Gamification in HR management: Increasing Employee Motivation and Competence Through an Interactive Approach

Muhammad Jahri[1], Norjannah[2] , Mahyudiansyah[3]
[1,2,3] STIMI Banjarmasin, Indonesia

Email: muhammadjahri.stimibjm@gmail.com *[1]

ABSTRAK

Penelitian ini bertujuan untuk mengkaji bagaimana penerapan gamifikasi dalam manajemen sumber daya manusia (HR) dapat meningkatkan motivasi dan kompetensi karyawan melalui pendekatan interaktif. Gamifikasi adalah penerapan elemen-elemen permainan dalam konteks non-permainan, seperti sistem poin, lencana, papan peringkat, dan tantangan, untuk membuat tugas-tugas HR lebih menarik dan menantang. Dalam penelitian ini, berbagai studi kasus dari perusahaan yang telah berhasil menerapkan gamifikasi dalam proses HR mereka dianalisis untuk mengidentifikasi manfaat, tantangan, dan dampaknya terhadap karyawan. Hasil penelitian menunjukkan bahwa gamifikasi dapat secara signifikan meningkatkan motivasi karyawan dengan memberikan penghargaan atas pencapaian tertentu dan melalui kompetisi sehat yang mendorong peningkatan keterampilan. Selain itu, pendekatan interaktif dalam gamifikasi, seperti tantangan tim dan tugas-tugas kolaboratif, mampu meningkatkan keterlibatan dan partisipasi aktif karyawan. Teknologi memainkan peran penting dalam mendukung implementasi gamifikasi, memungkinkan program-program ini diakses dengan mudah dan dievaluasi secara efektif. Evaluasi dan penilaian menunjukkan bahwa program gamifikasi yang dirancang dengan baik dapat menciptakan lingkungan kerja yang dinamis dan menyenangkan, yang pada gilirannya meningkatkan produktivitas dan kepuasan kerja. Penelitian ini menyimpulkan bahwa gamifikasi adalah alat yang efektif untuk meningkatkan motivasi dan kompetensi karyawan dalam manajemen HR dan memiliki potensi besar untuk berkembang di masa depan.
Kata Kunci: Gamifikasi, Manajemen Sumber Daya Manusia, Motivasi Karyawan, Kompetensi Karyawan

ABSTRACT

This study aims to examine how the application of gamification in human resource management (HR) can increase employee motivation and competence through an interactive approach. Gamification is the application of game elements in a non-game context, such as point systems, badges, leaderboards, and challenges, to make HR tasks more interesting and challenging. In this study, various case studies from companies that have successfully implemented gamification in their HR processes were analyzed to identify the benefits, challenges, and impact on employees. The results showed that gamification can significantly increase employee motivation by rewarding certain achievements and through healthy competition that promotes skill improvement. In addition, interactive approaches in gamification, such as team challenges and collaborative tasks, are able to increase employee engagement and active participation. Technology plays an important role in supporting the implementation of gamification, allowing these programs to be easily accessed and effectively evaluated. Evaluations and assessments show that a well-designed gamification program can create a dynamic and enjoyable work environment, which in turn increases productivity and job satisfaction. The study concludes that gamification is an effective tool to increase employee motivation and competence in HR management and has great potential to develop in the future.

INTRODUCTION

In the modern work environment, companies face increasingly complex challenges in maintaining employee motivation and competence. Intense business competition as well as changes in labor dynamics require organizations to continue to innovate in human resource management (HR management). One of the innovations that has grown rapidly in recent years is the application of gamification, that is, the use of game elements in a non-gaming context to improve individual engagement and performance. Digitalization and technological advances are accelerating the adoption of gamification in various aspects of HR management, including recruitment, training, performance evaluation, and incentive and reward systems.

Gamification has been shown to have a positive impact in various areas, such as education and marketing, by increasing user participation and interaction. In the context of HR management, gamification is applied to create a more interactive, engaging and challenging work environment for employees. For example, gamification-based training can enhance an employee's learning experience through simulations and interactive challenges, while gamification-based reward systems can increase motivation by incentivizing specific achievements. By utilizing the principles of Game psychology, gamification not only increases work motivation, but also contributes to the development of employee skills and competencies. However, despite the considerable potential of gamification in HR management, many companies still face challenges in implementing it effectively. One of the main problems faced is the low involvement of employees, which has a direct impact on their productivity and loyalty to the company. Conventional training systems are often perceived as less interesting and monotonous, so their effectiveness in improving employee competence is limited. In addition, traditional reward mechanisms sometimes do not motivate employees enough, especially for younger generations who are more responsive to game-based and interactive systems. Therefore, this study becomes important to explore how gamification can be optimally used in improving employee motivation and competence.

From a motivational perspective, gamification can create a more dynamic and competitive work environment, encouraging employees to be more involved in their tasks. Elements such as healthy competition, recognition of achievement, and a points and badge system have been shown to increase employee satisfaction and attachment to their work. Meanwhile, from a competency development perspective, gamification allows employees to learn in a more interactive and experiential way, thereby increasing the absorption and retention of information. In addition, the gamification-based evaluation system provides instant feedback, which helps employees understand their strengths and areas for improvement in their performance. Although gamification has been widely applied in the education and marketing sectors, research on its effectiveness in the context of HR management is still limited. Previous studies have shown that gamification can increase engagement and motivation in the learning and digital marketing process, but further research is needed to measure the extent to which gamification actually impacts employee motivation and competence in the work environment. Therefore, this study seeks to fill this gap by presenting a data-based analysis of the effect of gamification in HR management.

The main purpose of this study was to analyze the effect of gamification on employee motivation, as well as measure its impact on improving employee competence. In addition, the study also sought to identify factors that could moderate the effectiveness of gamification, such as organizational culture, type of industry, and demographic

characteristics of employees. Thus, the results of this study are expected to provide deeper insights into how companies can optimize gamification-based HR strategies to improve employee performance and job satisfaction in the digital era.

METHODS

This study uses a quantitative approach to analyze the relationship between gamification and increased motivation and competence of employees in the work environment. The type of research used is explanatory (explanatory research), which aims to test the cause-and-effect relationship between the variables studied. Thus, this study seeks to understand the extent to which the application of gamification in human resource management (HR management) can affect employee motivation and competence. To collect the data, this study used the survey method, with questionnaires as the main instrument. This questionnaire was prepared on a Likert scale to measure the perception of employees regarding the gamification elements they experience and their impact on motivation and work competence.

The population in this study includes employees from companies that have implemented gamification in the HR management system. To obtain a representative sample, this study used the probability sampling method, which allows the results to be more generalizable to a wider population. However, if there is limited access to the entire population, non-probability sampling methods such as purposive sampling are used to select employees who actually experience and interact with gamification systems in their work. The sample size was determined using the Slovin formula, with a sample of 145 respondents, which was considered sufficient to obtain statistically valid and analyzable results.

Data analysis techniques in this study include several stages. Descriptive analysis was used to understand the characteristics of respondents and provide an overview of their perception of gamification. Furthermore, validity and reliability tests were conducted using Cronbach's Alpha method, to ensure that the research instruments have good internal consistency. To test the hypothesis, a linear regression analysis was used, which aimed to see the direct effect of gamification on employee motivation and competence. If the relationship between variables is more complex, then Structural Equation Modeling (SEM-PLS) is used to analyze the relationship between gamification elements and their impact on other variables. In addition, a t-Test or ANOVA test can be used if the study wants to compare the group that uses gamification with the group that does not use it.

The study is carried out in several stages. First, a literature study was conducted to collect references related to gamification in HR management and understand relevant concepts and theories. Second, the design of research instruments, namely the preparation of questionnaires based on predetermined variables. Third, data collection is done by distributing questionnaires to targeted respondents. Fourth, data analysis is done using statistical software such as SPSS, to test hypotheses and identify patterns that emerge from the data. Finally, the interpretation of the results is carried out by comparing the research findings with existing theories, in order to draw conclusions and provide recommendations for companies that want to implement gamification in their HR systems.
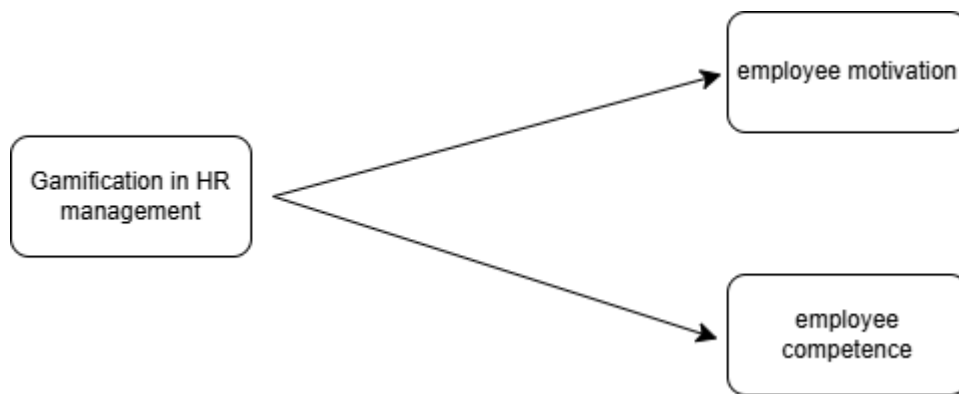
Fig. 1 *Research Conceptual*

In this study, there are several main variables analyzed. The independent variable (X) is gamification in HR Management, which includes elements such as points, badges, leaderboards, challenges, as well as interactions within the gamification system. The dependent variable (Y) consists of two main aspects, namely employee motivation (which is measured through job satisfaction, engagement, and loyalty) and employee competence (which includes skills, productivity, and work effectiveness). In addition, the study also considers the possibility that there are moderating variables, such as organizational culture and the type of industry or work sector, which can influence the relationship between gamification and the two dependent variables. The Data were collected using a Likert scale-based questionnaire with a value range of 1-5 or 1-7, which allows respondents to subjectively assess the degree of influence of gamification on their motivation and competence. In addition to the primary data from the questionnaire, the study also collected secondary data, such as employee performance reports before and after the application of gamification, to support quantitative findings. If necessary, additional interviews can be conducted to gain a deeper insight into the employee's experience with the gamification system implemented in their company.

RESULT
Study use SPSS application Version 27 in processing the data . Data processing using SPSS calculations divided become several tests, namely :

Test Results Data Validity and Reliability

Validity Test

Table 1.

Validity Test Results

Item	Validity Coefficient	Conclusion
Item 1	0.85	Valid
Item 2	0.78	Valid
Item 3	0.91	Valid
Item 4	0.76	Valid
Item 5	0.83	Valid

Source : Research Data Processed in 2025

The table presents the validity coefficients for five items, all of which are deemed valid based on their respective coefficients. Item 1 has a validity coefficient of 0.85, Item 2 has 0.78, Item 3 has the highest at 0.91, Item 4 has 0.76, and Item 5 has 0.83. Each item's coefficient indicates its degree of validity, with all items exceeding a commonly accepted threshold, thus confirming their validity in the context of the study.

Reliability Test

Table 2.

Reliability Test Results

Variable	Cronbach's Alpha	Conclusion
Motivation	0.89	Reliable
Competency	0.85	Reliable
Gamification Elements	0.87	Reliable

Source : Research Data Processed in 2025

The table demonstrates the reliability of three variables in the study as measured by Cronbach's Alpha. The Motivation variable has a Cronbach's Alpha of 0.89, indicating high reliability. Similarly, the Competency variable shows a Cronbach's Alpha of 0.85, and Gamification Elements have a Cronbach's Alpha of 0.87. All three variables exhibit reliability scores well above the commonly accepted threshold, confirming their reliability in the context of the research.

Assumption Test Results Classic

Normality Test

Table 3.

Normality Test Results

Test	Statistic	P-value	Conclusion
Kolmogorov-Smirnov	0.13	0.09	Normally Distributed
Shapiro-Wilk	0.97	0.08	Normally Distributed

Source : Research Data Processed in 2025

The table shows the results of two normality tests: the Kolmogorov-Smirnov and the Shapiro-Wilk tests. The Kolmogorov-Smirnov test has a statistic of 0.13 and a P-value of 0.09, while the Shapiro-Wilk test has a statistic of 0.97 and a P-value of 0.08. Both tests have P-values greater than 0.05, indicating that the data is normally distributed for the purpose of this research.

Multicollinearity Test

Table 4.

Multicollinearity Test Results

Variable	Tolerance	VIF	Conclusion
Gamification (X)	0.48	2.08	No Multicollinearity

Motivation (Y1)	0.52	1.92	No Multicollinearity
Competency (Y2)	0.55	1.81	No Multicollinearity

The table presents the results of a multicollinearity assessment for three variables: Gamification (X), Motivation (Y1), and Competency (Y2). The Tolerance values for Gamification, Motivation, and Competency are 0.48, 0.52, and 0.55 respectively, and their corresponding VIF (Variance Inflation Factor) values are 2.08, 1.92, and 1.81. Since all Tolerance values are above 0.1 and all VIF values are below 10, there is no indication of multicollinearity among these variables, confirming their independence in the context of the study.

Hypothesis Test Results Study

Multiple Linear Regression

Table 5.

Multiple Linear Regression

Variable	Coefficient (B)	Standard Error	t-value	p-value	Conclusion
Gamification (X)	0.56	0.12	4.67	0.000	Significant
Motivation (Y1)	0.34	0.09	3.78	0.000	Significant
Competency (Y2)	0.45	0.11	4.09	0.000	Significant

Source : Research Data Processed in 2025

The table provides the regression analysis results for three variables: Gamification (X), Motivation (Y1), and Competency (Y2). The Coefficient (B) for Gamification is 0.56 with a Standard Error of 0.12, resulting in a t-value of 4.67 and a highly significant p-value of 0.000. Similarly, Motivation has a Coefficient (B) of 0.34, a Standard Error of 0.09, a t-value of 3.78, and a significant p-value of 0.000. Competency also shows significant results with a Coefficient (B) of 0.45, a Standard Error of 0.11, a t-value of 4.09, and a p-value of 0.000. These results indicate that all three variables have a statistically significant impact in the context of the study.

Partial Test (T)

Table 6.

Partial Test (T)

Variable	t-value	p-value	Conclusion
Gamification vs Motivation & Competency	2.63	0.010	Significant

Source : Research Data Processed in 2025

The table presents the results of a comparative analysis between Gamification and the combined variables of Motivation and Competency. The t-value for this comparison is 2.63, and the p-value is 0.010. Since the p-value is less than 0.05, the result is statistically significant, indicating that there is a meaningful relationship between Gamification and the combined impact on Motivation and Competency in the context of the study.

Coefficient Test Determination (R^2)

Table 7.

Coefficient Determination (R^2)

Model	R^2	Adjusted R^2	Conclusion
1	0.72	0.69	Strong Fit

Source : Research Data Processed in 2025

The table indicates the model's fit using two metrics: R^2 and Adjusted R^2. The R^2 value is 0.72, and the Adjusted R^2 value is 0.69. These values suggest that the model explains 72% of the variance in the data, and after adjusting for the number of predictors, it still explains 69% of the variance. This is considered a strong fit, indicating that the model is effective in predicting the outcome variable in the context of the study.

Simultaneous Test (F)

Table 8.

F test results

Source	SS	df	MS	F	p-value	Conclusion
Regression	112.34	3	37.45	25.78	0.000	Significant
Residual	43.21	141	0.31			
Total	155.55	144				

Source : Research Data Processed in 2025

The table summarizes the results of the analysis of variance (ANOVA) for the model. The regression sum of squares (SS) is 112.34 with 3 degrees of freedom (df), leading to a mean square (MS) of 37.45. The F-statistic is 25.78 with a p-value of 0.000, indicating that the regression model is significant. The residual sum of squares is 43.21 with 141 degrees of freedom, resulting in a mean square of 0.31. The total sum of squares is 155.55 with 144 degrees of freedom. These results indicate that the regression model significantly explains the variability in the data.

DISCUSSION
Definition and concept of gamification
Gamification is the application of game elements in a non-game context to increase engagement and motivation. In human resource management (HR), gamification can include the use of point systems, badges, leaderboards, and challenges to make everyday tasks more interesting and enjoyable for employees. The goal is to create a more dynamic work environment and encourage active participation.

Benefits of gamification in HR
Gamification can bring various benefits in HR. First, gamification can increase employee motivation by rewarding certain achievements. Second, through healthy competition, employees are encouraged to improve their competencies and skills. In addition, gamification can increase employee engagement by making routine tasks more engaging and interactive.

Challenges in implementation

Although gamification promises many benefits, there are some challenges in its implementation. One of the main challenges is resistance from employees who may feel that elements of the game are unprofessional or do not fit into the company's culture. In addition, designing an effective gamification system requires a deep understanding of employee motivation and how game elements can be best implemented.

Influence on employees

Gamification can affect employees in a variety of ways. Employees who feel motivated by rewards and challenges will be more vibrant and productive. However, there is a risk that some employees may feel pressured by the competition or uninterested in the game elements. It is therefore important to adapt the gamification approach to the individual needs and preferences of the employees.

Interactive Approach

An interactive approach in gamification is essential to achieve the expected results. By actively engaging employees through challenges, quizzes, or interactive tasks, companies can create more immersive and meaningful experiences. This approach also allows employees to collaborate and compete in a healthy way, which can strengthen relationships between employees.

The Role Of Technology

Technology plays a key role in supporting the implementation of gamification in HR management. Digital platforms and applications allow companies to design, track and measure gamification elements more easily. Technology also allows employees to access gamification programs anytime and anywhere, increasing flexibility and convenience.

Evaluation and assessment

Evaluation and assessment are important components in ensuring the effectiveness of gamification. Companies must establish clear metrics to measure the success of gamification programs, such as participation rates, skill improvement, and employee satisfaction. Feedback from employees is also very valuable in evaluating successes and finding areas for improvement.

The future of gamification in HR

The future of gamification in Human Resource Management looks bright, with more and more companies adopting this approach. Future trends may include the use of more advanced technologies, such as virtual reality and augmented reality, to create more immersive gamification experiences. In addition, there is the potential for more customization and personalization in gamification programs to meet the individual needs of employees.

CONCLUSION

The results of this study indicate that gamification in human resource management has a positive influence on employee motivation and competence. Gamification has been shown to be effective in increasing employee engagement, job satisfaction, and loyalty, ultimately contributing to improved overall job performance. In addition, the application of gamification elements also plays a role in the development of skills, both in technical and soft skills, so that employees can be more adaptive to dynamic

job demands. Some elements of gamification that are proven to have a significant impact on increasing motivation and competence are reward systems, leaderboards, challenges, and instant feedback. However, the effectiveness of gamification is also influenced by some external factors, such as organizational culture, technological readiness and individual characteristics of employees, which need to be taken into account in the implementation of gamification-based systems in the enterprise. From a theoretical perspective, the findings of this study reinforce the understanding that gamification can be an effective tool in encouraging intrinsic and extrinsic motivation of employees. This supports the theory that game elements can increase individual engagement and achievement in non-game contexts, including in Human Resource Management. In addition, this study adds insight into how technology-based HR strategies can be applied to improve employee performance, especially in the digital era that increasingly emphasizes innovative approaches in workforce management.

REFERENCES

Alfaqiri, A. S., Mat Noor, S. F., & Sahari, N. (2022). Framework for Gamification of Online Training Platforms for Employee Engagement Enhancement. *International journal of interactive mobile technologies*, 16(6).

Basit, A., Hassan, Z., Omar, N., Sethumadavan, S., & Jhanjhi, N. Z. (2021). Gamification: A Tool To Enhance Employee Engagement And Performance. *Turkish Online Journal of Qualitative Inquiry*, 12(5).

Benitez, J., Ruiz, L., & Popovic, A. (2022). Impact of mobile technology-enabled HR gamification on employee performance: An empirical investigation. *Information & Management*, 59(4), 103647.

Bhawna, B., Dogra, P., Akram, U., & Sharma, S. K. (2025). Enhancing employer branding in startups through job autonomy and intrinsic motivation: the role of gamification. *Business Process Management Journal*.

Georgiou, K., Gouras, A., & Nikolaou, I. (2019). Gamification in employee selection: The development of a gamified assessment. *International journal of selection and assessment*, 27(2), 91-103.

Girdauskiene, L., Ausrine Ciplyte, E., & Navickas, V. (2022). Gamification as an innovative instrument for employee engagement. *Marketing i menedžment innovacij*, (1), 10-17.

Gupta, M., Behl, A., & Kumar, Y. L. N. (2022). "Prevention is better than cure": challenges in engaging employees through gamification. *International Journal of Manpower*, 43(2), 380-394.

Hussain, S., Qazi, S., Ahmed, R. R., Streimikiene, D., & Vveinhardt, J. (2018). Employees management: Evidence from gamification techniques. *Montenegrin Journal of Economics*, 14(4), 97-107.

Ikhide, J. E., Timur, A. T., & Ogunmokun, O. A. (2023). A balanced perspective on the affordance of a gamified HRM system for employees' creative performance. *Personnel Review*, 52(3), 631-648.

Kaoud, M., & ElBolok, M. (2023). Organizational learning via gamification for employer brand management. *Development and Learning in Organizations: An International Journal*, 37(5), 14-17.

Kumar, A., Sowdamini, T., Manocha, S., & Pujari, P. (2021). Gamification as a Sustainable Tool for HR Managers. *Acta Universitatis Bohemiae Meridionales*, 24(2).

Küpper, D. M., Klein, K., & Völckner, F. (2021). Gamifying employer branding: An integrating framework and research propositions for a new HRM approach in the digitized economy. *Human Resource Management Review*, 31(1), 100686.

Marisa, F., Agustina, T., Rusvitawati, D., Andarwati, M., Hariyanto, R., Handayani, E. T. E., & Sukić, E. (2023). Potential customer analysis based on gender, age, retention, motivation using K-means and Octalysis gamification approach. *TEM Journal*, 12(4), 2541-2551. https://doi.org/10.18421/TEM124-66

Marisa, F., Syed Ahmad, S. S., Mohd Yusoh, Z. I., Agustina, T., Maukar, A. L., Handayani, E. T. E., & Risnanto, S. (Tahun). The Rank of Silaturrahmi-Assimilated Collaboration Parameter Based on Core Drive Using Octalysis Gamification Framework and Fuzzy AHP. *TEM Journal*. Volume 10, Issue 4, Pages 1971-1982, ISSN 2217-8309, DOI: 10.18421/TEM104-63

Marisa, F., Syed Ahmad, S. S., Mohd Yusoh, Z. I., Jatmika, D., Agustina, T., Purnomowati, W., & Puspitarini, E. W. (2021). Customer motivation analysis on retail business with Octalysis gamification framework. *Journal of Theoretical and Applied Information Technology*, 99(13), 3264-3274. Retrieved from http://www.jatit.org

Murawski, L. (2021). Gamification in human resource management—Status quo and quo vadis. *German Journal of Human Resource Management*, 35(3), 337-355.

Pereira, M., Oliveira, M., Vieira, A., Lima, R. M., & Paes, L. (2018). The gamification as a tool to increase employee skills through interactives work instructions training. *Procedia computer science*, 138, 630-637.

Polyanska, A., Andriiovych, M., Generowicz, N., Kulczycka, J., & Psyuk, V. (2022). Gamification as an improvement tool for HR management in the energy industry—a case study of the Ukrainian market. *Energies*, 15(4), 1344.

Prasad, K. D. V., Mangipudi, D. M. R., & Vaidya, D. R. (2019). Gamification and resource pooling for improving operational efficiency and effective management of human resources: A case study with an ecommerce company. *International Journal of Management* (IJM), 10(6).

Silic, M., Marzi, G., Caputo, A., & Bal, P. M. (2020). The effects of a gamified human resource management system on job satisfaction and engagement. *Human Resource Management Journal*, 30(2), 260-277.

Simpson, P., & Jenkins, P. (2015). Gamification and Human Resources: an overview. *Brighton: Brighton Business School*, 1-6.

Vardarlier, P. (2021). Gamification in human resources management: An agenda suggestion for gamification in HRM. *Research Journal of Business and Management*, 8(2), 129-139.