioural intentions by weighing the possible benefits and downsides of the expected outcome, as well as their attitude towards the likelihood of achieving the desired result. The Theory of Planned Behaviour (TPB) has successfully predicted and elucidated several health-related behaviours and intentions. These factors include, but are not limited to, substance abuse, alcohol intake, utilisation of healthcare services, breastfeeding, and tobacco use. The theory of planned behaviour (TPB) posits that the effective execution of an activity depends on the important relationship between capacity (or purpose) and motivation (or behavioural control). The three primary types are normative views, control beliefs, and behavioural beliefs. The indicators of an individual's authentic behavioural control consist of six components that constitute the Theory of Planned Behaviour (TPB).

- Attitudes - An individual's attitude towards a certain activity may be quantified based on their level of positivity or negativity towards that action. Considering the repercussions of doing the action is crucial.

- Behavioral intention - In general, the stronger one's intention is to do a certain behaviour, the more likely they are to actually carry out that behaviour. The term used to describe this idea is behavioural intention.

- Subjective norms - The concept of a subjective norm refers to the prevailing tendency among individuals to either endorse or condemn a certain activity. It refers to the extent to which an individual perceives the approval or disapproval of their significant others and peers over their engagement in a certain behaviour.

- Social norms - Social norms refer to the adherence of individuals, groups, or whole civilizations to a predetermined set of standards governing their behaviour. A collective of individuals often reaches a consensus on a prescribed set of regulations that all members are expected to adhere to.

- Perceived power - Perceived authority is the term used to describe the situations that might either facilitate or impede our ability to do a certain task. Each of these attributes is influenced by an individual's perceived behavioural control.

- Perceived behavioral control - Perceived behavioural control refers to the individual's perception of the ease or difficulty of carrying out a certain action. An individual's perception of their own behavioural control may vary depending on the situation, since it is contingent upon the context and specific actions involved. Once the theoretical component was incorporated, the Theory of Reasoned Action was replaced by the Theory of Planned Behaviour (Ajzen, 1991).

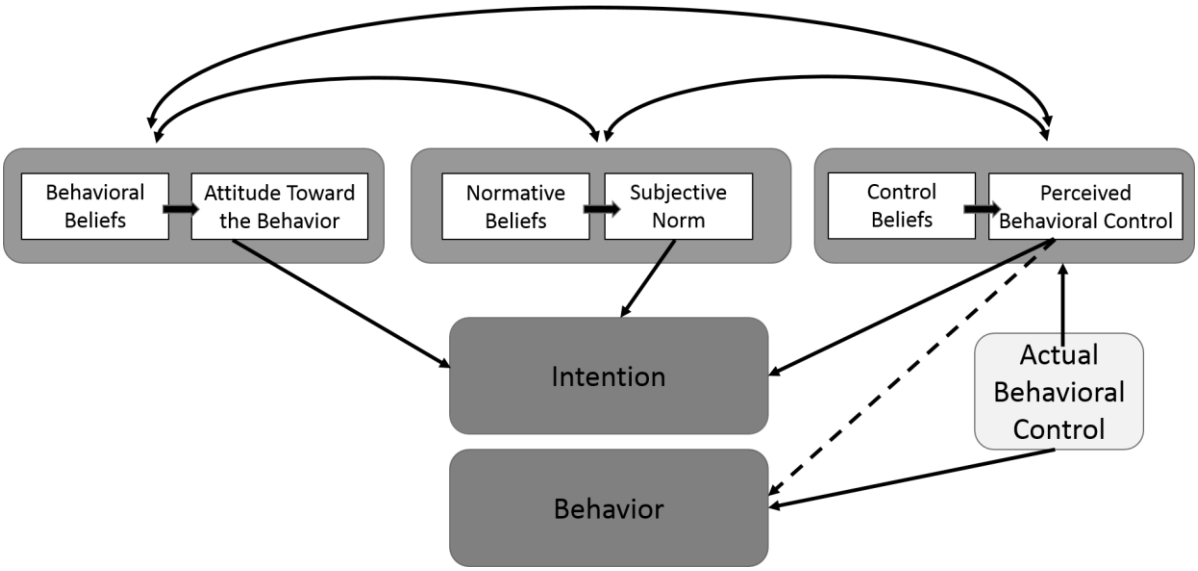

Figure 2: The Theory of Planned Behavior model (LaMorte, 2022)

Application to the Current Study

The Theory of Planned Behavior (TPB) provides a comprehensive framework for understanding and predicting human behavior. Its applicability extends beyond individual actions to organizational contexts, making it a valuable tool for analyzing the impact of employee behavior on organizational risk exposure. In the current study, the TPB can be effectively employed to examine the interplay between human factors and risk within an organizational setting. The TPB posits that behavioral intentions, influenced by attitudes, subjective norms, and perceived behavioral control, are key determinants of actual behavior. In the context of human factors in risk within organizations, attitudes toward risk management practices, subjective norms related to organizational culture and peer influence, and perceived behavioral control in executing risk mitigation measures become crucial factors. Attitudes toward risk within an organization can significantly shape employee behavior. Positive attitudes towards risk management policies and practices are likely to result in greater compliance and adherence. Subjective norms, representing the perceived social pressure to conform to specific behaviors, may influence employees to align their actions with organizational risk policies, fostering a collective risk-aware culture. Perceived behavioral control, reflecting an individual's belief in their ability to perform a behavior, plays a pivotal role in the effective implementation of risk mitigation measures. When employees feel empowered and capable of contributing to risk reduction, they are more likely to engage in behaviors that align with organizational risk management goals. However, applying the TPB to the current study can systematically analyze the psychological factors influencing employee behavior in the realm of risk, providing actionable insights for organizations seeking to enhance their risk management strategies. Understanding the dynamics outlined by the TPB enables organizations to tailor interventions that positively impact employee behavior, ultimately mitigating organizational risk exposure.

Conclusion

Understanding and managing human factors in organizational risk are critical for long-term sustainability. Employee behavior, influenced by cognitive biases, communication breakdowns, and organizational culture, significantly impacts risk exposure. The Human Factors Analysis and Classification System (HFACS) and the Theory of Planned Behavior offer valuable frameworks to analyze and address human-related vulnerabilities. Positive employee behavior, commitment to ethical standards, and effective communication correlate

with reduced risk. Organizations must adopt comprehensive risk management strategies tailored to industry challenges, integrating preventive measures and response plans. Engaging employees in risk management fosters a culture of responsible conduct, enhancing organizational resilience in an ever-evolving business environment.

Recommendations

Based on the findings of the study, the following recommendations were deemed necessary that Organizations should:

1. Invest in a thorough analysis of human factors affecting risk exposure. This analysis should encompass cognitive biases, communication breakdowns, compliance issues, and other relevant factors. Utilize tools like the Human Factors Analysis and Classification System (HFACS) to categorize and understand the root causes of accidents or incidents.

2. Recognize the intertwined nature of psychological, organizational, and sociotechnical perspectives in risk management. Develop strategies that consider both the individual and organizational aspects of human factors, fostering safer and more resilient systems.

3. Identify and address specific human factors contributing to risk, including cognitive factors, communication factors, team dynamics, training and competency, workload and stress, organizational culture, and human-technology interaction. Tailor interventions to mitigate these factors and enhance overall safety.

4. Foster positive employee behavior characterized by a strong commitment to organizational goals, adherence to ethical standards, and effective communication. Recognize the correlation between positive employee behavior and reduced risk exposure.

5. Develop and implement a comprehensive risk management strategy that considers the specific challenges of the industry and business environment. This should include preventive measures, monitoring mechanisms, and response plans to effectively mitigate different types of risks.

REFERENCES

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), Action-control: From cognition to behavior (pp. 11–39). Heidelberg: Springer.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.

Akyuz, E. A (2017). Marine accident analysing model to evaluate potential operational causes in cargo ships. *Saf. Sci.*, 92, 17–25.

Brown, M., & Miller, S. (2020). Strategic Risk Management: A Comprehensive Approach. *Strategic Management Journal*, 28(3), 210-230.

Brown, R., & Miller, J. (2018). Employee Awareness and Risk Mitigation: A Case Study of Organizational Vulnerability. *Journal of Risk Analysis*, 25(3), 215-230.

Brown, R., & White, L. (2019). Communication Breakdowns and Organizational Risk: A Case Study Analysis. *Journal of Business Communication*, 35(4), 489-502.

Brown, R., & Williams, C. (2018). Negative Communication Patterns and Organizational Risk: A Case Study Analysis. *Communication Studies*, 69(4), 387-405.

Carayon, P., Schoofs Hundt, A., Karsh, B. T., Gurses, A. P., Alvarado, C. J., Smith, M., & Brennan, P. F. (2006). Work system design for patient safety: the SEIPS model. *Quality & Safety in Health Care*, 15(suppl 1), i50–i58.

Celik, M. & Cebi, S. (2009). Analytical HFACS for investigating human errors in shipping accidents. *Accid. Anal. Prev.*, 41, 66–75.

Clark, K. (2017). Understanding Employee Behavior and Its Impact on Organizational Communication and Risk Management. *Journal of Risk Management*, 22(4), 451-468.

Clark, S., & Turner, P. (2022). Organizational Culture and Leadership: Shaping Employee Behavior and Managing Risks. *Journal of Risk Management*, 28(4), 215-230.

Endsley, M. R. (1995). Toward a theory of situation awareness in dynamic systems. *Human Factors*, 37(1), 32-64.

Flin, R., O'Connor, P., & Crichton, M. (2018). *Safety at the sharp end: A guide to non-technical skills*. Ashgate Publishing.

Fraser, J., Simkins, B. J., & Narvaez, D. (2018). *Risk management: Foundations for a changing financial world*. John Wiley & Sons.

Garcia, R. (2021). Compliance Risk Management: A Practical Guide. *Journal of Regulatory Compliance*, 12(1), 75-98.

Garcia, R., & Martinez, S. (2022). Communication Dynamics and Organizational Risk: A Longitudinal Study. *Journal of Organizational Behavior*, 35(3), 289-308.

Hancock, P. A., & Meshkati, N. (2018). *Human mental workload*. Elsevier Science Publishers.

Harris, J. (2021). Risk Mitigation Strategies: The Role of Employee Communication Skills. *Risk and Compliance Review*, 15(1), 45-62.

Hart, S. G., & Staveland, L. E. (1988). Development of NASA-TLX (Task Load Index): Results of empirical and theoretical research. *Advances in Psychology*, 52, 139-183.

Hillson, D., & Murray-Webster, R. (2017). *Understanding and Managing Risk Attitude*. Routledge.

Hollnagel, E. (2004). *Barriers and Accident Prevention*. Ashgate.

Hollnagel, E., Woods, D. D., & Leveson, N. (2006). *Resilience Engineering: Concepts and Precepts*. Ashgate.

Johnson, C., et al. (2020). Understanding the Impact of Cognitive Biases on Organizational Decision-Making: A Meta-Analysis. *Organizational Behavior and Human Decision Processes*, 125(3), 367-384.

Johnson, M. (2018). Employee Attitudes and Ethical Values: Implications for Risk Management. *Journal of Business Ethics*, 36(4), 289-305.

Johnson, M. (2020). Collaborative Communication and Its Role in Mitigating Organizational Risks. *Journal of Applied Communication Research*, 48(2), 178-196.

Johnson, S., & Patel, R. (2017). Ethical Conduct and Reputational Risk: Insights from Employee Misconduct. *Journal of Business Ethics*, 40(1), 85-102.

Jones, A. (2019). The Impact of Positive Employee Behavior on Organizational Compliance. *Journal of Applied Psychology*, 44(3), 123-140.

Jones, A., et al. (2019). Understanding and Managing Operational Risk. *Operations Research Journal*, 35(4), 567-589.

Jones, L., & Miller, P. (2016). Fostering a Culture of Open Dialogue for Effective Risk Management. *Organizational Development Journal*, 34(1), 45-62.

Jones, M. (2019). Employee Commitment and Organizational Resilience: A Risk Mitigation Perspective. *Journal of Organizational Psychology*, 45(2), 189-205.

Jones, P., & Brown, A. (2020). "Exploring the Role of Organizational Culture in Shaping Employee Decision-Making and Risk Perception. *Journal of Applied Psychology*, 55(4), 567-583.

Jorion, P., & Chance, D. M. (2015). Portfolio Optimization and Information. *Journal of Risk*, 17(1), 63-78.

Koenig, D. R., & Howitt, A. M. (2019). Strategic Risk Management: Creating and Protecting Value. *Journal of Business Continuity & Emergency Planning*, 3(4), 362-370.

LaMorte, W.W. (2022). *The Theory of Planned Behavior*. Boston University School of Public Health.

Lee, J. (2021). Resistance to Feedback and Its Implications for Organizational Risk. *International Journal of Business Communication*, 54(1), 76-94.

Reason, J. (1990). *Human Error*. Cambridge University Press.

Reason, J. (2010). *Human Error*. Cambridge University Press.

Robinson, L., & Jackson, C. (2021). Cultivating a Culture of Responsible Conduct: Leadership Strategies for Mitigating Organizational Risk. *Leadership & Management Journal*, 28(2), 145-162.

Shappell, S.A. & Wiegmann, D.A. (2000). *The Human Factors Analysis and Classification System-HFACS*. U.S. Department of Transportation Office Aviation Medicine: Washington, DC, USA, pp. 1–15.

Smith, A. (2019). The Impact of Transparent Communication on Organizational Risk Management. *Journal of Business Communication*, 46(3), 321-340.

Smith, A. (2020). Engaging Employees in Risk Management: A Catalyst for Organizational Resilience. *Risk Management Journal*, 32(4), 387-404.

Smith, A., & Jones, B. (2018). Cognitive Biases in Decision-Making: Implications for Organizational Risk. *Journal of Applied Psychology*, 43(2), 211-228.

Smith, J. (2018). Managing Financial Risks: A Framework. *Journal of Financial Management*, 45(2), 123-145.

Smith, J., Johnson, R., & Anderson, M. (2018). The Impact of Employee Behavior on Organizational Risk: A Longitudinal Analysis. *Journal of Business Ethics*, 42(3), 301-318.

Smith, R., & Brown, L. (2020). Non-Compliance and Its Consequences: A Comprehensive Analysis. *Risk Management Journal*, 21(2), 67-82.

Taylor, M., & Miller, J. (2017). Compliance Matters: Exploring the Link between Employee Behavior and Regulatory Risk. *Journal of Risk Management*, 22(1), 45-62.

Wang, H., & Chen, Y. (2018). Constructive Feedback and Resilience: Keys to Proactive Risk Management. *Journal of Applied Psychology*, 43(2), 210-227.

Weick, K. E., & Sutcliffe, K. M. (2001). *Managing the Unexpected: Assuring High Performance in an Age of Complexity*. Jossey-Bass.

Wickens, C. D., Hollands, J. G., Banbury, S., & Parasuraman, R. (2013). *Engineering psychology and human performance*. Psychology Press.

Wiegmann, D. A., & Shappell, S. A. (2003). *A Human Error Approach to Aviation Accident Analysis: The Human Factors Analysis and Classification System*. Ashgate.