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# Factors affecting intention to continue playing an online game: the role of competition, challenge, competence, relationship, and usefulness of the game

**Tri Tata Wilia[1], Dessy Kurnia Sari[2], Sari Lenggogeni[3], Elisa Daniati Edison[4], Pristianilicia Putri[5]**

***Correspondent :**
Email: tritatawilia@metamedia.ac.id

**Affiliation :**
[145]Universitas Metamedia
[23]Universitas Andalas

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*Abstract*

*Kemajuan dalam teknologi perangkat dan komunikasi telah mengubah dunia gaming, dengan gamifikasi secara signifikan memotivasi pengguna melalui elemen-elemen permainan. Aplikasi seluler semakin banyak menggunakan gamifikasi untuk meningkatkan partisipasi, namun bukti tentang cara menarik dan mempertahankan pengguna secara efektif masih terbatas. Studi ini mengidentifikasi faktor-faktor yang mempengaruhi niat pemain untuk terus bermain game online di Indonesia, dengan fokus pada kompetisi, tantangan, kompetensi, hubungan sosial, dan kegunaan. Survei yang melibatkan 100 pemain aktif telah dilakukan, dan data sedang dianalisis menggunakan SPSS. Temuan awal menunjukkan bahwa di antara faktor-faktor yang diteliti, tantangan secara signifikan mempengaruhi niat pemain untuk terus bermain. Kondisi internet yang semakin baik di Indonesia meningkatkan pengalaman bermain game. Temuan ini bertujuan untuk memberikan wawasan bagi pengembang aplikasi dan game dalam merancang strategi retensi pemain yang efektif, mengisi kesenjangan pemahaman tentang keterlibatan pengguna dalam game mobile, dan berkontribusi pada pengalaman bermain yang lebih menarik dan berkelanjutan bagi pemain di Indonesia. Hasil ini berkontribusi pada ekosistem pemasaran digital yang etis dan berkelanjutan di Indonesia dengan membimbing pengembang untuk menerapkan strategi gamifikasi yang bertanggung jawab yang meningkatkan keterlibatan dan kepercayaan pengguna dalam jangka panjang.*

**Abstract**

Advances in device and communication technology have transformed gaming, with gamification significantly motivating users through game elements. Mobile apps increasingly use gamification to boost participation, yet there is limited evidence on how to attract and retain users effectively. This study identifies factors influencing players' intention to continue playing online games in Indonesia, focusing on competition, challenge, competence, social relationships, and usefulness. A survey involving 100 active players has been conducted, and data are being analyzed using SPSS. Initial findings reveal that among the examined factors, challenge significantly influences players' intention to continue playing. Improved internet conditions in Indonesia are enhancing the gaming experience. The findings aim to provide insights for app and game developers to design effective player retention strategies, bridging the gap in understanding user engagement in mobile gaming and contributing to more engaging and sustainable gaming experiences for players in Indonesia. These results contribute to an ethical and sustainable digital marketing ecosystem in Indonesia by guiding developers to implement responsible gamification strategies that enhance long-term user engagement and trust.

## INTRODUCTION

Advancements in device and communication technology have significantly transformed the landscape of online gaming (Lal, 2019). High-speed internet access, more powerful mobile devices, and sophisticated gaming platforms collectively provide immersive and interactive gaming experiences. These technologies enable games to offer complex graphics, real-time multiplayer options, and seamless connectivity, thereby attracting a larger audience (Ahmad et al., 2022). According to Treiblmaier et al. (2018) The incorporation of gamification, where game elements are integrated into non-game contexts, has emerged as a powerful tool to engage and motivate users. Refers to Saleem, Noori, and Ozdamli (2022) Gamification utilizes elements such as point scoring, leaderboards, badges, and other incentives to encourage user engagement and participation. This technique is increasingly used in various mobile applications across sectors such as education, healthcare, and business to enhance user participation and retention.

Despite the growing popularity of gamification, understanding the most effective strategies for attracting and retaining users in the context of online gaming remains limited. Competition, challenges, and competence play crucial roles in maintaining player engagement (Fransen et al., 2018). Players are often motivated by the desire to outperform others, achieve higher rankings, and unlock new levels and rewards. Additionally, social relationships formed within gaming communities, including friendships, team collaborations, and in-game communication, significantly contribute to the overall gaming experience (Freeman and McNeese, 2019). Furthermore, the perceived usefulness of a game how it contributes to enjoyment, skill development, and player satisfaction also influences their intention to continue playing (Liu, 2016). Players are more likely to stay engaged with games they find enjoyable, challenging, and rewarding (Hamari et al., 2016).

Indonesia, with its rapidly developing internet infrastructure and large, tech-savvy population of mobile device users, presents a unique and fertile ground for studying the factors that influence online gaming behavior (Raza, 2024). According to Oughton et al. (2021), increasing internet connectivity and the widespread availability of affordable smartphones have significantly enhanced the accessibility and popularity of online games, attracting users from diverse demographic groups. However, despite this rapid growth, there is limited empirical evidence on which gamification-related factors genuinely drive players' intention to continue playing online games in the Indonesian context. In addition, concerns related to digital ethics and Islamic economic principles, such as moderation, fairness, and responsible digital consumption, highlight the need to distinguish between engagement strategies that create sustainable user value and those that merely encourage excessive use. Therefore, this study aims to empirically examine the effects of competition, challenge, competence, social relationships, and usefulness on players' intention to continue playing online games in Indonesia, providing evidence-based insights for developers and marketers to design effective, ethical, and sustainable engagement strategies.

Gamification is the process of incorporating game elements, principles, and design techniques into non-game contexts to enhance user engagement, motivation, and experience (Ružic and Dumancic, 2015) . This concept leverages the natural human tendencies towards competition, achievement, and collaboration to drive participation and influence behaviour in various fields such as education, marketing, healthcare, and business. Based on study from Saleem et al. (2022) key elements of gamification include points, which users earn by completing tasks and use to track progress or unlock rewards; badges, visual symbols of achievement that users can collect and display, often representing milestones or specific accomplishments; leaderboards, rankings that show users' standings relative to others, fostering a sense of competition; challenges, tasks or missions that users must complete, often designed to be progressively more difficult; levels, stages or tiers that users progress through as they achieve more in the gamified system; feedback, immediate responses to users' actions, providing information on performance and areas for improvement; and rewards, incentives such as prizes, discounts, or privileges that users receive for achieving certain goals or reaching specific milestones.

Based on study from Dah et al. (2023) The primary goal of gamification is to create a more engaging and enjoyable experience by tapping into intrinsic motivations such as the desire for mastery, autonomy, and relatedness while also leveraging extrinsic rewards to encourage participation and sustained engagement By applying these game mechanics to non-game contexts, gamification aims to improve user interaction, increase motivation, and achieve better outcomes in various applications (Dah et al., 2023). This approach has been successfully used in educational platforms to enhance learning, in fitness apps to encourage healthy behaviors, in customer loyalty programs to increase retention, and in workplace environments to boost productivity and employee satisfaction (Kuleshova et al., 2020).

Based on the research of Ružic and Dumancic (2015), gamification is defined as an integrated effort that applies game techniques and elements to non-gaming contexts to encourage proactive user engagement and activity. Humans are naturally attracted to games due to their engaging nature, which makes game elements effective when applied beyond gaming contexts. Groening and Binnewies (2021) revealed that an effective gamification strategy should begin with motivation design and be followed

by the integration of appropriate game design elements. To ensure sustained user motivation and satisfaction, intrinsic motivational factors such as challenges, competition, achievements, incentives, and social connections should be incorporated. Subsequently, game components such as missions, levels, rankings, and points can be integrated to enhance user involvement.

There is opposition to the unrestricted use of gaming elements in the same setting. the value of "meaningful play" and recommended a user experience that prioritises three essential elements: autonomy, mastery, and meaning. Bw Wünsche and Tb Tece Bayrak (2021), he clarified that the 'autonomy' of in-game decisions and the'meaning' that games provide are the reasons why people play them. Gaining proficiency in the game gives people pleasure and delight. The MDA Framework for Effective Game Design was presented by Junior and Silva (2021) and provides a methodical approach of game design. Numerous scholars have examined game concepts and structures using this framework (Coleman and Money, 2020). Three crucial elements of the interaction between game creators and players are included in the MDA architecture. The game system's rules are denoted by M (Mechanics), user actions are denoted by D (Dynamics), and player emotions are represented by A (Aesthetics) through game dynamics.

The MDA framework's emphasis on PBL (Points, Badges, and Leaderboards) has highlighted important techniques such as rank competition, prizes, and quantitative evaluation. The overemphasis on gaming aspects, however, has drawn criticism. The total context should be taken into account when using gamification, and designers should strive for a comprehensive design that produces the intended user experience (Dignan, 2011). When implementing a gamification approach, designers must also take into account the actual user experience that the system offers. Researchers studying gamification have recently been attempting to get around Ludus's emphasis on "winning and losing" and restricted game systems. The idea of Paidia, which promotes free speech, has grown, resulting in improved quality in the gaming system as a whole. A push to expand the limited definition of "gamification" to a broader "gameful world" has evolved from this.

Treiblmaier et al. (2018) noted seven typical errors made while creating a gamification plan. It might be harmful to over-rely on PBL or restrict gamification to competitive play. An fixation with visual components or an overconfidence in its efficacy may be detrimental (Logg et al., 2018).An overemphasis on external rewards and game mechanics may demotivate users. A successful gamification strategy is a concept for changing behaviour and a seamless integration of game and non-game environments (Prasad, 2021). A well-designed method influences sustained user action. Numerous gamification tactics have been given in previous studies, but many of them failed to take users or context into account or resulted in duplication since different researchers' criteria were inconsistent (Rodrigues et al., 2021).

Research reveals that the most popular tactics are competitiveness, connections, challenges, and Competence. Although their expressions vary, these strategies are the most prevalent approaches. Important are also the strategies that pertain to achieving goals, expressing oneself, and making content accessible. Apps for sports such as Nike+, Strava, and Runtastic frequently use gamification techniques such as competition (leaderboards, levels, rankings), relationships (friend finder, invitations, recommendations, tagging, following, community), challenges (goal setting, tasks, achievements), rewards (badges, level-ups, voice feedback), and usability (onboarding, advice, coaching). These are just some of the techniques that are used. This article's objective is to study the ways in which gamification tactics influence user flow and the intention to use a mobile social learning platform (MSLP) on a continuous basis. A gamified Master of Science in Psychology (MSLP) was developed by utilising the following five strategies: competition, challenge, Competence, connection, and utility.

In the context of Indonesia as a Muslim-majority country, the rapid growth of gamification and online gaming is also increasingly discussed within the framework of digital consumption ethics and halal marketing. Halal marketing emphasizes ethical value creation, fairness, transparency, and moderation in marketing and digital engagement strategies. From this perspective, gamification should

not solely aim to maximize user engagement through rewards and competition but should also consider user well-being and responsible digital behavior.

This ethical perspective aligns with previous criticisms of excessive reliance on points, badges, and leaderboards, which may encourage short-term engagement but risk diminishing intrinsic motivation and meaningful user experiences. In online gaming, elements such as competition, challenges, rewards, and social interaction can either support healthy engagement or contribute to excessive and unbalanced usage if not carefully designed. Therefore, examining gamification strategies through an ethical digital consumption lens provides a relevant foundation for understanding sustainable intention to continue playing, particularly in markets such as Indonesia where ethical and socially responsible digital practices are increasingly emphasized.

Based on study from Yang et al. (2023) Competition in gamification can be designed by integrating elements that trigger a sense of rivalry among users. An effective approach is through the use of leaderboards that display users' rankings based on their performance in specific activities. Additionally, competitive challenges that require effort and skill to complete can further enhance the sense of competition. With leaderboards, users can see their ranking compared to others, motivating them to improve their performance and achieve a higher position (Bai et al., 2021). This creates a drive to perform better, as users are compelled to outdo their competitors. The motivation derived from this competition often encourages users to engage more deeply and commit more strongly to the gamified activity, ultimately increasing their involvement and satisfaction.

According to Therapy et al. (2016) Challenge in gamification involves crafting tasks that require a substantial amount of effort and skill to complete, ensuring they are neither too easy nor too difficult. A well-designed challenge strikes the right balance between being achievable and demanding, aligning with the users' abilities and pushing their limits just enough to foster growth. When challenges are appropriately difficult, they provide users with a sense of accomplishment upon completion, which can significantly boost their confidence (Sadler, 2010). This feeling of achievement not only validates their efforts but also motivates them to continue engaging with the activity. For example, a task that is too easy may lead to boredom and disengagement, while one that is too difficult might cause frustration and discourage participation. By carefully calibrating the difficulty level, designers can create a motivating environment that encourages users to persist, improve their skills, and remain actively involved in the gamified experience (Dah et al., 2023).

Competence in gamification focuses on creating opportunities for users to improve their skills and knowledge, thereby enhancing their sense of ability and achievement (Salman et al., 2024). This can be achieved by offering feedback and rewards that recognize users' progress and accomplishments. Feedback should be timely and constructive, helping users understand their performance and areas for improvement. Positive reinforcement through rewards such as badges, points, or other incentives can further acknowledge their achievements and encourage continued effort (Gutt et al. 2020). By providing these elements, users are able to see their progress and feel a sense of accomplishment, which boosts their confidence in their abilities. Refers to Lavoué et al. (2021) this feeling of competence not only validates their efforts but also increases their motivation to engage more deeply with the gamified activity. When users perceive themselves as capable and successful, they are more likely to remain committed and actively participate, leading to higher overall engagement and satisfaction with the experience.

Social Relationships

Social Relationships in gamification are about fostering meaningful interactions and connections among users to enhance engagement and motivation (Sangroya et al 2021). Integrating social elements such as team-based challenges, social sharing, and community features can significantly contribute to this goal. Team-based challenges encourage collaboration and collective problem-solving by allowing users to work together toward shared performance-based or achievement-oriented goals within the game**.** According to Caligiuri et al. (2020) this not only builds a sense of camaraderie but also fosters a

shared sense of purpose and achievement. Social sharing features enable users to share their progress, achievements, and experiences with their peers, which can enhance their sense of belonging and validation (Bateman, 2021). When users see their friends or colleagues engaging with the same activity, it creates a social environment that supports and motivates them to continue participating.

According to Kapri et al (2021) Community features such as forums, discussion groups, and user-generated content allow users to connect with like-minded individuals, exchange ideas, and provide mutual support. These interactions help to build a supportive community around the gamified activity, making users feel more connected and valued. By creating these social opportunities, users are more likely to develop a sense of belonging and investment in the activity (Savard 2013). This social engagement can increase their motivation to remain involved, as they benefit from the social support and encouragement of their peers, leading to sustained participation and deeper engagement with the gamified experience.

Usefulness

Usefulness in gamification focuses on ensuring that the gamified activity delivers genuine value to the user, integrating game elements in a way that enhances both the experience and the practical benefits of the activity (Mulcahy et al 2021) . To achieve this, the game elements should be designed to complement and enrich the core purpose of the activity, rather than simply serving as superficial additions. For instance, if the goal of the gamified activity is to improve user skills or knowledge, the game mechanics such as points, levels, and achievements should be aligned with these educational objectives.

Refers to Schwarz et al. (2020) this alignment is closely related to usability, as it ensures that the game elements are not only engaging but also functional and supportive of the users' goals. High usability means that the game elements are intuitive, accessible, and effectively contribute to the learning process or other intended outcomes. When gamification is both useful and usable, users can seamlessly interact with the game mechanics, deriving practical benefits such as improved proficiency or enhanced understanding of the subject matter, while enjoying a positive and engaging experience.

Influence of gamification strategy

Gamification strategies are important for creating fun and meaningful user experiences (Triantafyllou and Georgiadis, 2022). Features like points, badges, and levels are designed to add value, whether it's practical or just entertaining, to keep users engaged. These strategies need to focus on things like ease of use, user satisfaction, and providing helpful feedback

Intention of Continuous use

According to Zhang et al. (2023) Intention of Continuous use in the context of gamification refers to the user's intention to continue participating in gamification activities over an extended period. To achieve high CUI, gamification strategies must be designed with several key factors in mind. The perceived value to the user should be carefully considered; gamification elements such as points, badges, and levels should add practical or entertainment value to the activity (Mulcahy et al., 2021). For example, in training or educational applications, gamification features should support the learning process and provide real benefits that encourage users to return.

Based on study from Kumar et al. (2023) user satisfaction is also important; a positive experience involving an intuitive interface and constructive feedback can enhance the user's intention to continue using the product or service. Active engagement needs to be maintained through challenges and competitions that match the user's abilities, which can sustain their interest and involvement. The ease of use of gamification elements should be ensured to avoid frustration that may arise from overly complex systems (Villegas et al., 2021). Additionally, high-quality support and feedback can enhance the user experience and reinforce their intention to keep participating. Relevant incentives and rewards can also increase user motivation to stay engaged. By effectively integrating these elements into

gamification strategies, developers can enhance Continuous Usage Intention, ensuring that users remain motivated and engaged with the activities offered (Foroughi et al., 2023). The hypothesized relationships of the research model (see Fig. 1) are as follows.

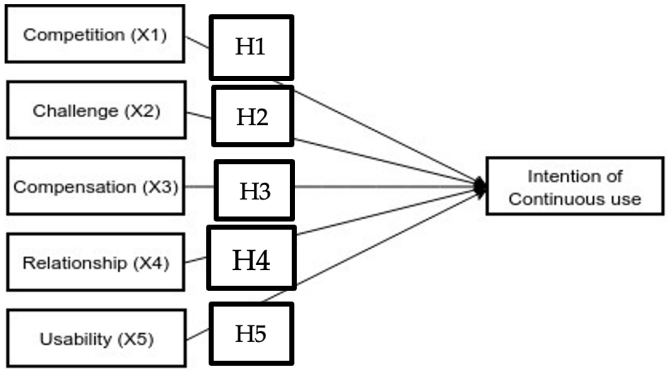


Figure 1. Framework

H1. Competition strategy positively affects Intention of Continuous use
H2. Challenge strategy positively affects Intention of Continuous use
H3.Competence strategy positively affects Intention of Continuous use
H4.Relationship strategy positively affects Intention of Continuous use
H5.Usability strategy positively affects Intention of Continuous use

## METHOD

By examining data from 100 respondents who have downloaded and played online games throughout Indonesia, this study uses a quantitative methodology. Most of the respondents play online games regularly and want to keep playing them in the future. The study's independent variables include competitiveness, challenge, Competence, connection, and usability, as seen in Figure 1. Intention to use continuously is the study's dependent variable. Descriptive statistics, multiple linear regression with SPSS 25, multicollinearity tests, and traditional assumption tests are used in this study's analysis methodology. The study was carried out between July and August 2024.

1) The Measurement

In this study, the researcher used a Likert scale rating from 1 to 5 (with 1 = strongly disagree and 5 = strongly agree). The research variables and their indicators can be seen in Table 1 below:

Table 1. Research variables and operational definitions

| Variables | Variable Concept | Indicator | Scale | Reference |
|---|---|---|---|---|
| Competition | Competition in gamification can be fostered using leaderboards and competitive challenges. Leaderboards rank users based on performance, motivating them to improve and outperform others. This rivalry drives deeper engagement and satisfaction with the gamified activity. | Enjoy competing while playing games.<br>Playing games better than others is important.<br>Winning in games is generally important.<br>Feel frustrated when defeated by others in games.<br>Try harder when competing with others in games. | Likert (1-5) | Yang et al. (2023) ; Bai et al. (2021) |

| | | | | |
|---|---|---|---|---|
| Challenge | Challenge in gamification involves creating tasks that require a balanced amount of effort and skill, avoiding extremes of ease or difficulty. A well-designed challenge aligns with users' abilities, pushing them just enough to foster growth and boost confidence upon completion. If tasks are too easy, they may lead to boredom; if too difficult, they may cause frustration. Properly calibrated challenges motivate users to persist and improve their skills, enhancing engagement and involvement | Testing abilities while playing games is important.<br>Joy is experienced from the challenges while playing games.<br>Skills are used while playing games.<br>Playing games helps develop skills.<br>New challenges in games create excitement | Likert (1-5) | **Therapy et al. (2016);** Sadler (2010); Dah et al. (2023) |
| Competence | Competence in gamification involves creating opportunities for users to enhance their skills and knowledge, improving their sense of achievement. This is achieved through timely, constructive feedback and positive reinforcement, such as rewards and recognition. By acknowledging progress and accomplishments, users gain confidence and motivation, leading to increased engagement and satisfaction | Receiving surprising rewards in games is inspiring.<br>Earning rewards in games is motivating.<br>Completing levels in games is done to earn rewards.<br>Preferring benefits or rewards for efforts in games.<br>Interest is in obtaining items, badges, characters, or points while playing games. | Likert (1-5) | Salman et al. (2024) ; Gutt et al. (2020); Lavoué et al. (2021) |
| Relationship | Social Relationships in gamification focus on fostering meaningful interactions and connections to boost engagement and motivation Incorporating elements like team-based challenges, social sharing, and community features enhances this goal. Team-based challenges promote collaboration and a sense of achievement, while social sharing features improve users' sense of belonging and validation. Community features, such as forums and discussion groups, connect users with like-minded individuals, building a supportive environment and increasing motivation to stay involved. | A human touch is felt in playing the game.<br>Personalization is experienced while playing the game.<br>Ideas can be shared or interacted with others.<br>Closeness and empathy are sensed while playing the game.<br>Care involved in playing the game can be felt. | Likert (1-5) | Sangroya et al (2021); Caligiuri et al. (2020); Bateman (2021); Kapri et al (2021) |
| Usability | Usefulness in gamification ensures genuine value by integrating game elements that enhance both experience and practical benefits, aligning with | Desire to play the game continuously.<br>The game is found to be an easy platform to use. | Likert (1-5) | Mulcahy et al (2021); Schwarz et al. (2020) |

| | | | | |
|---|---|---|---|---|
| | educational objectives and usability to create an intuitive, engaging, and beneficial learning process. | Technical support is not needed to play the game.<br>Belief that most people will quickly learn how to play the game.<br>There is no need to study hard to play the game. | | |
| Intention of Continuous use | Continuous use intention in gamification involves users' desire to keep engaging with gamified activities, driven by factors like perceived value, user satisfaction, active engagement, and ease of use. Designing gamification strategies that offer practical benefits, intuitive interfaces, appropriate challenges, high-quality support, and relevant incentives can enhance user motivation and sustained participation. | Will continue using the game in the future.<br>Will try to maximize the use of the game.<br>Will frequently use the game in the future. | Likert (1-5) | Zhang et al. (2023) ; Kumar et al. (2023) |

2) Multiple Linear Regression Analysis

Multiple linear regression analysis, a method for assessing the impact of contextual variables, business environment, and innovation capability on process innovation, was employed in this study. The form of the regression equation is as follows:

$$Y = a + b1\ X1 + b2\ X2 + b3\ X3 + e$$

Explanation:
Y : Intention of Continuous use
a : Constant
b1 : Regression coefficient of X1
X1 : Competition
b2 : Regression coefficient of X2
X2 : Challenge
b3 : Regression coefficient of X3
X3 : Competence
b4: Regression coefficient of X4
X4: Relationship
b5: Regression coefficient of X5
x5: Usability

## RESULTS AND DISCUSSION

The development model used for this research is the 4D development model, which consists of the following stages: definition (definition), design (system and strategy design), development (system development and implementation), and dissemination (evaluation and dissemination).

### a. Results

Every statement item for every variable (dependent and independent) has an r-count value higher than the r-table value of 0.195, according to the validity test findings. This indicates that every item in the variables examined in this research is legitimate. Cronbach's alpha was used for reliability assessment. The dependability is adequate if the Cronbach's alpha value is higher than 0.60. Since all of

the variables' Cronbach's alpha values range from 0.60 to 0.903, it can be said that the measurement outcomes of every variable in this study are trustworthy.

**b. Classical Assumption Test**

The conventional assumption test is utilised in order to guarantee that the data that has been obtained is suitable for the processing of multiple linear regression variables. Following the completion of the data processing, a conventional assumption test was carried out. In the course of this inquiry, the normality test was carried out by employing the Kolmogorov-Smirnov (K-S) technique and analysing the P-P plot of the Regression Standardised Residual. As shown by the P-P plot of Regression Standardised Residual, which exhibits the data scattered around the diagonal line throughout the graph, the data in this research follows a normal distribution pattern and can be examined using multiple linear regression. This is proved by the fact that the data can be studied using multiple linear regression. On the basis of the findings of the normality test that was carried out with the Kolmogorov-Smirnov (K-S) method, it is established that the data follows a normal distribution. This is demonstrated by the Asymptotic Significance (2-tailed) score of 0.06, which is greater than 0.05. In addition, the Glejser method was utilised in order to conduct the heteroscedasticity test by analysing the significant values of the variables. It may be concluded that there is no heteroscedasticity issue because the significance values (0.883, 0.090, 0.680, 0.258, and 0.053) are all more than 0.05. A further use of the multicollinearity test is to examine the degree to which the independent variables in the regression model are correlated with one another. For a regression model to be considered appropriate, there must be no correlations between the variables that are considered independent. This strategy involves examining the Variance Inflation Factor (VIF) and Tolerance parameters of the regression model in order to achieve the desired results. The VIF and tolerance values of all independent variables are considered to be in compliance with the requirements when the VIF value is less than 10 and the tolerance value is more than 0.10. As a result, it is possible to assert that the independent variables do not display multicollinearity.

**c. Analysis of Facilities and Infrastructure Multiple Linear Regression Analysis**

This analysis aims to determine the influence of the independent variables, namely Competition (X1), Challenge (X2), Competence (X3), Relationship (X4), and Usability (X5), on the Intention of Continuous Use (Y). The results from data processing using SPSS are shown in the following table:

Table 2. Results of Multiple Regression Analysis

| Variable | Regression Coefficients |
|---|---|
| Constant | 0.860 |
| Competition | - 0.008 |
| Challenge | 0.212 |
| Competence | - 0.043 |
| Relationship | - 0.045 |
| Usability | - 0.093 |

As can be seen from Table 2 above, the results of the regression equation are as follows:

$Y= a + \beta1\ X1 + \beta2\ X2 + \beta3\ X3 + \beta4\ X4 + \beta5\ X5 + ę$

$Y= 0.860 - 0.008\ X1 + 0.212\ X2 - 0.043\ X3 - 0.045\ X4 - 0.093\ X5 + ę$

Interpretation of the equation above: (a) The constant value of 0.860 indicates that when competition, challenge, competence, relationship, and usability are assumed to be zero, the baseline level of intention of continuous use is 0.860. (b) A one-unit increase in competition, challenge, competence, relationship, and usability, while holding other variables constant, will change the intention of continuous use by −0.008, 0.212, −0.043, −0.045, and −0.093, respectively.

**d. Testing the Coefficient of Determination ($R^2$)**

R Square (Coefficient of Determination) is 0.119, according to the findings of the Coefficient of Determination computation made with SPSS 25. This indicates that rivalry, challenge, remuneration,

and usability all have an impact on 11.9% of the aim of the continuous use process. Other factors that were not examined in this study have an impact on the remaining 88.1%.

Table 3. T-test results

| Model | Unstandardizeds Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | .860 | 1.620 | | .531 | .597 |
| Competition | -.008 | .052 | -.018 | -.148 | .883 |
| Challenge | .212 | .079 | .349 | 2.676 | .009 |
| Competence | -.043 | .084 | -.062 | -.515 | .608 |
| Relationship | -.045 | .039 | -.133 | -1.137 | .258 |
| Usability | -.093 | .047 | -.229 | -1.958 | .053 |

Based on the SPSS 25 analysis results, the t-values obtained are as follows: competition is -148, challenge is 2.676, Competence is -515, relationship is -1.137, and usability is -1.958. With degrees of freedom (df) = n-k-1 = 110-5-1 = 94, the t-table value at a 95% confidence level (5% significance) is 1.986. If the t-value is greater than the t-table value (or smaller in the case of negative values), then the t-value falls within the critical region (outside the t-table boundaries), which means that the variables competition, challenge, Competence, relationship, and usability each partially have an effect and relationship test on the intention of continuous use.

The results indicate that challenge has a positive and statistically significant impact on players' intention to continue playing online games. This finding suggests that engaging and appropriately designed challenges play a crucial role in sustaining player motivation and long-term engagement. In contrast, competition, competence, social relationships, and game usability do not exhibit a significant effect**,** although these factors may still influence players' overall gaming experience. These findings partially corroborate previous studies such as Linares et al. (2021), which highlight the importance of challenge in enhancing continuous usage intention in online gaming contexts.

The view put forward by (Kaur et al., 2020)that obstacles do not significantly affect the intention to continue playing is in contrast to this. This suggests that these elements do, in fact, contribute to players' motivation to keep playing online games. Additionally, it is evident from the data description on these factors that challenges and Competence are ranked as extremely good. The statement "I use my skills while playing the game" has the highest average score of 4.56, making it the challenge indicator that most influences the intention to continue playing in this study. The statement "I feel that testing my abilities while playing the game is important" has the lowest average score of 4.34. This is in keeping with the study's findings (Shi et al., 2019), which indicate that difficulties play a significant role in boosting the desire to keep playing online games. This suggests that, despite the dangers involved, game makers have a lot more space to explore in order to help gamers.

The study's findings also demonstrate that remuneration significantly affects players' intentions to keep playing. The final hypothesis, that "Competence affects the intention to continue playing," has therefore been satisfactorily demonstrated by this study. The findings of this investigation align with those of the study carried out by (Pulido et al., 2021). The skill of the game creators to design an engaging and difficult Competence system is regarded as very excellent, according to the data description of the Competence variable. The statement 'I complete levels in games to receive prizes' has the highest average score of any indication, averaging 4.58. This suggests that the primary factor influencing players' intentions to keep playing online games is engagement.

According to the study data gathered, the two most played games among gamers are PUBG Mobile and Mobile Legends: Bang Bang. While PUBG Mobile, with its realistic visuals and battle royale mode, also attracts a lot of attention, Mobile Legends, with its competitive MOBA action, is often cited as a top

favourite. Other popular games include Roblox and Free Fire, the latter of which is renowned for its platform that lets users make and play a broad range of games, and Free Fire for its fast-paced action. Additionally, Candy Crush and Genshin Impact also show considerable popularity. Candy Crush remains a popular choice due to its addictive puzzle gameplay, while Genshin Impact attracts attention with its stunning graphics and expansive open world. Overall, Mobile Legends and PUBG Mobile dominate the list of played games, followed by various other games that reflect the diverse preferences in the online gaming world.

## CONCLUSION

Based on the results of the study, the implementation of OpenCart as a means of supporting MSMEs in Tambangan village has had a significant positive impact. Business owners have successfully understood various digital strategies through training, enabling them to develop their companies by utilizing this platform. Compared to traditional marketing methods, OpenCart is more effective in increasing sales and reducing market volatility. OpenCart has the potential to be a comprehensive marketing solution, especially if used carefully to ensure system security and accessibility. With the right collaboration from many parties, including the government and the general public, the implementation of OpenCart can help MSMEs create broader and longer-term business opportunities.

This study aims to analyze the factors influencing players' intention to continue playing online games in Indonesia by examining key gamification elements, namely competition, challenge, competence, social relationships, and usability. Using a quantitative approach and multiple linear regression analysis, this research provides empirical evidence on how these factors contribute to continuous usage intention within the context of online gaming. The study responds to the growing need to understand sustainable player engagement in Indonesia's rapidly expanding digital gaming market.

The findings reveal that challenge is the only variable that has a positive and statistically significant effect on players' intention of continuous use. This result indicates that well-designed and appropriately balanced challenges are crucial in maintaining player motivation and long-term engagement. In contrast, competition, competence, social relationships, and usability do not show significant effects, suggesting that these factors alone are insufficient to predict players' intention to continue playing online games in this study.

From a theoretical perspective, this study contributes to the literature on gamification and online gaming behaviour by demonstrating that not all gamification elements exert equal influence on continuous usage intention. While previous studies often assume that multiple gamification strategies simultaneously enhance engagement, the findings of this study highlight the dominant role of challenge in driving sustained participation. This insight refines existing gamification models by emphasizing the importance of task difficulty and goal-oriented gameplay over competitive or social features.

From an industry perspective, the results provide practical implications for game developers and digital marketers, particularly in the Indonesian context. Developers are encouraged to focus on designing meaningful, progressive, and skill-appropriate challenges to sustain long-term user engagement. Rather than overemphasizing leaderboards, social competition, or external rewards, game designers should prioritize challenge structures that promote player growth and intrinsic motivation. Such an approach supports the development of more ethical and sustainable engagement strategies, aligning with responsible digital consumption practices.

Overall, this study offers valuable insights into sustainable player retention strategies in online gaming. By identifying challenge as the key determinant of continuous usage intention, this research contributes to both academic understanding and practical decision-making in the gaming industry. Future research may expand this study by incorporating larger samples, different gaming genres, or additional variables such as psychological well-being and ethical gaming considerations, to further enrich the understanding of long-term player engagement.

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