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The Effectiveness of Gamification in FitHub Yogyakarta's CRM to Increase Customer Participation and Retention

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ABSTRACT

The digital fitness industry is growing with the adoption of technology that encourages gyms to optimize Customer Relationship Management (CRM). One of the innovative strategies used is gamification, which is the application of game elements such as points, badges, leaderboards, challenges, and streaks in customer interaction. This study examines the effectiveness of gamification in FitHub Yogyakarta's CRM to increase customer participation and retention. The theoretical foundations employed are Self-Determination Theory (SDT), which emphasizes basic psychological needs, and the Stimulus–Organism–Response (S-O-R) model, which describes the psychological process from gamification stimulus to response in the form of involvement. Previous empirical evidence suggests that gamification is effective in increasing engagement, loyalty, and physical activity behavior. However, research in the context of Indonesian fitness centers remains limited. Therefore, this study contributes theoretically to the development of gamification literature and practically by providing gamification-based strategies for gym managers.

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INTRODUCTION

The digital fitness industry is experiencing rapid development as public interest in healthy lifestyles and technology-based service transformation increases (García-Fernández et al., 2020; Hameed et al., 2024; Spanakis et al., 2016). Fitness apps, online sports platforms, and customer relationship management (CRM) systems are now important instruments in maintaining customer loyalty. In the context of fierce competition, the success of a CRM is not only determined by the quality of service but also by its ability to build long-term customer engagement and retention.

One of the increasingly relevant approaches is gamification, which is the application of game elements such as points, badges, leaderboards, challenges, and streaks into non-game systems. Psychologically, gamification can be explained through Self-Determination Theory (SDT), which emphasizes the basic needs for competence, autonomy, and social connectedness. Fulfilling these needs encourages intrinsic motivation in customers to continue participating. Meanwhile, the Stimulus–Organism–Response (S-O-R) framework explains that gamification features function as stimuli that affect the psychological state of the customer (organism), which then results in responses in the form of engagement and retention (Li & Aumeboonsuke, 2025; Li et al., 2023).

Gamification has become a popular approach in strengthening customer engagement on digital fitness services. Elements such as points, badges, leaderboards, and social challenges have been proven to foster a sense of accomplishment, healthy competition, and social

connectedness that encourage continuance intention. Esmaeilzadeh (2021) shows that gamification improves IT identity, which further mediates users' intentions to continue using fitness apps and sharing information. These results are reinforced by Thi and Duong (2025), who found that intrinsic motivation, especially the drive to face challenges and curiosity, has a significant effect on the sustainability of use, with entertainment as an important mediator.

Within the framework of CRM, gamification can act as a digital touchpoint that enriches the customer experience. Ali (2024) proves that e-CRM is able to increase loyalty through a positive customer experience, so the application of gamification in CRM has the potential to strengthen retention, loyalty, and even encourage word of mouth. The Indonesian context is increasingly relevant to the findings of Rahman, Hurriyati, and Hendrayati (2024) that CRM has a real influence on customer engagement, confirming the importance of gamification-based strategies for the local fitness market.

Recent empirical evidence suggests that gamification is effective in increasing brand loyalty through customer engagement (Li & Aumeboonsuke, 2025), reducing customers' tendency to switch (anti-switching) by increasing switching costs (Rakhmanita et al., 2025), and reinforcing consumer positive attitudes in the context of social marketing (Li et al., 2023). In the realm of fitness, gamification has been shown to encourage consistent participation in physical activity, as evidenced in systematic reviews and meta-analyses of randomized controlled trials (Mazeas et al., 2022). These findings show the great potential of gamification as a CRM strategy that not only captivates new users but also maintains customer participation on an ongoing basis.

However, research on the effectiveness of gamification in CRM is still limited to global contexts and common digital platforms. Studies that specifically highlight its application in Indonesian fitness centers, such as FitHub Yogyakarta, are still rare. In addition, there has not been much research comparing the effectiveness of CRM content that uses gamification with non-gamified content in digital channels, even though this aspect is important to understand the extent to which gamification really provides added value.

Based on these gaps, this study aims to analyze the effectiveness of gamification in CRM FitHub Yogyakarta on increasing customer participation and retention. Theoretically, this research contributes to the enrichment of the literature on gamification, SDT, and S-O-R in the context of customer relationship management in the fitness industry. In practical terms, the results of the research can be a strategic reference for fitness center managers in designing gamification-based interventions to increase customer loyalty and sustainability.

RESEARCH METHOD

This study used a mixed-method approach combining content analysis and online surveys to obtain a holistic understanding of the effectiveness of gamification in CRM *FitHub Yogyakarta*. The research data consisted of CRM digital content published through official applications and channels, as well as customer responses collected via online surveys. Content analysis examined gamification elements such as points, badges, leaderboards, social challenges, and streaks through manual categorization, coding, and narrative interpretation to identify patterns and engagement strategies.

The online survey employed a five-point Likert scale questionnaire focusing on customer perceptions of the gamification experience, participation rates, and retention

intentions. Respondents were purposively selected as active customers who had used the CRM application for at least one month.

Data triangulation was conducted by comparing content analysis findings with survey results to confirm and enrich interpretations. The validity of the research was ensured through member checks for qualitative data and reliability tests for the survey instrument. Ethical considerations included maintaining respondent confidentiality, obtaining informed consent, and using data solely for academic purposes. This design aimed to provide a comprehensive and valid understanding of gamification effectiveness in CRM within the Indonesian fitness context.

RESULTS AND DISCUSSION

Content analysis of FitHub Yogyakarta's digital communication materials shows that the most dominant gamification elements used are the points and *badges* system. Points are awarded for each check-in activity and challenge completion, while badges are awarded in recognition of specific achievements, such as "10 exercises in a month." Leaderboards appear weekly and show the most active members, while social challenges, such as the "*Workout with friends challenge*," are less common. CRM communication narrative patterns tend to emphasize aspects of personal achievement and collective motivation, with simple but consistent visualizations.

The results of an online survey (n=120) confirm the effectiveness of these elements. Most respondents (72%) said the points system motivates them to attend more regularly, while 65% consider *badges* to provide an additional sense of accomplishment. As many as 70% of respondents think the leaderboard encourages healthy competition, although 18% feel it creates pressure. Regarding retention intentions, 68% of respondents stated that they intend to continue membership because gamification makes the experience more enjoyable, and 60% feel social challenges help them be more consistent.

Consistency is seen in the dominance of the role of points and *badges* as a trigger for engagement, both in content and member perception. However, there is a slight contradiction: although the leaderboard is promoted intensively, some respondents feel uncomfortable with the competitive element.

The findings of this study are in line with the study of Faizah et al. (2024) who affirmed that gamification in fitness apps encourages ongoing motivation, as well as Angosto et al. (2023) who found that community-based challenges reinforce continued intention to use. In the context of FitHub, *achievement-based rewards* such as points and *badges* have proven to be more effective than competitive elements. This is in accordance with Santos (2024) who emphasizes the role of personal rewards in building engagement, and Liu (2024) who highlights the positive effects of social elements on user retention.

The Indonesian context shows different nuances. Collectivist cultures tend to value social challenges and real rewards, as shown by gamification studies in the retail and automotive sectors (Takaza, 2025). The findings of the FitHub survey support this: respondents rated challenges with friends more fun than individual competition.

Although promising, the use of gamification also faces limitations. The literature of systematic reviews (2023–2025) notes that gamification often leads to short-term spikes in engagement, but risks being saturated if the design is monotonous. This is an important

criticism for FitHub to not only rely on weekly leaderboards, but also design challenge variations, customization based on member preferences, and provide more personalized rewards.

Practically, FitHub is recommended to: (1) balance competitive and collaborative elements, (2) enrich reward design with social and material incentives, and (3) develop a challenge personalization system according to user profiles. For follow-up research, it is recommended to use longitudinal data to assess the sustainability of gamification's effects on real retention, for example through an analysis of check-in patterns over a full year.

CONCLUSION

This study shows that the application of gamification in FitHub Yogyakarta's CRM plays a significant role in increasing customer participation and retention. Content analysis revealed that gamification elements such as points, social challenges, and leaderboards are used consistently to build motivation and engagement. The results of the online survey support these findings, with most respondents saying gamification makes the workout experience more enjoyable while increasing the intention to continue membership. These findings are in line with previous studies that confirmed that gamification drives engagement and loyalty through a positive customer experience. The Indonesian context shows additional relevance, especially social preferences and utilitarian values that make shared challenges and benefit-based rewards more effective. This is consistent with research in the Indonesian e-commerce sector that emphasizes the influence of gamification affordance on customer loyalty. Meanwhile, the longitudinal findings confirm the importance of sustainable strategies so that engagement is not only temporary, as well as the need to mitigate the risk of burnout as reminded in the PRISMA literature review. Theoretically, this study strengthens the application of *Self-Determination Theory and Stimulus–Organism–Response* in the context of digital fitness in Indonesia. Practically, FitHub is recommended to optimize the variety of challenges, balance competitive and collaborative elements, and personalize rewards according to local preferences. Follow-up research needs to use longitudinal data and real behavioral metrics, such as check-in frequency, to assess the sustainability effectiveness of gamification in CRM.

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