

Analysis of Employee Career Development Strategies Based on Gamification and Microlearning in Enhancing Retention and HR Performance

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Abstract. This study aims to analyze employee career development strategies based on gamification and microlearning and their impact on human resource (HR) retention and performance. The research employs a qualitative approach with a literature review method, using descriptive analysis of literature obtained from Google Scholar and credible websites between 1964 and 2025. Initially, 50 articles were collected, then rigorously screened to obtain 24 relevant articles for analysis. The review findings indicate that gamification enhances motivation, engagement, and enjoyable learning experiences, while microlearning facilitates short, focused, and applicable learning. The integration of both creates adaptive and personalized career development experiences, contributing to improved employee retention and HR performance. This study provides practical implications for organizations in designing technology-based career development strategies while reinforcing the theoretical foundations of Human Capital and Self-Determination Theory in the context of modern HR development.

Keywords: Gamification, Microlearning, Career Development, Employee Retention, HR Performance.

1. Introduction

In the context of increasingly intense business competition, organizations are required to have human resources (HR) that are competent, adaptive, and motivated to support the achievement of strategic corporate objectives. Employee retention has become one of the key indicators of HR management success since high turnover rates can generate significant costs for organizations, including recruitment, training, as well as the loss of critical knowledge and skills. Previous studies emphasize that structured and relevant career development strategies can strengthen employee commitment to the organization, thereby reducing turnover intention [1]. Therefore, companies need to design career development programs that address employee motivation and engagement as part of their retention strategies.

Gamification has emerged as an innovative approach in career development and employee training. Gamification refers to the application of game elements, such as points, levels, challenges, and rewards, in non-game contexts to enhance engagement, intrinsic motivation, and positive behavior [2]. In the context of career development, gamification facilitates interactive, enjoyable, and challenging learning, encouraging employees to actively participate in training and competency development programs. Previous studies show that gamification can increase learning motivation and performance, which indirectly contributes to employee retention by creating a more satisfying career development experience [3].

In addition to gamification, microlearning has also emerged as an effective strategy to enhance employee competencies and performance. Microlearning is a learning approach that delivers content in a concise, focused, and modular format, enabling employees to flexibly access knowledge according to their needs and limited time [4]. This approach aligns with the characteristics of millennials and Gen Z, who tend to prefer learning that is brief, interactive, and immediately applicable to their work. Previous studies affirm that microlearning improves knowledge retention, learning speed, and the ability to apply materials, thus directly impacting employee performance in the workplace [5].

The integration of gamification and microlearning can create strong synergy in employee career development. Gamification enhances motivation and engagement within microlearning, while microlearning ensures the delivery of concise and effective content without overwhelming employees. Previous research indicates that the combination of these two approaches creates a more engaging, personalized, and adaptive learning experience, ultimately increasing participation, learning satisfaction, and practical skills that can be directly applied to daily work [6]. This synergy also supports the development of clear career pathways for employees, which is a crucial factor in improving retention and organizational loyalty.

In the context of performance management, career development strategies based on gamification and microlearning have the potential to enhance the effectiveness and efficiency of achieving both individual and team targets. HR performance is the outcome of competence, motivation, and organizational support for career development. Through gamification, employees are encouraged to achieve learning goals via challenges and rewards, while microlearning ensures rapid and applicable knowledge transfer. Competence improvement through effective career development programs is directly related to increased productivity, work quality, and employee innovation, which in turn contributes to the overall performance of the organization [7].

Employee retention and HR performance are interconnected, where effective career development strategies can serve as a key tool for retaining top talent. Organizations that are able to offer clear career pathways, enjoyable learning experiences through gamification, and concise, applicable content through microlearning tend to gain higher employee loyalty. Previous studies indicate that participation in relevant and adaptive career development programs contributes to employees' intention to remain within the organization, reduces turnover, and enhances long-term productivity [8]. Thus, career development becomes both a competency-strengthening instrument and a strategic retention strategy.

In addition, the use of technology as a medium for gamification and microlearning facilitates accessibility, flexibility, and personalization of learning for employees. Digital platforms allow employees to learn anytime and anywhere, adapting the pace of learning to individual needs. Previous studies show that digital learning integrated with gamification elements increases intrinsic motivation and engagement, particularly among younger generations of employees [9]. This supports organizations in creating adaptive, learning-oriented, and innovative work environments, which ultimately have a positive impact on retention, job satisfaction, and HR performance.

Based on the above discussion, career development strategies based on gamification and microlearning hold significant potential in enhancing employee retention and HR performance. This strategy not only meets employees' competency and motivation needs but also optimizes the use of technology to create effective and enjoyable learning experiences. The purpose of this study is to analyze how the implementation of gamification and microlearning in career development can strengthen employee retention while simultaneously improving HR performance, thereby enabling organizations to retain top talent and achieve sustainable competitive advantage.

1.1. Gamification

Gamification is the application of game elements, principles, and mechanisms—such as points, levels, challenges, and rewards—in non-game contexts to enhance individual motivation, engagement, and positive behavior [2]. Within organizations, gamification is used to make learning activities, career development, or work tasks more interactive, enjoyable, and healthily competitive, thereby encouraging employees to actively participate and achieve set goals. Research has shown that gamification can increase intrinsic motivation, learning experiences, and employee participation in training programs, while simultaneously supporting improvements in performance and employee loyalty.

1.2. Microlearning

Microlearning is a learning approach that delivers content in concise, focused, and modular formats, thereby facilitating easier comprehension and direct application [4]. The characteristics of microlearning allow employees to learn anytime and anywhere, adjust the pace of learning to individual needs, and enhance both knowledge retention and application abilities. This approach has proven effective for millennial and Gen Z employees, who tend to prefer short, accessible materials that can be directly applied to their jobs. Microlearning has become an important strategy for developing employee competencies efficiently and adaptively.

1.3. Career Development

Career development is a systematic effort by organizations to enhance employee competencies, skills, and experiences, enabling them to achieve professional goals and advance to higher positions within the

organization [7]. Career development strategies include training, mentoring, coaching, job rotation, as well as technology-based competency development programs such as gamification and microlearning. The primary goal of career development is to improve individual performance, prepare the future workforce, and create clear career pathways that foster employee loyalty and retention.

1.4. Employee Retention

Employee retention refers to an organization's ability to retain competent and talented employees over the long term, thereby reducing turnover and the loss of critical resources [10]. Factors influencing retention include career development opportunities, job satisfaction, employee engagement, organizational culture, and enjoyable learning experiences. Effective retention strategies, including the use of gamification and microlearning, can increase employee loyalty, motivation, and emotional attachment to the organization, which in turn positively impacts business sustainability and the achievement of organizational goals.

1.5 HR Performance

HR performance refers to the level of effectiveness and efficiency with which employees carry out their tasks and responsibilities to achieve both individual and organizational targets [11]. Factors affecting HR performance include competence, motivation, experience, and organizational support, including technology-based career development programs. The implementation of gamification and microlearning in training and career development has been proven to improve productivity, work quality, creativity, and employees' ability to face challenges. High HR performance directly supports the achievement of organizational strategic objectives and long-term business sustainability.

2. Method

This study employs a qualitative approach with a literature review method to analyze employee career development strategies based on gamification and microlearning in enhancing employee retention and human resource (HR) performance. A qualitative approach was chosen because this research aims to deeply understand the phenomenon through interpretation, description, and thematic analysis of relevant literature, rather than collecting quantitative field data. The analysis was conducted descriptively, focusing on presenting, comparing, and synthesizing findings from previous studies as well as best practices from credible sources related to this topic. The data collection process was carried out by reviewing literature from Google Scholar and several credible websites that publish scientific articles, reputable journals, and best practice reports in the field of HR development and career management, within the publication period of 1964–2025. Initially, the study collected 50 articles relevant to the topic, including empirical studies, review articles, and practical reports on gamification, microlearning, employee retention, and performance. A rigorous selection process was then applied using inclusion and exclusion criteria to ensure the quality and relevance of the analyzed literature. The inclusion criteria covered articles that focused on employee career development, the use of gamification or microlearning, and their impact on retention and HR performance. The exclusion criteria included non-academic articles, less relevant studies, duplicates, or publications outside the 1964–2025 timeframe. The final selection resulted in 24 articles that met the quality and relevance standards for further analysis. Data analysis was conducted using a descriptive-analytic approach, which systematically presented information from each piece of literature, compared findings, and identified patterns, gaps, and best practices in the implementation of gamification and microlearning for career development. The findings from the literature were then integrated to form a comprehensive understanding of effective technology-based career development strategies in improving employee retention and HR performance.

3. Result and Discussion

Employee career development is one of the fundamental elements of human resource management that directly contributes to organizational sustainability and competitive advantage. Human Capital Theory emphasizes that investment in enhancing employee competencies, knowledge, and experience can generate higher productivity, ultimately improving company profitability [12]. In this context, structured career pathways provide employees with clear direction in achieving higher positions according to their competencies and achievements, thereby fostering a sense of fairness and stronger work motivation. Previous studies show that the availability of clear career opportunities and continuous development support, such as intensive training, mentoring, and professional certification programs, can reduce turnover rates while increasing employee loyalty [13]. A real example can be seen at Unilever Indonesia, which implements a Leadership Development Program

with a competency-based approach to prepare future leaders. This program has proven effective in reducing recruitment costs due to higher employee retention [14]. Moreover, the program fosters a continuous learning culture, creates an adaptive work environment, and strengthens the company's employee value proposition in the labor market. Thus, career development serves as a long-term strategy supporting organizational sustainability.

Gamification has emerged as an innovative approach to supporting career development by enhancing employee engagement in learning programs, grounded in intrinsic and extrinsic motivation theories. Gamification is defined as the use of game elements in non-game contexts to create more enjoyable, interactive, and challenging learning experiences [2]. Previous studies have also demonstrated that gamification can increase intrinsic motivation by fostering a sense of achievement, healthy competition, and recognition, encouraging employees to actively participate in competency development [3]. The implementation of gamification in corporate contexts has been demonstrated by PT Telkom Indonesia through its internal training programs that integrate leaderboards, badges, points, and challenge systems to motivate employees in completing learning modules [15]. As a result, employee participation in training increased compared to conventional methods, which are often monotonous, proving that this approach significantly drives behavioral changes in learning. Furthermore, gamification systems also help establish a continuous learning culture by providing instant feedback, fostering a sense of competence, and enhancing peer interaction. This enables organizations to cultivate a work environment oriented toward innovation, collaboration, and productivity while accelerating career development goals.

In addition to gamification, the microlearning approach has gained increasing attention as a modern learning strategy that supports employee competency development in the digital era. Microlearning is defined as the delivery of training content in short, focused, and easily accessible units, making it easier for learners to understand and retain knowledge [4]. Its primary advantage lies in its flexibility, allowing employees to learn anytime and anywhere without disrupting daily work productivity. Previous studies found that microlearning methods can increase knowledge retention by up to 22% more than traditional long-form training, as smaller learning doses are more aligned with human attention capacity [16]. In Indonesia, the application of microlearning can be seen at Bank BRI, which provides interactive digital modules for employees—including tellers and branch managers—to enhance their understanding of new products, service procedures, and operational technical skills [17]. These modules are accessible via mobile devices, enabling employees to learn at their own pace without leaving their primary responsibilities. The impact has been a significant improvement in operational effectiveness, particularly in financial services requiring precision and speed, leading to enhanced organizational performance. Thus, microlearning accelerates the achievement of strategic goals in facing dynamic business competition.

The integration of gamification and microlearning has become an increasingly relevant strategy in supporting employee career development, as it combines aspects of motivation, engagement, and learning effectiveness into a complementary ecosystem. According to Self-Determination Theory (SDT), intrinsic motivation develops when three basic psychological needs are fulfilled: competence (the feeling of being capable of completing tasks), autonomy (freedom to choose learning methods), and relatedness (positive connections with others during the learning process) [18]. In this context, gamification provides elements of competition, recognition, and rewards that foster a sense of achievement, while microlearning offers flexibility in accessing concise and adaptive content that strengthens learning autonomy. Previous studies affirm that the combination of these two approaches enhances engagement, creates a more personalized learning experience, and improves the effectiveness of knowledge transfer in the workplace [19]. A practical example is seen at PT Gojek Indonesia, which implemented gamified training modules combined with microlearning units to improve technological and customer service skills for both partners and internal employees [20]. This system accelerated adaptation to the rapidly evolving digital service innovations. Consequently, customer service quality improved, employee technical skills were enhanced, and turnover rates decreased as employees felt they had clear career pathways along with learning experiences relevant to their needs. This demonstrates that integrating gamification and microlearning serves as a strategic approach that supports the long-term success of career development programs.

Human resource (HR) performance is one of the main indicators of organizational success, and the approaches of gamification and microlearning play a vital role in driving both individual and team targets more effectively. Competency enhancement achieved through structured learning programs has a direct impact on work productivity, output quality, and employees' capacity for innovation in responding to increasingly complex business dynamics [7]. In practice, companies that adopt gamification and microlearning foster a habit of results-oriented continuous learning. A concrete example can be found at Tokopedia, which implemented a gamified e-learning platform to develop employee skills, particularly in data analytics and digital marketing

[21]. With leaderboards, badges, and project-based challenges, employees were more motivated to sharpen their data analysis and digital marketing strategy skills, which in turn contributed to faster and more accurate business decision-making. The implementation results showed improved team performance, a significant reduction in operational errors, and increased business process efficiency, enabling the company to strengthen competitiveness amid tight e-commerce rivalry. Furthermore, the enhanced learning experience encouraged the emergence of innovative ideas from employees, which serve as important intellectual capital in facing market changes. Thus, gamification and microlearning provide a direct impact on overall organizational performance.

Employee retention remains one of the biggest challenges faced by modern organizations, especially in industries with high labor market competition. Proper career development programs have proven to be a key factor in increasing employee loyalty and reducing turnover. Engagement in relevant, structured, and individually adaptive training programs can foster a sense of belonging to the organization, which ultimately enhances loyalty and reduces the intention to leave [10]. Gamification-based microlearning emerges as an effective solution, combining flexible access to training materials with motivation derived from game elements, making employees feel more connected to their career paths. PT Astra International, for instance, successfully leveraged this approach to support employee competency development, particularly in sales and production divisions [22]. Through digital training modules delivered in microlearning format and reinforced with gamification elements such as achievement badges and point systems, employees were able to understand the skills required for promotion and the concrete steps needed to achieve career goals. As a result, retention rates increased significantly because employees felt valued, had clear development directions, and perceived long-term career growth opportunities. This also helped the company reduce recruitment and onboarding costs while preserving organizational knowledge held by experienced employees. Therefore, this strategy strengthens the company's competitive advantage through the retention of high-quality human resources.

The advancement of digital technology is a major factor reinforcing the effectiveness of gamification and microlearning in the context of employee career development, particularly in the Industry 4.0 era, which demands speed, flexibility, and adaptability. Interactive digital learning has a significant impact on increasing intrinsic motivation, engagement, and learning outcomes, especially for millennials and Gen Z, who are more responsive to application-based technologies [23]. Technology enables more personalized and adaptive learning experiences, supported by instant feedback, making the process collaborative and interactive. A concrete example is seen at Shopee Indonesia, which implemented application-based internal microlearning modules with gamification elements such as points, daily challenges, and real-time feedback, accessible anytime according to employees' work rhythms [24]. This system gave employees the flexibility to engage in self-directed learning while ensuring that the materials remained relevant to the company's operational needs. The result was improved service quality and faster completion of routine tasks. This implementation significantly enhanced technical competencies and team operational performance while reducing work errors caused by limited procedural understanding. Moreover, technology supporting gamification and microlearning also serves as a monitoring platform for management to assess employee competency development in real time, enabling companies to design more targeted career development strategies. Thus, technology becomes a key driver in ensuring the success of modern career development strategies.

Based on the literature review and findings from various case studies discussed, it can be concluded that the application of gamification- and microlearning-based career development strategies produces tangible positive impacts on employee retention, competency enhancement, and overall HR performance. This approach functions not only as a learning tool but also as a strategic instrument that strengthens intrinsic motivation, emotional attachment, and employee loyalty to the organization. By integrating the principles of Human Capital Theory, companies can view investment in career development as a long-term asset that enhances organizational value. Meanwhile, Self-Determination Theory provides the foundation that employee motivation can be maintained by fulfilling basic psychological needs—competence, autonomy, and relatedness—which are reinforced through gamification and microlearning mechanisms. Best practices from leading companies in Indonesia such as Unilever, Telkom, Gojek, Tokopedia, Astra, BRI, and Shopee demonstrate that this approach effectively reduces turnover, strengthens a continuous learning culture, and boosts workplace innovation. Furthermore, this strategy helps companies navigate increasingly competitive business dynamics with a workforce that is more adaptive, skilled, and loyal. Therefore, this study highlights the importance of integrating theory and practice in designing career development strategies based on technology, gamification, and microlearning, which can serve as a reference for effective implementation among organizations in Indonesia to strengthen competitiveness and ensure long-term sustainability.

Figure 1. Summary of Key Findings

Theme	Key Findings	Supporting Cases	Impact
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(Indonesia)			
Career Development	Structured career pathways enhance fairness, motivation, and retention. Investment in employee competencies strengthens organizational sustainability.	Unilever Indonesia – Leadership Development Program	Reduced turnover, lower recruitment costs, stronger learning culture
Gamification	Game elements (points, badges, leaderboards) increase motivation, engagement, and participation in learning. Builds continuous learning culture and innovation.	Telkom Indonesia – Gamified training modules	Higher training participation, behavioral change, collaboration
Microlearning	Short, focused, and accessible learning units improve knowledge retention and learning flexibility. Supports operational effectiveness.	Bank BRI – Digital microlearning modules	Increased knowledge retention, improved service accuracy, efficiency
Integration of Gamification & Microlearning	Combination creates adaptive, personalized, and motivating learning ecosystem. Supports competence, autonomy, and relatedness (SDT).	Gojek Indonesia – Gamified microlearning for tech & service skills	Improved service quality, faster adaptation, lower turnover
HR Performance	Structured competency learning improves productivity, innovation, and decision-making. Gamification & microlearning foster continuous learning culture.	Tokopedia – Gamified e-learning for digital skills	Better data-driven decisions, higher efficiency, fewer errors
Employee Retention	Clear, engaging, and adaptive development programs foster loyalty and reduce turnover. Gamified microlearning strengthens career pathways.	Astra International – Sales & production training via gamified microlearning	Higher retention, reduced hiring costs, preserved knowledge capital
Role of Technology	Digital tools enable personalized, flexible, and collaborative learning. Real-time monitoring strengthens HR strategy.	Shopee Indonesia – App-based gamified microlearning	Faster task completion, better service, improved performance
Theoretical Foundation	Human Capital Theory – investment in employee skills increases organizational value. Self-Determination Theory – motivation grows when competence, autonomy, and relatedness are fulfilled.	Applied across all company cases	Stronger intrinsic motivation, loyalty, and innovation
Overall Conclusion	Gamification + microlearning-based career development strengthens retention, competencies, performance, and organizational sustainability.	Multi-industry best practices: Unilever, Telkom, BRI, Gojek, Tokopedia, Astra, Shopee	More adaptive, skilled, loyal workforce; sustainable competitive advantage

4. Conclusion

Based on the literature review and analysis of 24 selected articles, it can be concluded that employee career development strategies integrating gamification and microlearning have a positive impact on human resource (HR) retention and performance. Gamification enhances motivation, engagement, and enjoyable learning experiences, while microlearning facilitates short, focused, and applicable learning. The integration of both creates adaptive and personalized learning experiences, supporting employee competency development while strengthening loyalty and commitment to the organization. These findings align with Human Capital Theory and Self-Determination Theory, which emphasize the importance of investing in employee competencies and intrinsic motivation to improve productivity and retention.

This study offers several practical implications for HR management. First, companies are encouraged to design career development programs that combine gamification elements—such as rewards, badges, and leaderboards—with concise and practical microlearning modules. Second, this strategy can be used to enhance employee retention by providing clear career paths, enjoyable learning experiences, and opportunities for skill development relevant to the job. Third, digital technology should be utilized optimally so that employees can access materials anytime and adjust their learning pace according to individual needs, thereby fostering higher engagement and performance. Theoretically, this study reinforces the application of Human Capital Theory and Self-Determination Theory in the context of modern career development, particularly in the implementation of technology-enhanced learning. It also confirms that the integration of gamification and microlearning simultaneously influences motivation, job satisfaction, and loyalty. These findings may serve as a foundation for further research on technology-based learning strategies to strengthen HR across various industries.

This study, however, has several limitations. First, the data analyzed were derived solely from secondary literature, making the findings interpretive rather than supported by empirical field data. Second, the review only included articles published between 1964–2025, thereby excluding potentially relevant literature published prior to that period. Third, the number of analyzed articles was limited to 24, which, although representative, may not fully capture best practices across all industries. Therefore, future research is recommended to conduct empirical studies, such as surveys or experiments, to directly test the impact of gamification and microlearning on employee retention and performance. Additionally, further research could expand across industries and regions, as well as explore additional variables such as job satisfaction, innovation, and organizational engagement. For practitioners, it is advised to continuously develop adaptive, interactive, and personalized digital learning platforms to ensure that career development strategies are more effective and positively influence both performance and retention of human resources.

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