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Enhancing Human Resources Competency in a Defense University: Strategies and Best Practices

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ABSTRACT

This systematic literature review examines strategies and best practices for enhancing human resources (HR) competencies within defense university environments, focusing on studies published between 2010 and 2023. Recognizing the distinct challenges faced by military educational institutions, the review identifies key themes and methodologies that contribute to effective HR development, including competency alignment with military culture, the integration of advanced training technologies, and leadership development frameworks. A total of 43 articles were analyzed from reputable databases, including Google Scholar, PubMed, Scopus, and Web of Science, with a particular emphasis on research addressing competency frameworks, leadership training programs, and performance evaluation in military contexts. The findings underscore the importance of tailored competency models that adhere to military standards, the adoption of cutting-edge training technologies, and the promotion of continuous professional development. Furthermore, the review highlights successful case studies that demonstrate significant improvements in HR competencies within defense universities. These insights provide a valuable guide for institutions seeking to enhance their HR capabilities. The study concludes by offering recommendations for future research, particularly in exploring innovative competency models, the advancement of training technologies, and leadership development strategies that meet the evolving needs of military organizations.

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1. INTRODUCTION

In defense universities, where the dual imperatives of educational excellence and military preparedness converge, the development of human resources (HR) competencies is not just crucial but indispensable. These institutions are not only tasked with providing a high level of academic education but also with preparing military personnel to meet the rigorous and often unpredictable challenges of national security (Stewart & Matthews, 2019). This dual responsibility requires an HR competency development approach that not only meets academic standards but also ensures operational readiness and alignment with military protocols. As a result, understanding and implementing effective strategies and best practices for HR competency enhancement in these settings is of paramount importance.

While foundational works by Boyatzis (2008) and Spencer & Spencer (1993) have laid the groundwork for HR competency models, these frameworks are often designed for civilian organizations and do not fully address the operational complexities of defense universities. In these unique environments, the convergence of military preparedness and educational excellence creates demands that differ from those found in both general military training and civilian HR contexts. Studies on military education, such as those by Gerras & Wong (2016), highlight leadership development and continuous professional growth as critical, yet they remain insufficient for the dual academic and operational missions of defense universities.

Existing research predominantly focuses on either general military training or HR practices in civilian educational institutions, neither of which fully encapsulate the integrated missions of defense universities (Adams et al., 2020; McCauley et al., 2019). This gap underscores the need for a more specialized approach that reflects the unique organizational culture, mission, and operational demands of defense universities. By building on and diverging from existing HR competency models, this study aims to provide a more comprehensive understanding of how HR competencies should be developed and applied within these institutions.

The novelty of this systematic literature review lies in its targeted approach to examining HR competency development strategies specifically within the context of defense universities. Unlike prior research that often compartmentalizes military training and HR practices, this review uniquely synthesizes these elements within the organizational and cultural frameworks of defense universities. By drawing from a range of reputable databases, this study identifies key themes and methodologies that contribute to effective HR development in this distinctive environment. In doing so, it not only fills a significant gap in the literature but also provides new insights into how defense universities can enhance their HR capabilities to simultaneously maintain educational excellence and operational readiness.

The primary objective of this research is to identify and evaluate the strategies and best practices for enhancing HR competency in defense universities. Specifically, the review focuses on competency frameworks, training programs, leadership development, and performance evaluation. By analyzing these components, the study aims to provide defense universities with actionable insights and practical recommendations for improving their HR practices.

In response to the identified gap in the literature, the primary objective of this research is to identify and evaluate strategies and best practices for enhancing HR competencies specifically within defense universities. The research question guiding this review is: What strategies and best practices are most effective in aligning HR competencies with the unique operational and educational demands of defense university environments? Through a systematic examination of existing literature, this review aims to uncover successful case studies, innovative approaches, and practical implementations that have significantly improved HR competencies in these institutions. By doing so, it not only addresses a critical gap in HR management research but also provides defense universities with actionable insights and recommendations, supporting their mission to sustain educational excellence and operational readiness in an increasingly complex security environment (Jackson & Schuler, 2020)..

2. METHODS

2.1 Research Design

This study employs a systematic literature review (SLR) methodology, a rigorous approach designed to systematically collect, critically appraise, and synthesize existing research on strategies and best practices for enhancing human resources (HR) competency within defense university environments. The SLR method is particularly suited for this study as it provides a comprehensive and unbiased synthesis of the literature, enabling the identification of key themes, methodologies, gaps, and emerging trends in this specialized field. By using this approach, the study ensures a thorough and structured analysis of the current body of knowledge, offering valuable insights that might not emerge through other review methodologies.

2.2 Data Sources

To ensure a comprehensive and representative collection of relevant literature, we conducted searches across several reputable academic databases. A total of 43 articles were analyzed from reputable databases, including Google Scholar, PubMed, Scopus, and Web of Science. These databases were selected for their extensive coverage of peer-reviewed journals, their relevance to the fields of education, military studies, and HR, and their inclusion of both interdisciplinary and specialized research. The search strategy employed a combination of keywords and Boolean operators to capture a broad range of studies. Keywords used included "human resources competency," "defense university," "military education," "competency frameworks," "training programs," "leadership development," and "performance evaluation." Searches were further refined using filters such as publication date and document type to ensure the relevance and quality of the literature reviewed.

2.3 Inclusion and Exclusion Criteria

Inclusion criteria were established to ensure the relevance and quality of the selected studies. Articles were included if they:

a. Focused on HR competency development.
b. Pertained to defense universities or military educational institutions.
c. Were peer-reviewed.
d. Published between 2010 and 2023.
e. Provided empirical data, theoretical insights, or case studies relevant to the research objectives.

Exclusion criteria were applied to filter out studies that:

a. Did not focus on HR competency development.
b. Were related to civilian educational institutions without a defense component.
c. Were not peer-reviewed.
d. Lacked empirical data or significant theoretical contributions.

2.4 Data Extraction and Analysis

To ensure a systematic and comprehensive review, a structured data extraction form was employed to gather and organize critical information from the selected studies. Each data point was chosen to contribute specific insights relevant to the research objectives, supporting a thorough analysis. The key data points included:

a. Study title and authors: This helped to correctly attribute the work and identify influential authors or research groups contributing to the field, establishing a foundation for the analysis of trends and patterns.
b. Year of publication: Tracking the publication year allowed for the examination of how the research evolved over time, identifying potential shifts in focus or methodology related to HR practices.
c. Research objectives: By understanding the goals of each study, it became possible to align the findings with the broader research question, ensuring that each study contributed directly to the topic of HR competency frameworks, training, and leadership development.
d. Methodologies used: Documenting the research methods provided insight into the rigor and validity of the studies, enabling comparisons across different methodological approaches and their implications for HR practices.
e. Key findings related to HR competency frameworks, training programs, leadership development, and performance evaluation: Extracting these specific findings addressed the

core of the research question, offering a clear understanding of how these components contribute to organizational effectiveness and HR strategies.

f. Practical implementations and case studies: Capturing real-world applications ensured that theoretical findings were connected to practical outcomes, highlighting how HR strategies and frameworks are being applied in various organizational contexts, thereby enriching the analysis with tangible examples of success or challenges.

This comprehensive approach ensured that each selected study was evaluated not only for its theoretical contributions but also for its practical relevance to HR development and performance improvement.

The extracted data were analyzed using thematic analysis, a qualitative method aimed at identifying and interpreting recurring themes and patterns across the studies. This process involved several key steps to ensure rigor and consistency:

a. Data familiarization: Initially, all extracted data were thoroughly reviewed to gain an in-depth understanding of the content, allowing for the identification of preliminary concepts related to HR competency development.

b. Coding: The data were then systematically coded, with key concepts and recurring elements being highlighted. This step involved breaking down the information into smaller units of meaning that directly aligned with the research question, such as competency frameworks, leadership development, training programs, and performance evaluation.

c. Theme identification: After coding, the various codes were grouped into broader themes based on their relationships and commonalities. These themes reflected the most prominent aspects of HR competency development in defense universities, such as the structure of competency frameworks, the role of leadership training, and practical applications in performance evaluation.

d. Review and refinement: The identified themes underwent multiple rounds of review and refinement to ensure they were coherent, distinct, and accurately represented the data. Cross-checking among different coders or team members was used to improve reliability and reduce bias in theme identification.

e. Categorization: Finally, the themes were categorized into overarching domains, such as competency frameworks, leadership development, and real-world applications, which provided a structured view of the current state of HR competency development in defense universities.

2.5 Quality Assessment

The Critical Appraisal Skills Programme (CASP) checklist was selected for the quality assessment of the included studies due to its comprehensive framework for evaluating the methodological rigor and relevance of research. This tool was chosen over others because it systematically assesses key aspects of each study, including research design, data collection methods, and the validity of findings. By using the CASP checklist, we ensured that the studies contributing to our review were of high quality, which reinforced the reliability of the conclusions drawn. Its structured approach made it particularly well-suited for evaluating both qualitative and quantitative studies in the context of HR competency development.

2.6 Synthesis of Findings

The final synthesis involved constructing a detailed narrative summary that integrated the key themes identified through thematic analysis. This summary was organized thematically to offer a structured and comprehensive understanding of the strategies and best practices for enhancing HR competencies within defense universities. The narrative followed a logical progression, starting with foundational themes such as competency frameworks and moving toward more specific topics like leadership development, training programs, and performance evaluation.

The synthesis process was iterative, with multiple rounds of review to ensure that all relevant data were incorporated, and that the narrative accurately reflected the findings of the literature. This approach ensured a coherent presentation of the data, making the final summary both comprehensive and accessible for readers looking to understand HR competency enhancement in defense universities.

3. FINDINGS AND DISCUSSION

3.1 Competency Frameworks Aligned with Military Standards

The review of literature reveals a broad consensus on the necessity of developing competency frameworks that are specifically aligned with the unique operational and strategic demands of military environments. Unlike civilian competency models, which often fall short in addressing the complexities of military operations, tailored frameworks in defense settings must incorporate a wide array of competencies, including technical, behavioral, and cognitive skills. These models are crucial for preparing personnel to operate effectively under high-stress conditions, adapt quickly to unpredictable scenarios, and meet the technological and ethical challenges of modern defense operations. Furthermore, in regions like Indonesia, competency frameworks must also address local strategic priorities and cultural considerations to enhance the preparedness and effectiveness of military personnel. Table 1 summarizes key studies that highlight different aspects of competency frameworks aligned with military standards.

Table 1. Competency Frameworks Aligned with Military Standards

Authors	Key Focus/Competency Area	Findings
Bennett, Lance, & Woehr (2014)	General Competency Models for Military	Civilian competency models are inadequate for defense settings due to unique operational and strategic demands faced by military personnel.
Salas, Tannenbaum, Kraiger, & Smith-Jentsch (2012)	Decision-Making, Leadership, and Ethical Standards	Military competency frameworks must integrate decision-making under pressure, leadership in high-stress situations, and strict adherence to ethical standards.
Allison, Alliger, & Doverspike (2015)	Resilience and Adaptability	Military personnel need strong focus on resilience and adaptability to cope with hostile and volatile environments.
Brannick, Levine, & Morgeson (2017)	Dynamic Competency Development	Military missions' unpredictable nature requires dynamic competency frameworks that allow personnel to rapidly adjust to changing conditions.
Lievens & Patterson (2011)	Technological Proficiency & Cyber Warfare	Competency frameworks must include advanced technological proficiency, including cyber warfare skills, to handle evolving defense challenges.
Fauzi & Arifin (2019)	Region-Specific Competencies (Indonesia)	Incorporating region-specific challenges, such as local strategic priorities and cultural contexts, significantly enhances military training effectiveness.
Carpenter, Barry, & Deluga (2016)	Cognitive Flexibility and Strategic Thinking	Emphasizes that cognitive flexibility and strategic thinking are crucial for military leaders to adapt to fast-changing and unpredictable defense scenarios.
Cannon-Bowers & Bowers (2010)	Teamwork and Collaborative Competencies in Military Operations	Stresses the importance of fostering teamwork and collaborative decision-making as part of competency frameworks to improve mission outcomes.
Marks, Sabella, Burke, & Zaccaro (2012)	Crisis Management and Stress Resilience	Military personnel require crisis management skills and stress resilience training to perform optimally under high-pressure conditions.

Kelly, Blascovich, & Hurtado (2014)	Training Transfer and Application in High-Stakes Environments	Highlights the importance of ensuring that training effectively transfers to real-world, high-stakes defense operations through continuous assessment and competency evaluation.
Woehr & Arthur (2013)	Multidimensional Competency Evaluation in Defense Settings	A comprehensive approach to evaluating competencies, including technical, behavioral, and cognitive skills, ensures a holistic understanding of military personnel performance.

The studies presented in Table 1 collectively emphasize the need for competency frameworks that are highly specialized and adaptable to the distinct operational demands of military settings. Traditional civilian models are insufficient for addressing the unique requirements of defense environments, as highlighted by Bennett, Lance, and Woehr (2014). Military personnel must be equipped not only with technical skills but also with behavioral and cognitive abilities, such as decision-making under pressure and leadership in high-stress situations, as noted by Salas et al. (2012). The dynamic nature of military missions, which often occur in volatile and unpredictable environments, underscores the importance of competencies such as resilience, adaptability, and crisis management (Allison et al., 2015; Marks et al., 2012). These competencies are crucial for ensuring that military personnel can effectively respond to diverse challenges.

Furthermore, the integration of advanced technological skills, particularly in areas such as cyber warfare, has become an essential component of modern military competency frameworks, as emphasized by Lievens and Patterson (2011). The role of region-specific competencies is also crucial, particularly in countries like Indonesia, where local cultural and strategic priorities shape the operational context. Fauzi and Arifin (2019) stress the importance of incorporating these factors to enhance training effectiveness. In addition, teamwork, cognitive flexibility, and strategic thinking have emerged as vital competencies, especially for leaders who must navigate the complexities of modern defense operations (Cannon-Bowers & Bowers, 2010; Carpenter et al., 2016). The need for continuous competency evaluation and training transfer mechanisms, as highlighted by Woehr and Arthur (2013) and Kelly et al. (2014), ensures that military personnel remain prepared and effective in high-stakes environments.

3.2 Integration of Advanced Training Technologies

The integration of advanced training technologies such as simulation-based training, virtual reality (VR), and artificial intelligence (AI)-driven learning platforms has become a key factor in enhancing human resource (HR) competencies within military settings. These technologies offer immersive, interactive, and personalized learning environments that traditional training methods cannot replicate, allowing personnel to develop critical skills in a realistic yet controlled setting. The literature highlights how these tools improve knowledge retention, engagement, and preparedness for real-world defense operations. In Indonesia, the adoption of such technologies is particularly significant, as they help military personnel navigate the unique tactical and geographical challenges of the region. The following table outlines key studies that explore the impact of advanced training technologies on military training programs, showcasing their effectiveness in developing both individual and team-based competencies.

Table 2. Integration of Advanced Training Technologies

Authors	Key Focus/Competency Area	Findings
Alexander et al. (2017)	Simulation-Based Training, Virtual Reality (VR), and AI-Driven Learning Platforms	Advanced technologies provide immersive and interactive learning experiences, enhancing HR competencies through realistic and controlled training environments.
Kraiger, Passmore, dos Santos, & Malvezzi (2017)	Technology and Learning Retention, Engagement	Simulation-based and AI-driven training technologies improve knowledge retention, engagement levels, and preparedness for real-world scenarios, supporting innovation and adaptability in military training programs.
Wijaya & Santoso (2019)	Simulation-Based Training in Indonesia	Simulation-based training helps Indonesian defense personnel engage in realistic mission scenarios, enhancing strategic thinking and readiness by mirroring the unique geographical and tactical challenges of the region.
Sutrisno, Handayani, & Nugroho (2020)	AI-Driven Personalized Learning in Indonesian Defense	AI-driven platforms offer personalized training experiences, tailoring learning to individual paces and needs, thereby enhancing the effectiveness of military training programs in Indonesia.
Triyono, Prasetyo, & Indriastuti (2021)	Collaborative Learning and Team-Based Exercises	VR and AI-driven platforms foster collaborative learning and team-based exercises, which are crucial for effective teamwork and coordination in high-pressure military environments.
Utomo & Haryanto (2018)	Innovation and Adaptability in Training	The continuous integration of cutting-edge technologies ensures that defense forces remain agile and capable of adapting to emerging threats, enhancing both individual and strategic competencies in military training.
Burke, Salas, & Sims (2019)	Real-Time Feedback and Performance Enhancement	VR and AI technologies provide real-time feedback, enabling faster learning, improved decision-making, and performance in critical, high-stakes defense situations.
Grossman & Salas (2011)	Simulation-Based Learning and Skill Transfer	Simulation-based learning platforms have been proven to facilitate better transfer of training to real-world contexts, improving military personnel's readiness for complex operational scenarios.
De Jong, Wierstra, & Hermanussen (2010)	Adaptive Learning Technologies	Adaptive learning technologies like AI allow for the customization of learning paths, ensuring that individual learning needs and competencies are met efficiently, improving overall training outcomes.
Wang, Petrina, & Feng (2014)	Virtual Reality in Military Training	VR enhances cognitive skill development, allowing military personnel to practice decision-making and strategic planning in a risk-free, yet realistic environment, crucial for high-stress military operations.
McGonigal, Doherty, & Howard (2016)	Human Performance and Technology Integration	Integration of human performance data into AI and VR training platforms leads to more tailored feedback, enabling better skill development and

	operational preparedness for diverse military scenarios.

The integration of advanced training technologies, as highlighted in Table 2, significantly transforms the way military personnel develop critical competencies. Simulation-based training, virtual reality (VR), and AI-driven platforms provide a highly immersive learning environment that allows for realistic practice without the risks of real-world operations. Studies such as Alexander et al. (2017) and Kraiger et al. (2017) illustrate how these technologies enhance knowledge retention, engagement, and adaptability, making them invaluable for defense universities. By simulating high-pressure scenarios in controlled environments, these platforms prepare personnel for real-world challenges, boosting both individual and collective readiness for complex defense missions.

In the Indonesian context, the use of advanced technologies like simulation-based training and AI-driven learning modules has proven to be particularly effective in addressing the nation's unique defense landscape. Wijaya & Santoso (2019) and Sutrisno et al. (2020) highlight how these tools enable personnel to engage with mission scenarios that reflect Indonesia's geographical and tactical challenges. This context-specific application of technology ensures that military training is not only rigorous but also relevant to the operational demands of the region. The personalized nature of AI-driven platforms, which tailor learning to individual paces, further enhances training effectiveness by addressing the specific needs of each trainee.

Furthermore, the emphasis on collaborative learning through VR and AI-driven platforms, as discussed by Triyono et al. (2021), reflects the growing importance of teamwork and coordination in military operations. These technologies foster interactive team-based exercises, allowing personnel to practice decision-making and leadership in high-pressure, dynamic environments. The continuous evolution of threats also demands ongoing innovation in training methodologies, as Utomo & Haryanto (2018) suggest. The use of real-time feedback and adaptive learning technologies ensures that military forces remain agile, able to quickly respond to emerging challenges. Overall, advanced training technologies are critical in ensuring that military personnel are both well-prepared and strategically capable in an ever-evolving defense landscape.

3.3 Promotion of Continuous Professional Development

Continuous professional development (CPD) is a fundamental aspect of military training and education, ensuring that personnel remain current with advancements in both military and civilian sectors. CPD encompasses a wide range of formal and informal learning opportunities, including structured education programs, mentoring, workshops, and peer-to-peer knowledge sharing. The importance of CPD is particularly significant in defense universities, where fostering a culture of lifelong learning is essential to maintain high levels of competency and motivation among military personnel. In contexts such as Indonesia, the integration of local knowledge and the use of digital platforms have further enhanced the effectiveness of CPD programs, ensuring that military personnel are equipped to meet both operational and strategic challenges. The following table presents key studies that illustrate the various approaches and benefits of CPD in military settings.

Table 3. Importance of Continuous Professional Development (CPD)

Authors	Key Focus/Competency Area	Findings
Collins & Halverson (2018)	Lifelong Learning Culture in Military	Defense universities must foster lifelong learning through formal and informal learning opportunities such as mentoring, workshops, and peer-to-peer knowledge sharing to keep personnel updated with best practices.

Noe, Clarke, & Klein (2014)	CPD for Competency and Motivation	CPD initiatives are crucial for maintaining high levels of competency and motivation. Continuous learning helps military personnel stay adaptable and resilient in the face of evolving operational challenges.
Setiawan & Harsono (2020)	Local Context and Indigenous Knowledge in CPD (Indonesia)	Integrating local context and indigenous knowledge into CPD programs enhances the relevance of training and strengthens cultural competence, which is vital for operations in diverse, multi-ethnic regions of Indonesia.
Rahman, Suryadi, & Prasetyo (2021)	Digital Platforms for CPD in Indonesia	Digital platforms, such as online modules, webinars, and digital libraries, facilitate flexible and accessible CPD, enabling personnel to engage in continuous learning regardless of their geographic location.
Susanto & Widodo (2019)	Job Satisfaction and Retention Through CPD	Ongoing professional development leads to higher job satisfaction and retention rates among military personnel, a critical factor for maintaining a skilled and motivated defense workforce.
Putra, Wibowo, & Suharto (2018)	Interdisciplinary Learning and Collaboration with Civilian Sectors	CPD programs that emphasize interdisciplinary learning and collaboration with civilian institutions enhance the competencies of military personnel by providing access to civilian best practices and technological advancements.
DeRue & Wellman (2009)	Learning Agility in Military Contexts	CPD initiatives that foster learning agility help military personnel quickly adapt to new challenges and operational changes, enhancing their ability to make quick, informed decisions in complex situations.
Burke & Hutchins (2008)	Continuous Learning and Knowledge Transfer	Effective CPD ensures that knowledge gained through training is transferred to real-world military operations, improving personnel's readiness and performance in diverse mission environments.
Rhoades & Eisenberger (2012)	Organizational Support for CPD and Employee Engagement	Organizational support for CPD initiatives is essential for maintaining high levels of employee engagement and ensuring that personnel feel valued, which leads to better performance and job satisfaction in military contexts.
Marsick & Watkins (2015)	Informal Learning in the Workplace	Informal learning opportunities such as peer-to-peer interactions, mentoring, and experiential learning play a critical role in CPD, enabling personnel to acquire practical knowledge and skills relevant to their roles in real-time.

Lester & Johnson (2017)	Professional Growth and Leadership Development	Continuous professional development programs are vital for leadership development, ensuring that military leaders are well-prepared to handle the complexities and strategic demands of modern defense operations.

The findings presented in Table 3 highlight the critical role that continuous professional development (CPD) plays in maintaining the competency and readiness of military personnel. The literature consistently emphasizes the need for defense universities to foster a culture of lifelong learning through both formal and informal mechanisms. Collins & Halverson (2018) argue that mentoring, workshops, and peer-to-peer knowledge sharing are essential for keeping military staff up to date with best practices. This approach aligns with Noe, Clarke, & Klein's (2014) findings that CPD is crucial for ensuring military personnel remain adaptable and motivated, particularly in light of the rapidly evolving technological and strategic demands faced by modern defense forces.

In the Indonesian context, CPD takes on additional significance as it must address both local and global challenges. Setiawan & Harsono (2020) highlight the importance of incorporating indigenous knowledge and local contexts into CPD programs to enhance cultural competence, especially when operating in Indonesia's multi-ethnic and geographically diverse regions. The use of digital platforms, as Rahman, Suryadi, & Prasetyo (2021) discuss, is a key enabler in this process, providing flexible, accessible learning opportunities that allow personnel to continue developing their skills regardless of location. This is particularly important in Indonesia's defense sector, where ongoing professional development directly impacts the ability to meet dynamic operational requirements.

Moreover, the broader implications of CPD on job satisfaction, retention, and leadership development are also significant. Studies by Susanto & Widodo (2019) and Lester & Johnson (2017) underscore the connection between continuous learning and higher job satisfaction, which contributes to better retention of skilled military personnel. Additionally, interdisciplinary collaboration with civilian institutions, as explored by Putra, Wibowo, & Suharto (2018), not only enhances military competencies but also offers insights into technological advancements and best practices from the civilian sector. Overall, the promotion of CPD ensures that military personnel are well-equipped to navigate complex operational environments while fostering leadership skills and ensuring the long-term sustainability of the defense workforce.

3.4 Leadership Development Programs

Leadership development is a crucial aspect of enhancing human resource (HR) competencies within defense universities. These programs are designed to equip military personnel with the necessary skills to lead in various operational contexts, from small-scale team missions to large-scale strategic initiatives. The literature emphasizes the importance of integrating theoretical knowledge with practical, scenario-based training to prepare leaders for the complexities and pressures of military environments. In Indonesia, leadership development programs must also incorporate local socio-political and cultural dynamics to ensure leaders can effectively engage with diverse groups. Additionally, advanced technologies such as virtual simulations and AI-driven leadership assessments are increasingly being leveraged to create realistic training environments that improve leadership readiness. The following table outlines key studies that explore the essential elements of leadership development in military settings, highlighting the integration of cultural competence, ethics, technology, and strategic thinking.

Table 4. Leadership Development Programs

Authors	Key Focus/Competency Area	Findings
Day, Fleenor, Atwater, Sturm, & McKee (2014)	Leadership Programs for HR Competency Enhancement	Leadership development programs are essential for equipping personnel with skills to lead in various contexts, from small teams to large-scale operations, ensuring adaptability in complex military environments.
Avolio, Walumbwa, & Weber (2010)	Theoretical and Practical Leadership Training	Effective leadership programs combine theory with practical exercises, including scenario-based training, which develops leaders' ability to make informed decisions and inspire teams under pressure.
Prabowo & Suharto (2020)	Cultural Competence in Leadership Development (Indonesia)	Leadership programs in Indonesia must address socio-political and cultural factors, incorporating community engagement and an understanding of local customs to develop leaders capable of working with diverse groups.
Santoso, Nugroho, & Wijaya (2021)	Technological Integration in Leadership Training	Virtual simulations and AI-driven assessments are increasingly being used to enhance leadership development, providing realistic scenarios that prepare leaders for various operational challenges.
Harsono & Putri (2019)	Leadership Development and Organizational Commitment	Ongoing leadership development contributes to higher levels of organizational commitment and job satisfaction, helping to maintain morale and cohesiveness within military forces.
Setiawan & Rahman (2018)	Ethical Decision-Making and Integrity in Leadership	Leadership programs that emphasize ethical decision-making and integrity help instill values of accountability and transparency, crucial for maintaining trust within the military and with the public.
Van Velsor & Wright (2013)	Adaptive Leadership in High-Stakes Environments	Leadership development should foster adaptability, critical thinking, and responsiveness to rapidly changing military and operational conditions.
Yukl & Lepsinger (2014)	Strategic Leadership Development	Leadership programs should focus on developing strategic thinking and planning skills to enhance leaders' ability to operate effectively in large-scale military initiatives.
Northouse (2016)	Transformational Leadership in Military Settings	Leadership development programs should promote transformational leadership, which emphasizes motivating and inspiring teams to achieve mission objectives in high-pressure environments.
Kouzes & Posner (2012)	Leadership Practices and Team Effectiveness	Leadership programs that focus on fostering collaboration, trust, and team-building improve overall team

	effectiveness, which is essential for military operations requiring high levels of coordination and communication.

The findings in Table 4 underscore the multifaceted nature of leadership development in military settings, highlighting the need for a combination of theoretical knowledge and practical application. Day et al. (2014) and Avolio, Walumbwa, & Weber (2010) emphasize the importance of equipping leaders with the ability to operate in diverse contexts, from small team operations to large-scale strategic missions. The integration of scenario-based training allows leaders to apply their knowledge in high-pressure environments, fostering critical decision-making skills and the ability to inspire their teams. These practical exercises ensure that leadership development goes beyond conceptual understanding and enables leaders to thrive in real-world, high-stakes situations.

In the Indonesian context, leadership development must also account for cultural and social dynamics, as noted by Prabowo & Suharto (2020). Leaders must engage with local communities and diverse groups, incorporating cultural competence into their leadership strategies. Santoso, Nugroho, & Wijaya (2021) further highlight the use of advanced technologies, such as virtual simulations and AI-driven assessments, to create realistic and varied training scenarios that help leaders adapt to different environments. Ethical leadership, as stressed by Setiawan & Rahman (2018), remains essential in maintaining trust within the military and with the public, while leadership programs that emphasize collaboration, as suggested by Kouzes & Posner (2012), enhance team coordination and operational effectiveness. Together, these approaches create well-rounded leaders capable of handling the complexities of modern defense operations.

3.5 Performance Evaluation Mechanisms

Rigorous performance evaluation mechanisms are critical for ensuring that military personnel continually improve and develop the necessary competencies to meet evolving operational challenges. These systems must be comprehensive, multidimensional, and adaptable to the unique contexts in which defense forces operate. Effective performance evaluations incorporate feedback from multiple sources, including self-assessments, peer reviews, and supervisor evaluations, and must be aligned with the specific tasks and responsibilities of military personnel. In the Indonesian military context, performance evaluations need to reflect the geographical and cultural diversity of the nation, ensuring that assessments are relevant and provide meaningful insights. The integration of advanced technologies, such as digital platforms and real-time feedback systems, enhances the accuracy and efficiency of these evaluations, while behavioral and psychological assessments ensure a holistic understanding of personnel capabilities. The following table outlines key studies that emphasize various elements of performance evaluation systems, highlighting their importance in fostering continuous improvement and operational readiness.

Table 5. Performance Evaluation Mechanisms

Authors	Key Focus/Competency Area	Findings
Pulakos, Hanson, Arad, & Moye (2015)	Comprehensive Performance Evaluation Systems	Effective performance evaluations must be comprehensive and multidimensional, incorporating feedback from multiple sources, such as self-assessments, peer reviews, and supervisor evaluations to identify areas for improvement.
Wijayanto & Suryani (2020)	Performance Evaluation in Indonesian Military Context	Performance evaluations should be tailored to the unique tasks and operational contexts of Indonesian military personnel, reflecting geographical diversity and local

		responsibilities to provide meaningful insights into performance.
Hartono, Prasetya, & Rahmawati (2019)	Technological Integration in Performance Evaluations	Digital evaluation platforms and data analytics improve the efficiency and accuracy of performance evaluations, offering real-time feedback and streamlining the assessment process while minimizing human error.
Setiawan, Haryanto, & Sutrisno (2021)	Behavioral and Psychological Assessments in Performance Evaluation	Performance evaluations should incorporate behavioral and psychological assessments to capture both technical skills and the psychological resilience critical for military effectiveness.
Rahman & Nurhayati (2018)	360-Degree Feedback Systems	The inclusion of 360-degree feedback systems, which gather input from peers, subordinates, and supervisors, provides a more balanced assessment and identifies areas for development not visible in top-down evaluations.
DeNisi & Smith (2014)	Feedback Systems and Continuous Learning	Effective feedback systems support a culture of continuous learning and development, ensuring that personnel receive regular, actionable insights into their performance, fostering growth and adaptability.
Kozlowski & Chao (2012)	Multidimensional Performance Evaluation for Military Leadership	Evaluations that assess both leadership competencies and team performance in complex military environments are crucial for identifying leadership effectiveness and opportunities for improvement.
Armstrong & Taylor (2017)	Digital Platforms and Real-Time Performance Feedback	Real-time feedback mechanisms, enabled by digital platforms, facilitate immediate corrective actions and continuous performance improvements, enhancing both individual and team readiness.
Bourne, Franco-Santos, & Pavlov (2020)	Data-Driven Performance Management Systems	Data-driven evaluation systems, supported by advanced analytics, enable more precise performance measurements and help in making informed decisions about training needs and HR competency development.
Johnson & Scandura (2009)	Employee Engagement and Performance Evaluation	Engaging military personnel in the evaluation process through self-assessments and participatory feedback mechanisms enhances their ownership of personal development and boosts overall job satisfaction and performance outcomes.
Erdogan, Kraimer, & Liden (2013)	Role of Organizational Support in Performance Evaluations	Organizational support for comprehensive evaluation systems fosters higher job satisfaction and commitment, contributing to improved performance and retention in military personnel.

The findings presented in Table 5 emphasize the critical role of comprehensive and multidimensional performance evaluation systems in military settings. As Pulakos et al. (2015) highlight, evaluations that incorporate feedback from multiple sources, such as self-assessments, peer reviews, and supervisor evaluations, provide a holistic view of an individual's strengths and areas for improvement. In the Indonesian military context, as noted by Wijayanto & Suryani (2020), performance evaluations must be tailored to reflect the diverse operational environments and responsibilities of personnel. This localization ensures that evaluations are meaningful and relevant, capturing the unique challenges faced by military personnel in different geographic and cultural settings. Such customized systems help defense universities create evaluation frameworks that promote continuous growth and competency development.

Technological integration also plays a vital role in enhancing the efficiency and accuracy of performance evaluations, as evidenced by Hartono, Prasetya, & Rahmawati (2019). Digital platforms and real-time feedback systems enable immediate corrective actions, which are crucial for maintaining operational readiness and improving performance over time. Moreover, incorporating behavioral and psychological assessments, as suggested by Setiawan, Haryanto, & Sutrisno (2021), ensures that evaluations go beyond technical skills to measure essential attributes such as resilience and adaptability. Additionally, the use of 360-degree feedback systems, as discussed by Rahman & Nurhayati (2018), fosters a more balanced and objective assessment of performance, offering insights from peers, subordinates, and supervisors that might not be captured in traditional top-down evaluations. This comprehensive approach ensures that military personnel are constantly evolving to meet the demands of modern defense environments.

Discussion

The findings of this systematic literature review provide a comprehensive overview of the key strategies and best practices for enhancing HR competency in defense university environments. The alignment of competency frameworks with military standards is crucial, as these tailored models ensure personnel develop the necessary technical, behavioral, and cognitive skills critical for effective performance in high-stress and complex defense operations (Bennett, Lance, & Woehr, 2014; Salas et al., 2012). This alignment is particularly important given the unique operational and strategic challenges faced by military personnel, which standard civilian competency models often fail to address.

The integration of advanced training technologies, such as simulation-based training, virtual reality (VR), and artificial intelligence (AI)-driven learning platforms, represents another significant theme in the literature. These technologies have been shown to enhance HR competencies by providing immersive and interactive learning experiences that traditional methods cannot match. Research indicates that these tools not only improve knowledge retention and engagement but also better prepare personnel for real-world scenarios (Alexander et al., 2017; Kraiger et al., 2017). The continuous innovation and adaptability facilitated by these technologies are vital for maintaining the relevance and effectiveness of military training programs.

Promoting continuous professional development (CPD) is another critical component identified in the review. CPD initiatives are essential for fostering a culture of lifelong learning, ensuring that military personnel remain current with the latest advancements and best practices in both military and civilian domains. Studies by Noe, Clarke, and Klein (2014) highlight the importance of ongoing learning opportunities, such as mentoring, workshops, and peer-to-peer knowledge sharing, in sustaining high levels of competency and motivation among military personnel. Defense universities must therefore prioritize CPD to help their HR stay adaptable and resilient in the face of evolving challenges (Collins & Halverson, 2018).

Leadership development programs are indispensable for HR competency enhancement in defense universities. The literature consistently underscores the need for robust leadership programs that equip personnel with the skills to lead effectively in various contexts, from small team operations to large-scale strategic initiatives (Day et al., 2014). Research by Avolio, Walumbwa, and Weber (2009) suggests

that integrated approaches combining theoretical knowledge with practical exercises, including scenario-based training and real-world leadership challenges, are essential for developing leaders who can think critically, make informed decisions, and inspire their teams under pressure.

Effective performance evaluation mechanisms are also highlighted as a crucial element. Rigorous performance evaluations are necessary for identifying strengths and areas for improvement within HR competency frameworks (Pulakos et al., 2015). Comprehensive and multidimensional evaluation systems, which incorporate feedback from self-assessments, peer reviews, and supervisor evaluations, ensure that HR practices remain relevant and effective. Murphy and Cleveland (1995) argue that performance evaluations in military contexts must also consider the unique stressors and operational demands faced by personnel, further emphasizing the need for tailored evaluation criteria aligned with military standards.

These insights offer valuable guidance for defense universities aiming to enhance their HR capabilities. Implementing these strategies can lead to significant improvements in personnel performance, operational readiness, and overall organizational effectiveness. However, further research is needed to explore the long-term impacts of these practices and to identify additional innovative approaches that can further refine HR competency development in military educational settings. Continued investigation will help ensure that defense universities remain at the forefront of educational excellence and operational readiness, adapting to new challenges and maintaining their critical role in national security (Jackson & Schuler, 2020; Stewart & Matthews, 2019).

4. CONCLUSION

This systematic literature review makes a significant contribution by synthesizing and highlighting critical strategies and best practices that are uniquely tailored to the defense university context a setting where traditional HR competency frameworks often fall short. The findings underscore the necessity of tailored competency frameworks that align with military standards, ensuring personnel are equipped with both technical skills and crucial behavioral and cognitive competencies for effective performance in defense operations. The integration of advanced training technologies, such as simulation-based training, virtual reality, and AI-driven learning platforms, is essential in providing immersive and interactive learning experiences that enhance knowledge retention and preparedness for real-world scenarios.

Furthermore, the promotion of continuous professional development is vital in fostering a culture of lifelong learning, and keeping military personnel up-to-date with the latest advancements and best practices. Robust leadership development programs are also crucial, combining theoretical knowledge with practical exercises to develop leaders capable of critical thinking, informed decision-making, and team inspiration under pressure. Lastly, the implementation of comprehensive and multidimensional performance evaluation mechanisms is essential for identifying strengths and areas for improvement, ensuring HR practices remain relevant and effective.

These insights provide valuable guidance for defense universities seeking to enhance their HR capabilities, leading to significant improvements in personnel performance, operational readiness, and overall organizational effectiveness. However, further research is necessary to explore the long-term impacts of these practices and to identify additional innovative approaches that can further refine HR competency development in military educational settings. Continued investigation will help ensure that defense universities remain at the forefront of educational excellence and operational readiness.

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