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The Role of Risk Management in Overcoming Human Resource Challenges at the TNI Supply Agency in the Digitalization Era

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Abstract: The Indonesian National Armed Forces Supply Agency (Babek TNI) plays a strategic role in supporting TNI operations through centralized and integrated procurement of goods and services. In the digitalization era, Babek TNI faces various challenges in managing Human Resources (HR), including technology adaptation, information security, and personnel competency improvement. This study aims to analyze the role of risk management in addressing these challenges using a qualitative approach with a literature review method. Data were obtained from various academic sources, relevant policies, and reports on risk management implementation in the military sector. The analysis results indicate that effective risk management implementation can minimize the negative impacts of risks, improve operational efficiency, and ensure the readiness of Babek TNI's HR in supporting its primary tasks. This study also finds that integrating digital technology with a risk management framework can strengthen the HR management process. These findings provide practical recommendations for Babek TNI to develop adaptive risk management strategies, including continuous training, technology risk monitoring, and data-driven policy reinforcement. Thus, risk management plays a significant role in addressing HR challenges within Babek TNI in the digitalization era.

Keyword: Risk Management, HR, Babek TNI, Digitalization Era, Material Management.

INTRODUCTION

The Indonesian National Armed Forces Supply Agency (Babek TNI) has a strategic responsibility in managing the procurement of goods and services to support TNI operational readiness. As an agency directly under the Commander of the Armed Forces, Babek TNI is tasked with organizing centralized and integrated material provisioning. Its primary functions include the procurement of food supplies, equipment, fuel, weapons, material distribution, and warehousing (Aldi, Ichsan, & Adiwinata, 2023). This complex set of responsibilities requires effective management, particularly in the aspect of Human Resources (HR), which serve as the main driving force behind all Babek TNI's activities. In the digitalization era, military organizations like Babek TNI face new challenges that impact HR management. Digital transformation demands rapid adaptation to information technology, including the

implementation of digital-based management systems, secure data management, and the development of HR competencies. Babek TNI must ensure its personnel are capable of operating technology-based systems while understanding the importance of safeguarding classified data (Sipahutar, Ali, Madjid, & Putro, 2024).

Other challenges arise from internal and external risks that could disrupt Babek TNI's operational smoothness. Risks such as human error, technological failures, resistance to change, and cybersecurity threats are major concerns in managing HR within a military environment (Hoshmand & Ratnawati, 2023). Failure to anticipate these risks can impact Babek TNI's ability to fulfill its primary mission of supporting TNI operations. Risk management emerges as a critical approach to addressing these challenges. Through risk management, Babek TNI can identify, analyze, and mitigate risks that may hinder the achievement of organizational objectives. Moreover, the application of risk management provides opportunities to enhance the efficiency and effectiveness of HR management, including in strategic decision-making related to training, recruitment, and resource allocation (Nasution, 2020).

Digitalization also presents significant opportunities to support risk management within Babek TNI. By leveraging technologies such as big data, artificial intelligence (AI), and integrated information systems, Babek TNI can develop more accurate and responsive risk monitoring mechanisms (Chander, 2024). These technologies also facilitate the design of more adaptive and data-driven HR management strategies. However, implementing risk management in the Babek TNI environment requires special attention, particularly within the context of military organizational culture. The hierarchical culture, strict procedures, and complex organizational structure can pose challenges to fostering innovation and flexibility in HR management. Therefore, risk management strategies must be tailored to align with the characteristics of military organizations (Alfiana, Lubis, Suharyadi, Utami, & Sipayung, 2023).

The purpose of this study is to analyze the role of risk management in addressing HR management challenges within Babek TNI in the digitalization era. This research aims to identify the key risks faced in HR management, explore risk management strategies that can be applied to mitigate these risks, and evaluate how digitalization can be utilized to enhance the effectiveness and efficiency of HR management. The study's findings are expected to provide relevant strategic recommendations for Babek TNI to strengthen HR management in supporting the organization's primary mission within the military environment.

METHOD

This study employs a qualitative approach with a literature review method to explore the role of risk management in addressing HR management challenges within Babek TNI in the digitalization era. This approach was chosen because it is well-suited for analyzing theories, policies, and relevant risk management practices based on written sources, such as academic journals, books, research reports, military regulations, and official organizational documents (Abdussamad, 2021). Through a literature review, the study can uncover critical concepts and best practices relevant to Babek TNI's context. Data collection was conducted by accessing literature sourced from scientific databases, TNI policy documents, and publications related to digital transformation in the military sector and other government organizations. The literature focuses on three main areas: risk management, HR management, and the impact of digitalization in the workplace. Literature selection was based on criteria such as relevance, source reliability, and alignment with the research focus, specifically the military environment and challenges in the digital era.

Data analysis was conducted through a descriptive-analytical approach, categorizing the collected data into key themes, such as risks in HR management, risk mitigation strategies, and the role of digitalization in supporting risk management. Once these themes

were identified, an in-depth interpretation was carried out to uncover patterns, relationships, and solutions applicable to Babek TNI's context. The validity of the research was ensured by verifying the reliability of the literature used and strengthening arguments based on references from various credible sources. Through this method, the study aims to provide a deep understanding of the role of risk management in Babek TNI's HR management and offer practical strategic recommendations to address the challenges of the digitalization era (Zakariah, Afriani, & Zakariah, 2020).

RESULTS AND DISCUSSION

Human Resource Management Challenges at Babek TNI in the Digitalization Era

The digitalization era has brought significant changes across various sectors, including the military. Babek TNI faces the need to adopt new technologies to enable more efficient and adaptive HR management. However, this digital transformation is not without challenges. The operational complexity of Babek TNI and the need to maintain data security and integrity make HR management increasingly challenging in this digital era. One of the main challenges is adapting to new technologies in the military environment. Digital technologies, such as integrated information systems, big data, and artificial intelligence, require adequate infrastructure and personnel capable of operating them (Martino, 2023). At Babek TNI, implementing new technology often takes considerable time due to the necessary stages of evaluation, procurement, and intensive personnel training.

Another significant obstacle is the lack of HR competencies in mastering information technology. Not all personnel at Babek TNI have a strong technological background, resulting in a skill gap among personnel, especially when managing digital-based systems. This condition may hinder work efficiency and increase the risk of errors in data and information management. A further challenge is cybersecurity threats. In the digital era, Babek TNI manages highly sensitive data related to military operations and logistics. Cyber threats such as hacking, data theft, or system sabotage pose significant risks. Failure to manage cybersecurity effectively could severely impact Babek TNI's operations and damage the institution as a whole (Mamuriyah, Prasetyo, & Sijabat, 2024).

Resistance to organizational culture change is a dominant non-technical challenge. Military environments tend to have hierarchical and procedure-based work cultures, which often make digital adoption more difficult. Some personnel may feel uncomfortable with changes, especially when new technologies replace the manual procedures they have long been accustomed to (Astuti, 2021). These challenges directly affect the operational effectiveness of Babek TNI. The inability to adopt new technology or address digital threats may result in delays in the procurement process, inaccuracies in material distribution, and disruptions to warehousing systems. Ultimately, this could undermine Babek TNI's ability to support TNI operations as a whole.

Digital transformation also requires a shift in mindset in HR management. Babek TNI must encourage its personnel to be more open to new technologies and adaptable to change. Without a supportive mindset shift, digitalization initiatives are likely to face resistance, resulting in stagnation. Therefore, this transformation requires a holistic approach, including training, effective communication, and incentives to encourage technology adoption. These challenges underscore the importance of strategic planning in HR management at Babek TNI during the digitalization era. Risk management must become an integral part of digital transformation strategies to systematically identify and address these challenges. By doing so, Babek TNI can ensure its HR is well-prepared to support the organization's core tasks and functions amidst the fast-paced dynamics of change.

The Role of Risk Management in Addressing HR Challenges

Table 1. Identification of Key Risks in HR Management

Risk Category	Description	Potential Impact
Technology	The inability of HR personnel to operate or optimally utilize new technologies.	Reduced operational efficiency, delays in distribution, and potential errors in data management.
Human Error	Mistakes caused by a lack of competence, training, or attention to work procedures.	Operational disruptions, material losses, and decreased trust in the HR management system.
External Threats	Threats such as cyberattacks, sabotage, or external interference impacting Babek TNI.	Leakage of sensitive data, disruptions in supply distribution, and significant operational losses.
Organizational Resistance	Rejection or resistance from personnel towards the implementation of digitalization and changes in work systems.	Hindered implementation of digital transformation and potential internal conflicts within the organization.
Operational Complexity	Extensive administrative procedures and monitoring that require significant time and resources.	Reduced work efficiency and delays in the organization's core tasks.

To address the various risks identified, Babek TNI can adopt risk mitigation strategies focusing on strengthening human resources. One of the primary steps is to provide intensive training to personnel to enhance their competence in operating digital technology. These training programs should be tailored to organizational needs, covering technical skills such as information system management and cybersecurity. Moreover, the training should be conducted periodically to ensure that personnel keep up with technological advancements (Cahyono, 'Uyun, & Mukaromah, 2023). In addition to training, improving internal policies is a crucial step in risk mitigation. New policies must accommodate digital transformation by establishing appropriate operational standards. For instance, policies related to sensitive data protection, safe use of technology, and digital asset management must be updated to align with the challenges of the digital era. These policies should also be supported by work procedures that are more flexible yet disciplined, encouraging work efficiency without compromising security.

The development of risk monitoring systems is another essential element of mitigation. By utilizing technologies such as monitoring dashboards and big data analytics, Babek TNI can monitor various risks in real time. These systems enable early detection of potential threats, whether stemming from human error or external sources. The data collected through these systems can also be used to make faster and more accurate decisions in addressing risks (Fathony, Muradi, & Sagita, 2021). Implementing a proactive approach to risk management is also a critical strategy. Babek TNI can adopt international frameworks such as ISO 31000 to systematically identify, analyze, and evaluate risks. This approach allows potential risks that could hinder HR management to be anticipated early. A proactive approach also involves risk simulations and scenarios to ensure organizational readiness in handling emergency situations (Liwang, Sayidah, & Ady, 2024).

Risk management not only functions to address problems but also serves as a strategic tool to enhance overall organizational preparedness. In the context of Babek TNI, effective risk management implementation can help create an organizational culture that is adaptive to change, reduce resistance, and increase trust in new technologies. Digital transformation can proceed more smoothly without compromising the operational stability of the organization (Hadiono, Murti, & Santi, 2021). The success of risk mitigation in HR management within Babek TNI requires full support from all levels of the organization, from leaders to operational personnel. Strong collaboration between the risk management team, policymakers, and field personnel is key to ensuring the effective implementation of

strategies. With a well-planned and coordinated approach, Babek TNI can overcome HR challenges in the digital era and strengthen its strategic role in supporting TNI operations.

Integration of Digitalization and Risk Management for HR Empowerment

Digitalization has opened significant opportunities for organizations, including military institutions like Babek TNI, to manage risks more effectively. The use of digital technology not only accelerates HR management processes but also enables risk identification and mitigation in a more measurable way. In the context of risk management, technologies such as big data and artificial intelligence (AI) can be utilized to monitor and analyze potential risks in real time (Sari & Andry, 2021). Babek TNI can leverage these technologies to predict threats such as human error or external threats and mitigate their impact before they occur. One relevant digitalization implementation is the development of an integrated information system. This system allows all data related to HR, operations, and risks to be stored and accessed on a single secure platform. With an integrated system, risk reporting can be conducted more quickly and accurately, giving management sufficient time to devise mitigation strategies (Jayanthi & Dinaseviani, 2022). For instance, data on operational errors or potential cybersecurity threats can be immediately forwarded to the relevant teams through an automated notification system, enabling prompt action.

Digitalization also significantly influences data-driven decision-making. With advanced data analytics, Babek TNI can make strategic decisions supported by relevant facts and trends. For example, data analysis can be used to identify risk patterns, such as departments or work areas most vulnerable to certain threats. Consequently, decisions can be more targeted and effective in addressing existing risks. Big data and AI technologies can also help Babek TNI understand undetected potential risks (Oktavianus, Naibaho, & Rantung, 2023). Through machine learning algorithms, systems can analyze historical data to identify complex relationships between risk variables. For example, the system might detect that high personnel turnover rates often correlate with administrative errors in logistical management. Such insights allow Babek TNI to take more structured preventive measures.

The integration of digitalization and risk management also offers advantages in terms of resource efficiency. Time-consuming manual processes, such as physical inspections or direct reporting, can be replaced with automation systems. For example, warehouse inspections for food supplies or fuel can be conducted using Internet of Things (IoT) technology, which automatically reports stock conditions and detects potential damage (Kumar, Banga, & Kaur, 2020). This not only reduces risks but also enhances the operational efficiency of Babek TNI. Several international military sectors have successfully integrated digitalization to support risk management. For example, the United States military uses AI-based information systems to predict logistical and cybersecurity threats. In other sectors, such as aviation, digitalization has been used to monitor operational risks in real-time through monitoring dashboards connected to various sensors and devices. These examples demonstrate that the application of similar technologies can provide significant benefits to Babek TNI.

The integration of digitalization and risk management also requires readiness from the organization and its HR. Babek TNI must ensure that its personnel are capable of operating the technologies implemented. Intensive training, recruitment of personnel with technological backgrounds, and the formation of specialized teams for digital risk management can be strategic steps to support this process. Data security must also be a top priority to ensure sensitive information does not fall into the wrong hands (Rohmy, Suratman, & Nihayaty, 2021). Overall, the integration of digitalization and risk management is a strategic step to enhance Babek TNI's effectiveness in performing its duties and functions. By combining modern technologies with a proactive approach to risk, Babek TNI can manage HR more efficiently, reduce emerging threats, and improve operational readiness. In an ever-evolving

digital era, the collaboration between technology and risk management will be the key to Babek TNI's success in supporting the TNI's overall military operations.

CONCLUSION

Human resource management (HRM) in Babek TNI during the digitalization era faces various challenges, such as adapting to new technologies, limited competency in information technology, cybersecurity threats, and resistance to changes in organizational culture. These challenges can significantly impact Babek TNI's operational effectiveness in carrying out its duties. To address these issues, implementing a structured risk management approach becomes a strategic step, involving the identification of key risks, planned mitigation strategies, and proactive approaches using international frameworks such as ISO 31000. The integration of digitalization with risk management, through the utilization of technologies like big data, artificial intelligence (AI), and integrated information systems, can enhance Babek TNI's HRM while improving its operational efficiency and readiness.

Babek TNI is advised to accelerate the implementation of digital technology in HRM and risk management. This can begin with building supporting technological infrastructure, improving personnel competencies through intensive training, and strengthening data security to protect strategic information. Babek TNI needs to adopt an organizational culture that is adaptive to change by encouraging cross-functional collaboration and open communication in the implementation of digitalization. This approach is expected to create a more effective HR management system, supporting Babek TNI's duties and functions in carrying out integrated TNI operations.

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