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The Effect of Gamification on Performance with the Mediation of Motivation and Employee Engagement

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Gamification;

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Motivation;

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Abstract

This study aims to analyze the effect of gamification, motivation, and employee engagement on performance through an explanatory research design with a quantitative methodology. The population of this study consisted of 76 respondents working at digital start-ups based in Malang City, like Gojek, Grab, and Shopee, with a minimum work experience of one year. Questionnaires and documentation employing a Likert scale were used to collect data, which was later analyzed using SEM-PLS (Structural Equation Modeling). The findings indicate that gamification alone does not directly influence performance levels. However, motivation is crucial in directly affecting performance and mediates the connection between gamification and performance. Conversely, employee engagement does not effectively mediate the relationship between gamification and performance and has no discernible impact on performance levels. These findings suggest that company managers and other stakeholders should consider motivating factors, particularly extrinsic motivation, to improve employee performance. Implementing strategies such as providing additional pay, external incentives, bonuses, and competitive salary packages can effectively boost employee motivation and improve work performance.

1. Introduction

The Covid-19 pandemic in early 2020 brought about significant changes across various aspects of life, including education, health, government, and the economy. To mitigate the rapid transmission of

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Covid-19, "Physical Distancing" measures were implemented, resulting in a new work system known as Work from Home (WFH), where employees must complete their tasks remotely from home. This system was later shifted to a combination system, also known as hybrid working. The shift to hybrid working, combining remote and in-person work, offers several advantages, including increased flexibility, time and cost savings, improved work-life balance, improved productivity, and more quality time with family, ultimately reducing stress levels.

According to Mujahid et al. (2023), employees preferred continuing hybrid working even after the government lifted the "Physical Distancing" measures. This preference stems from the perceived flexibility it offers, allowing employees to work from anywhere and feel at ease while accomplishing their tasks. However, it is important to note that these changes in work patterns can negatively impact the employees, including decreased productivity and motivation. A study conducted by Cintya et al. (2021) in Malang City revealed that implementing WFH unexpectedly led to a decline in employee motivation, resulting from the change in work processes. Companies must adapt to these evolving work patterns to ensure that employee performance aligns with their desired targets. To address such challenges, many companies have embraced gamification as a solution. Gamification involves integrating game design elements into non-game contexts (Deterding et al., 2011). Gamification effectively supports employee performance by incorporating elements such as points, rewards, achievements, and leaderboards. It provides a delightful experience that stimulates employees, which may improve motivation and engagement, ultimately leading to increased productivity (Mollick & Rothbard, 2013).

Previous research focused on using achievement as the foundation of a gamification system has demonstrated its significant potential to improve performance, with this improvement becoming more pronounced over time (Groening & Binnewies, 2019). The findings indicate that employing achievement-based elements can fulfill specific needs, such as the desire for competence, autonomy, and cognitive stimulation. Gamification is a powerful tool for generating motivational and performance-related benefits, but it is crucial to implement it correctly. Including game elements such as points, levels, and leaderboards can improve performance quantity (Mekler et al., 2015). Points establish a clear connection between participant effort and performance, while levels and leaderboards foster performance further by providing explicit goals for users to achieve. Providing users with specific objectives can improve performance rather than simply asking them to do their best.

On the other hand, a study by Kyewski & Krämer (2018) found that gamification did not result in a significant difference in performance when comparing users in gamification conditions to those who were not. Specifically, the utilization of badges was found to be ineffective in improving performance within online learning courses. This research aligns with a study conducted by Hanus & Fox (2015), which demonstrated that implementing gamification, including competitive elements, badges, and leaderboards, can diminish motivation and subsequently hinder performance. Providing badges as rewards and fostering competition and social comparison through leaderboards diminishes motivation and yields lower test results (performance) compared to non-gamified classes.

After reviewing the studies above, it becomes evident that there are disparities in gamification research regarding performance. As a result, the researchers determined to address the gaps identified in those studies. A study by Baptista and Oliveira (2017) suggests that gamification has a significant and positive effect on employee engagement. This study also indicates that gamification positively fosters a competitive atmosphere among employees, leading to improved performance. To achieve this, companies need to employ gamification strategies that are sensitive, creative, and effectively implemented. Another study by Silic and Back (2017) uncovered that gamification leads to better employee performance. Additionally, the enjoyment and fun experienced by employees through gamification have a positive influence on their motivation levels.

Based on those findings, the researchers discovered a strong correlation between employee motivation and performance. The results indicate that game design elements can influence motivation and improve performance. Building upon those results, the researchers intended to present motivation and employee engagement as mediating variables in the relationship between gamification and performance. The researchers further aimed to provide a comprehensive understanding of how game design elements can impact motivation, ultimately enhancing performance according to the company's desired outcomes. Gamification has been applied in many aspects of life, such as education and learning systems, to foster a desire to learn and improve the effectiveness of teaching methods (Chen et al., 2015; Lister, 2016; Prakash & Rao, 2015). It is also utilized in working environments to boost motivation, engagement, performance, and productivity and improve training results (Landers & Armstrong, 2015; Lawande et al., 2016; Swacha & Muszynska, 2016). Furthermore, gamification is employed in marketing strategies to enhance user engagement, encourage repeat purchases, and increase sales (Harwood & Garry, 2015; Robra-Bissantz & Lattemann, 2017; Robson et al., 2016).

In Indonesia, particularly, gamification is widely employed by digital start-ups in the E-Commerce sector, including popular platforms like Tokopedia and Shopee and online taxi companies like Gojek and Grab. Incorporating gamification elements in E-Commerce aims to improve customer engagement, encourage repeated application usage, and ultimately drive sales through the platform. In addition to boosting customer engagement, online taxi applications also utilize gamification to improve the performance of their drivers. Gamification motivates drivers, considered company partners, to secure more orders. Various achievements are set as goals for the drivers, such as the distance traveled or the number of customers acquired.

This study was conducted to examine the impact of gamification on employee performance and the role of employee motivation and engagement in this relationship. The study focused on employees working at digital start-ups in Malang City. Building upon existing research gaps and phenomena, the researchers aimed to determine whether gamification directly influences performance. The study also explored the direct effects of gamification on motivation and employee engagement. The researchers then further investigated the direct effects of motivation and employee engagement on performance. Additionally, this study analyzed whether gamification indirectly affects performance through its influence on motivation and employee engagement.

The formulated research problems were: (i) Does gamification directly affect performance? (ii) Does gamification directly affect motivation? (iii) Does gamification directly affect employee engagement? (iv) Does motivation directly affect performance? (v) Does employee engagement directly affect performance? (vi) Does gamification indirectly affect performance through motivation? (vii) Does gamification indirectly affect performance through employee engagement?

2. Materials and Methods

Gamification

Gamification uses game design elements in non-game contexts (Deterding et al., 2011). While gamification is related to games, it is not synonymous with playing games themselves. Several factors come into play to establish clear terminology that distinguishes gamification from games. Gamification incorporates experiential and behavioral features, offers game interactions, and incorporates game design elements. These aspects help differentiate gamification from the gameplay itself. Huotari & Hamari (2012) define gamification as using a game experience to create user value. Gamification goes beyond the use of concrete elements alone. Thus, the definition of gamification cannot be confined to a specific set of methods or mechanisms. Instead, it should be understood as a

broader process through which gasifiers aim to increase the potential of game experiences to achieve certain goals.

Gamification aims to change people's behavior through game design elements that make activities more interesting. In a book by Routledge (2016), gamification is defined as applying game mechanics to non-gaming activities, aiming to make these activities more engaging. Common game mechanics include levels, badges, and achievements, which help generate interest and maintain engagement.

Motivation

Motivation derives from the word "motive," which refers to individuals' needs, desires, will, or encouragement. It is a process that stimulates people to act to achieve a goal. In the context of work, it usually comes in the form of psychological factors that typically drive employee behavior, such as the desire to earn money, achieve success, receive recognition, find job satisfaction, foster teamwork, and more (Robbins, 2000). Motivation represents a cumulative stimulus within individuals that can bring about changes, initiating, directing, coordinating, reinforcing, terminating, and evaluating both motor and cognitive processes (Dornyei & Otto, 1998).

According to Nawawi (2016), motivation can be classified into two forms: intrinsic and extrinsic. Intrinsic motivation comes from within the individual employee and is driven by an awareness of the work's importance, benefits, or meaning. In other words, this motivation stems from fulfilling personal needs, finding enjoyment in work, and striving to achieve goals while holding positive expectations for the future. On the other hand, extrinsic motivation originates from external factors that influence the individual employee to work optimally. In simpler terms, this motivation is driven by high wages or salaries, respected positions or roles with significant authority, praise, punishment, etc.

Employee Engagement

Motivating individuals to become good and hard-working employee exemplifies employee engagement. This concept relates to the active involvement of employees who find satisfaction and enthusiasm in their work. Kahn (1990), one of the early pioneers in employee engagement theory, described engagement as a multidimensional construct connecting employees physically, cognitively, and emotionally. Engagement represents a positive psychological state related to work, expressed through terms like enthusiasm, energy, and passion. It also reflects motivation and a genuine willingness to give focused efforts toward company goals and success (Albrech, 2010).

According to Langton et al. (2019), employee engagement is individual involvement with satisfaction and enthusiasm for the work. Then, Macey et al. (2009) in their book delve deeper into employee involvement, dividing it into two categories: "the feel of engagement" and "the look of engagement." From their perspective, there are four important components in the feel of engagement:

1. The feeling of urgency; urgency is the energy and determination directed toward a goal, driven by a force that encourages action to achieve a certain goal.
2. The feeling of being focused revolves around how employees feel focused on their work, remaining centered and not easily distracted by external factors unrelated to their work context.
3. A feeling of intensity; intensity refers to the degree of focus and concentration that employees invest in accomplishing tasks and achieving goals.
4. Feelings of enthusiasm; enthusiasm represents a psychological state in which employees experience happiness and energy. It is commonly recognized as a positive influence that fuels their motivation and commitment to work.

The look of engagement, in this case, refers to the behavior exhibited by employees who feel involved. Employee behavior may differ from what is observed and expected, and these differences can be observed individually and collectively within the work environment. The components that define engagement behavior are:

Behaving persistently; persistence is the most obvious behavior of engagement, which can be seen in hard-working employees.

1. Responding proactively; being proactive is an engagement behavior that refers to employees' response to threats and challenges that arise in work.
2. Expanding roles: Expanding roles refers to going beyond assisting colleagues or addressing mistakes made by others within the work context, even when it is not the employees' designated responsibility.
3. Adapting to change; being highly receptive to change and innovation means the employees can assist the company in effectively responding to dynamic situations and staying competitive in the face of rival companies.

Performance

A company or organization aims to achieve predetermined results or performance. According to Haynes in Sinambela (2012), the term "performance" itself is derived from the verb "to perform," which can be interpreted as effectively carrying out assigned tasks and fulfilling responsibilities to achieve expected results. In line with the previous statement, Stolovitch & Keeps (1992) defines performance as the achieved outcomes through the successful execution of a requested task. Similarly, Cascio (1992) also suggests that performance refers to accomplishing employee goals concerning the assigned tasks.

Furthermore, Nawawi (2016) argues that performance is accomplished and demonstrated through workability. High performance is achieved when targets are completed within the designated time frame. Additionally, as Hersey & Blanchard (1993) indicated, performance relies on an individual's motivation and capability to fulfill their work responsibilities. Individuals need to possess both willingness and the necessary abilities without a clear comprehension of the task at hand. How to approach it, their willingness alone will be insufficient to accomplish the desired outcome. Meanwhile, Whitmore (2009) defines performance as the execution of the required functions by an individual. He further defines performance as an act, action, and demonstration of skills in a public context.

Research Framework

In the study conducted by Jung et al. (2010) and cited by Mekler et al. (2015), it was found that providing clear goals to users, as opposed to simply asking them to "do their best," leads to an improvement in user performance. Even if the latter group is aware of their performance based on points, it is reasonable to assume that levels and leaderboards further enhance performance. Participants in gamified conditions generate more tags compared to those in average conditions. Therefore, it can be concluded that gamification leads to better performance compared to groups without game elements (Mekler et al., 2015). Similarly, a study by Groening & Binnewies (2019) found that performance in a group with implemented gamification yields higher results compared to other groups without gamification. This finding supports that game design elements, such as achievements, effectively enhance performance over time. Other research studies have also demonstrated the positive impact of other game design elements on performance (Attali & Arieli-Attali, 2015; Landers & Armstrong, 2015; Mekler et al., 2013, 2015).

H_1: *Gamification has a positive impact on performance.*

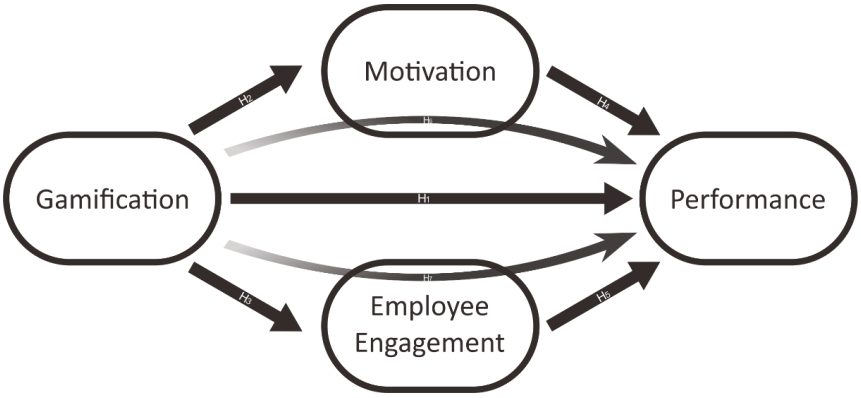


Figure 1 Conceptual Framework

Furthermore, empirical studies have established a correlation between gamification and motivation. In the research conducted by Hamari et al. (2014), gamification was found to have positive effects, specifically an increase in motivation. Gamification, a recently coined term, reflects a social phenomenon that has emerged alongside digitally literate generations. It is defined as using game-based mechanics, aesthetics, and game thinking to engage people, motivate action, encourage learning, and solve problems (Kapp, 2012). Another study by (Mitchell et al., 2018) reported that the implementation of gamification in the workplace fulfills the need for autonomy and competence, indicating a positive relationship between gamification and motivation. These findings align with previous research in gamification, where gamification elements within teams foster healthy competition and social interactions, motivating individuals to compete and contribute (Perryer et al., 2016). Individuals do not want to be perceived as the weakling in their workplace. The study by Sailer et al. (2014) identified three key factors in investigating motivation through gamification: the target of gamification, the gamification environment, and the context.

H_2: *Gamification has a positive impact on motivation.*

Gamification has also been identified as a powerful tool for enhancing employee engagement (Seixas et al., 2016). This finding aligns with previous research conducted by authors such as Denny (2013), Hakulinen et al. (2013), and Kapp (2012). Organizations and companies can effectively engage their employees within the organizational setting by implementing gamification strategies. In a study conducted by Suh et al. (2016), the researchers analyzed how gamification can increase user engagement. The research results confirmed that gamification improves user engagement when game dynamics successfully fulfill their psychological needs.

H_3: *Gamification has a positive impact on employee engagement.*

Concerning performance, companies should proactively develop effective motivation systems to enhance employee motivation towards their work, thereby improving overall performance. As discovered by Kiruja (2013), employee motivation exhibits a positive relationship with employee performance, indicating that fostering higher motivation levels can support improved employee performance. A study by Van Iddekinge et al. (2018) established that monetary incentives play a crucial role in employee motivation and performance, significantly contributing to overall performance outcomes. Another study by Pang & Lu (2018) analyzing the positive impact of motivation on performance also demonstrated that implementing an effective motivational system

involving a competitive salary package and a conducive work environment can lead to enhanced profitability and productivity for companies. Several other studies have also reinforced the influence of motivation on performance (Cardador et al., 2017; Elbaz & Gomaa, M Agag, 2017; Jabagi et al., 2019; Kuvaas et al., 2017; Sjöberg & Karp, 2012).

H_4: *Motivation has a positive effect on performance.*

Moreover, research conducted by Harter et al. (2016) revealed that companies with a high level of employee engagement experience a double success rate compared to those with low employee engagement. Meta-analysis has confirmed a strong correlation between employee engagement and various organizational outcomes. For instance, it has been found that employee engagement leads to a 37% reduction in absenteeism, a 25% decrease in turnover (in high-turnover companies), a 65% decline in turnover (in low-turnover companies), a 28% decrease in shrinkage, a 48% decrease in safety incidents, a 41% decrease in patient safety incidents, a 41% decrease in quality (defect) incidents, a 10% increase in customer metrics, a 21% increase in productivity, and a 22% increase in profitability. Employees who perceive significant support from their organization are more likely to reciprocate by engaging in their work and actively contributing to the company's success (Nazir & Islam, 2017). In line with this, Bakker et al. (2012) found through supervisor ratings that highly engaged employees were evaluated more positively in terms of both task performance and contextual performance. Similarly, Leite et al. (2016) presented research results showing that employees who were more engaged exhibited improvements in work behavior, task performance, and overall impact on performance.

H_5: *Employee engagement has a positive effect on performance.*

Research conducted by Silic & Back (2017) further demonstrated that gamification improves motivation and establishes a strong relationship between motivation and performance. These findings suggest that gamification indirectly influences performance through motivation. Another similar study by Lister (2016) also indicated that gamification positively impacts user motivation, leading to improved performance. Sarangi & Shah (2015) further supported these findings.

H_6: *Motivation mediates the impact of gamification on performance.*

On the other hand, the findings from research conducted by Robson et al. (2016) indicated that increasing employee engagement through gamification positively impacts company performance. These findings align with the results of AlMadi & AlBalawi (2015), which suggested that gamification leads to enhanced employee engagement and subsequently improves company performance. Moreover, the research by Barata et al. (2017), Seixas et al. (2016), and Sengupta & Sengupta (2015) also supported the notion that employee engagement acts as a mediator between gamification and performance.

H_7: *Employee engagement mediates the effect of gamification on performance.*

Methods

This research aims to conceptualize the relationship structure among variables, serving as a guide for the research study, which ultimately leads to the final goal. This study adopts a quantitative approach and is primarily explanatory, often called explanatory research. In explanatory research, researchers aim to test hypotheses and demonstrate a causal or correlational relationship between variables using the same set of data. In this particular study, the impact of gamification on employee motivation, engagement, and performance will be analyzed. The data are obtained through a data collection process from two sources: primary data and secondary data. Primary data are collected

directly by distributing questionnaires to employees. Secondary data, on the other hand, are gathered from institutions related to the companies as the research objects. Researchers collected these data through various sources such as literature, journals, previous research, books, magazines, the web, and other relevant sources to support the analysis conducted in this study and ensure its continuity.

The population of this study consisted of 76 respondents with sample criteria of; employees who work at a digital start-up based in Malang City and have been with their current company for more than one year. Malhotra, as cited in Wijaya (2019), suggests that a representative sample can be obtained by considering the indicators used in the research and multiplying the number by 5 to 10. Data collection in this study is conducted using a questionnaire, which is considered an efficient mechanism when the researcher clearly understands the required information and how to measure the research variables (Sekaran & Bougie, 2016). The questionnaire is designed to gather responses from the participants, reflecting their perceptions on gamification, employee motivation, engagement, and performance. The measurement method employed in this study is the Likert scale.

The data analysis technique employed in this study is Structural Equation Modeling (SEM), which allows for the simultaneous analysis of multiple relationships, thereby providing statistical efficiency. The technique is divided into two components: descriptive analysis and inferential statistical analysis using the SEM-PLS test. SEM-PLS is the preferred method for analysis in this research due to its several advantages; PLS can be applied to data of any scale, does not require a large sample size, employs bootstrapping or random multiplication, and is considered a non-parametric method and, thus, PLS modeling does not rely on a normal distribution of the data. Additionally, PLS allows for the inclusion of both reflective and formative indicators, supports hypothesis testing to confirm a theory, and provides valuable information for explanation, prediction, and confirmation purposes. The PLS analysis consists of three stages: outer model analysis, inner model analysis, and hypothesis testing (Hair et al., 2014). Data management for this study will be conducted using SmartPLS 4.0 software.

3. Results and Discussions

The characteristics of respondents based on age in this study can be seen in Table 1; based on the table above, it can be seen that the age of employees is dominated in the age range of 21-30 with a total of 60 people or 79% and the age range of 31-40 years with a total of 13 people or 17 %, and the rest with an age range above 40 years with a total of 3 people or 4%. From these data, the majority of employees at start-up companies in Malang are millennials with an age range of 21-30 years. As many as 44 or 58% of the respondents were men, and as many as 32 or 42% of the respondents were women. Based on the data listed, it can be said that the respondents in this study were dominated by men, but it can be said to be quite balanced because the numbers obtained are not far enough apart. Last education at undergraduate or strata 1 (S1) level, as many as 63 people or 83%. This number is quite far from the last education taken by other respondents, namely as many as eight people or 11% at the master or strata 2 (S2) level, then followed by the number of 4 people or 5% at the high school level (SMA). One person or 1% at other levels. Employees with less than 2 years of service, only nine people or 12% of all respondents who filled out the questionnaire. Meanwhile, the highest number of years of service was 2 to 5 years with 55 people or 72% and followed by 12 people or 16% of employees who worked with 5 to 10 years of service. The income of the respondents mostly ranged from IDR 2,800,000 – IDR 5,000,000 with 47 people or 62%, then followed by income with a range of IDR 5,000,000 - IDR 15,000,000 with 23 people or 30%, and income less than IDR 2,800 .000 only six people or 8% of the total respondents. Meanwhile, the highest number of years of service was 2 to 5 years with 55 people or 72% and followed by 12 people or 16% of employees who worked with 5 to 10 years of service. The income of the respondents mostly ranged from IDR 2,800,000 – IDR 5,000,000 with 47 people or 62%, then followed by income with a range of IDR 5,000,000 - IDR 15,000,000 with

23 people or 30%, and income less than IDR 2,800 .000 only six people or 8% of the total respondents. Meanwhile, the highest number of years of service was 2 to 5 years with 55 people or 72% and followed by 12 people or 16% of employees who worked with 5 to 10 years of service. The income of the respondents mostly ranged from IDR 2,800,000 – IDR 5,000,000 with 47 people or 62%, then followed by income with a range of IDR 5,000,000 - IDR 15,000,000 with 23 people or 30%, and income less than IDR 2,800 .000 only six people or 8% of the total respondents.

Table 1. Demographics of Respondents

	Category	Frequency	%
Age	21 - 30 years	60	78.95
	31 - 40 years	13	17.11
	> 40 years	3	3.95
Gender	Man	44	57.89
	Woman	32	42.11
Education	Other	1	1.32
	Senior High	4	5.26
	Bachelor	63	82.89
	Master	8	10.53
Work Period	< 2 years	9	11.84
	2 - 5 years	55	72.37
	> 5 years	12	15.79
Salary	< Rp 2.800.000	6	7.89
	Rp 2.800.000 - Rp 5.000.000	47	61.84
	Rp 5.000.000 - Rp 15.000.000	23	30.26

From the questionnaires that have been distributed, obtained 76 respondents will be analyzed to explain the frequency of distribution of respondents' answers, including Gamification, Motivation, Employee Engagement, and Performance, as well as to obtain information about the level of data distribution.

Table 2 Descriptive Statistics

Variable	Mean	Standard Deviation	Cronbach's Alpha	Composite Reliability
Gamification	4.20	0.91	0.958	0.960
Motivation	4.16	0.81	0.914	0.917
Employee Engagement	4.05	0.87	0.937	0.941
Performance	4.18	0.78	0.933	0.939

Based on the table, it can be seen that all Cronbach Alpha and Composite Reliability values in this study were greater than 0.7. It can be said that all construct variables of gamification, motivation, employee involvement, and performance fulfill the reliable requirements.

Evaluation of Convergent Validity is carried out by examining the Outer Loading coefficient of each indicator on its latent variables. An indicator is said to be valid if the Outer Loading coefficient > 0.5. Significance at the Alpha level of 0.05 or t-statistic > 1.96. Based on Table 3, all indicators have a value greater than 0.5. So that it can be stated that the indicators of the constructs of gamification, motivation, employee involvement, and performance have good convergent validity so that all items in this study are valid to be used as benchmarks. Furthermore, the discriminant validity can be seen in the root value of the average variance extracted (ave) by comparing the coefficient value of each

variable with the correlation value of each variable relationship in the research model; each root AVE value is more significant than 0.50. As a result, the items used in this study can be valid.

Structural Model Analysis

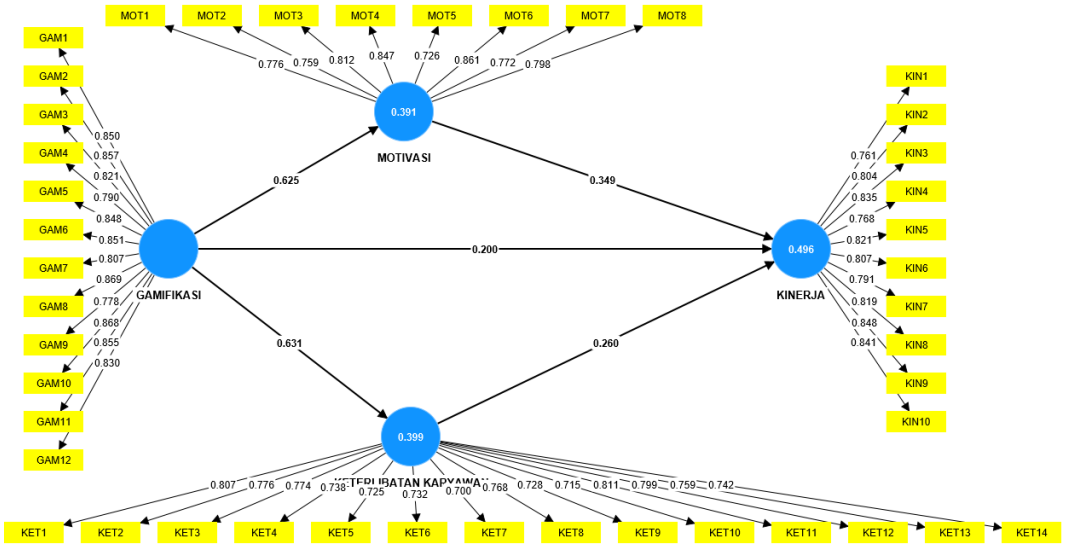


Figure 2 Path Coefficients

Evaluation of the structural model (Inner Model) is carried out to evaluate the level of accuracy of the model in the overall study by forming it through several constructs and their indicators. The approaches taken to evaluate this structural model include the determinant coefficient (R-Square or R2), Predictive Relevance (Q-square or Q2), and Goodness of Fit (GOF). The R2 value obtained is the value of the performance variable of 0.391, then the value of the motivational variable is 0.484, and the value of the employee involvement variable of 0.372 is classified as a moderate model; this value means that the model is good at explaining empirical data. While the Q2 value is 0.803, the results of the Q-Square calculation show that the diversity of performance variables can be explained by the model as a whole by 80.3%, or in other words, the variables gamification, motivation, and employee involvement contribute well to performance. Then the GOF value is 0.809, which means that the model in this study has a high ability to explain empirical data because it is close to number 1.

Hypothesis Testing

Hypothesis testing was conducted to determine the effect of gamification, motivation, and employee involvement on performance either directly or indirectly through the mediation of employee motivation and involvement. Hypothesis testing is done by PLS analysis and by looking at the results of the t-statistic test or the significance value. Hypothesis testing using statistical values in PLS is carried out using the Bootstrapping method; the hypothesis can be accepted if the t-statistic value > t-table (1.96) or p-value <0.05 (5% significance level).

Table 5 Hypothesis Test

	Coefficient Path	T-stat	P-Value	Result
Gamification -> Performance	0.230	1.076	0.282	Not Accepted
Gamification -> Motivation	0.610	3.482	0.001	Accepted

Gamification -> Employee Engagement	0.625	4.097	0.000	Accepted
Motivation -> Performance	0.358	2.156	0.031	Accepted
Employee Engagement -> Performance	0.212	1.319	0.187	Not Accepted
Gamification->Motivation->Performance	0.218	2.069	0.039	Accepted
Gamification->Employee Engagement->Performance	0.132	1.347	0.178	Not Accepted

It can be seen in the direct effect test that there are two rejected hypotheses. In the effect of gamification on the performance of the path coefficient or direct coefficient value of 0.230 with a t-statistic value of 1.076 < 1.96 and a significance value (p-value) of 0.282 > 0.05. The test results indicate that gamification has no significant positive effect on performance. This means that the higher the gamification, the higher the performance, but not significantly. Then on the influence of employee involvement on performance, it can be seen that the path coefficient or direct coefficient value is 0.212 with a t-statistic value of 1.319 < 1.96 and a significance value (p-value) of 0.187 > 0.05. The test results indicate that employee involvement has no significant positive effect on performance. This means that the higher the employee involvement, the higher the performance, but not significant; thus, hypotheses 1 and 5 are rejected. Then on the direct influence of other variables on the effect of gamification on motivation, it can be seen that the path coefficient or direct coefficient value is 0.610 with a t-statistic value of 3.482 > 1.96 and a significance value (p-value) of 0.001 <0.05. The test results show that gamification has a positive and significant effect on motivation; this means that the higher the gamification, the higher the motivation. On the effect of gamification on employee involvement, the path coefficient or direct coefficient value is 0.625 with a t-statistic value of 4.097 > 1.96 and a significance value (p-value) of 0.000 <0.05. The test results indicate that gamification has a positive and significant effect on employee engagement. This means that the higher the gamification, the higher the employee involvement. Then on the effect of motivation on performance, it can be seen that the path coefficient or direct coefficient value is 0.358 with a t-statistic value of 2.156 > 1.96 and a significance value (p-value) of 0.031 <0.05. The test results indicate that motivation has a positive and significant effect on performance. This means that the higher the motivation, the higher the performance. Thus hypotheses 2, 3, and 4 are accepted.

Testing the 6th hypothesis aims to examine the role of mediating motivation in the effect of gamification on performance. The indirect path coefficient value is obtained from the multiplication of the direct effect between the gamification and performance variables and the motivational and performance variables, where the value is 0.218. The t-statistic value obtained was 2.069 > 1.96, and the significance value obtained was 0.039 <0.05. These results indicate that gamification affects performance positively and significantly through motivation, meaning that the higher the gamification will affect motivation and will indirectly affect the higher performance. So motivation acts as a full mediation. Thus, hypothesis 6 is accepted.

Testing the 7th hypothesis aims to examine the mediating role of employee involvement in the effect of gamification on performance. The indirect path coefficient value is obtained from the multiplication of the direct effect between the gamification and performance variables and the employee involvement and performance variables, where the value is 0.132. The t-statistic value obtained was 1.347 < 1.96, and the significance value obtained was 0.178 > 0.05. These results indicate that employee involvement cannot mediate the relationship between gamification and performance, meaning that employee involvement does not have an indirect role between gamification and performance. Thus, hypothesis 7 is rejected.

Discussion

The results of this study contrast with the results of research by Groening & Binnewies (2019), which suggests that performance with implemented gamification can reap higher results. The factor of game design elements that are implemented less can be felt can trigger a lack of influence of gamification on performance. The findings in this study differ from the results found by Benitez et al. (2022); gamification can directly have a positive and significant effect on performance. Looking at the work model in the field, employees are required to work according to customer needs and comply with partner policies; this requires companies or superiors to set goals from the start and must provide feedback quickly about the results of the work and immediately provide information and new tasks to work on. In accordance with the results of the frequency distribution, the setting of goals and direct feedback from superiors does not guarantee that employees can innovate and provide a better quantity of work. Placement of the right design so that users can directly experience the gamification design that is placed in the company's work system can have a direct effect on the performance of employees. The gamification variable cannot be felt by employees, so it has less influence on performance. With the setting of goals and direct feedback from superiors, it does not guarantee that employees will be able to innovate and provide a better quantity of work. Placement of the right design so that users can directly experience the gamification design that is placed in the company's work system can have a direct effect on the performance of employees. The gamification variable cannot be felt by employees, so it has less influence on performance. With the setting of goals and direct feedback from superiors, it does not guarantee that employees will be able to innovate and provide a better quantity of work. Placement of the right design so that users can directly experience the gamification design that is placed in the company's work system can have a direct effect on the performance of employees. The gamification variable cannot be felt by employees, so it has less influence on performance. Placement of the right design so that users can directly experience the gamification design that is placed in the company's work system can have a direct effect on the performance of employees. The gamification variable cannot be felt by employees, so it has less influence on performance. Placement of the right design so that users can directly experience the gamification design that is placed in the company's work system can have a direct effect on the performance of employees. The gamification variable cannot be felt by employees, so it has less influence on performance.

The findings of this study are consistent with the results obtained by Sailer et al. (2017), which state that gamification provides positive benefits for increasing motivation. The game design used can motivate employees so that employees work better. Game design elements used, such as rewards, side by side with extrinsic motivation so that it can motivate employees to achieve their desire to get prizes so that gamification elements can foster motivation from employees. Reviewing the results of the frequency distribution shows that external incentives are an important part of employees' trying to do a better job, so rewards in gamification can be a driving force for employees to have higher motivation. Rodrigues et al. (2021) found that gamification can influence Intrinsic Motivation in a positive direction. The use of gamification design in the context of work can make employees motivated in their work so that it is expected that employees can issue output in the form of better performance. Planning and setting goals from the start can encourage employees to do the work and inspire them to complete the tasks that have been given.

The results in this study are in line with those found by Robson et al. (2016), who argued that gamification can significantly increase employee engagement. Gamification is a method that companies can use to improve and develop the way they engage with users and stakeholders; internally, most of the companies are employees. The gamification design elements used, such as setting clear goals, can increase Physical Engagement so that employees will put their full effort into

a job, where employees will try their best to complete tasks properly and can be said to be directly involved with the company. Passalacqua et al. (2020) revealed research results that were in line with this study; it was found that employee engagement increases when gamification is applied to work. Gamification design elements such as Goal Setting are important factors in which employees will be involved in the work that has been set. Employees will be more focused on doing work indirectly. Employees will devote more attention to the work at hand. Cognitively, employees are more involved in the company with the gamification method used.

In this study, the results obtained were the same as those obtained by van der Kolk et al. (2019), who found that performance increases when employee motivation is high. Employees who feel that work is interesting can be a motivation and can increase the performance desired by the company. Tasks that feel good are the motivation for employees, and this will be directly proportional to the performance produced. The existence of Intrinsic Motivation is one thing that is needed so that the resulting employee performance is better. Employees who perceive work as a motivator for work can perform work to a higher standard. The same results can be found in research from (Van Iddekinge et al., 2018), which states that performance increases when employees have high motivation. Motivation plays an important role in the company so that the desired performance can be achieved; when an employee does not have the motivation to do tasks or complete work from superiors, this affects the resulting performance.

The results in this study contrast with what was found by Ismail et al. (2019), which suggests that high employee involvement will affect high performance. In this study, employee involvement has no significant effect on company performance. High intensity towards a job does not produce maximum results on performance; factors such as understanding a given task can be a factor in the lack of expected performance. Employees who are involved must also receive clear material from their superiors to complete tasks properly and on time.

In terms of Mughal's (2020) research, the results found have similarities with the results obtained by researchers in this study. Employee involvement cannot significantly influence high performance; the energy that has been devoted to work does not support significant results for better performance. Efforts are exerted with all their might, but enthusiasm for work cannot provide the good performance results that are expected by the company.

These results are in accordance with what was stated by Mohanty & Christopher (2023), that motivation acts as a mediation, where gamification has an indirect effect on performance through motivation. In this study, motivation fully mediates the effect of gamification on performance. Gamification cannot directly affect company performance, feedback given directly does not directly affect performance, and motivational variables are needed to improve performance. Looking at the results of the frequency distribution of the gamification variable, there are still many respondents who disagree and strongly disagree; this can cause the quality of the work given to be not optimal. The gamification element cannot be felt directly by employees, so this does not affect performance. Reviewing the values of the characteristics of respondents based on income each month, the results show that 30% of respondents have an income range of IDR 5,000,000 – IDR 15,000,000, and only 8% are employees with salaries below IDR 2,8000,000, according to the Z8 indicator which states that better pay will make employees do a better job. Employees with higher salaries will be motivated and provide better performance, thus indicating that the amount of income is a motivation for employees and can encourage employees to provide better quality and quantity of work. It can be said that through external motivational factors, employee performance can be improved.

The results of this study are inconsistent with the findings of Basit et al. (2021), who suggested that employee engagement can be a full mediation of the effect of gamification on performance. In hypothesis 1, it has been shown that gamification cannot have a significant effect on performance; the presence of employee involvement variables cannot have an indirect effect on improving

performance, so employee involvement does not mediate the relationship between gamification and performance. The characteristic factors of work in digital start-ups that must be prepared for fast changes and with an unpredictable tempo make employees less able to focus on work. This can be seen from the results of the frequency distribution on the employee involvement variable, which still answers neutrally and disagrees with the answers focused on work and being engrossed in work; the cognitive involvement of employees is not optimal, so a lack of focus on work results in less optimal tasks being carried out by the employee. The results of research from Hamza et al. (2022) found that gamification can affect employee involvement, then involvement affects performance, so in this study, it was found that employee involvement succeeded in becoming a mediating variable in the relationship between gamification and performance. These results are different from what the researchers obtained in this study.

4. Conclusion

This research was conducted to analyze the effect of gamification on performance through the mediation of employee motivation and engagement. Based on the results of research data analysis and discussion, it can be concluded that gamification has no significant effect on performance; this indicates that the application of gamification has no impact on the performance of Digital Start-Up employees in Malang City. Gamification has a significant positive effect on motivation; this indicates that gamification can increase motivation in Digital Start-Up employees in Malang City.

Gamification has a significant positive effect on employee engagement; this indicates that gamification can increase the involvement of Digital Start-Up employees in Malang City. Motivation has a significant positive effect on performance; this indicates that the higher motivation of Digital Start-Up employees in Malang City will have an impact on increasing performance. Employee involvement has no significant effect on performance; this indicates that the level of employee involvement has no impact on the performance level of Digital Start-Up employees in Malang City. Motivation mediates the effect of gamification on performance; this indicates that gamification has an indirect effect on the performance of Digital Start-Up employees in Malang City through motivational variables. Employee engagement does not mediate the effect of gamification on performance.

Recommendations for Future Research

The research results do not support the employee engagement model, which states that employee involvement does not mediate the relationship between gamification and performance. Therefore, further research can develop this research by considering other variables, such as organizational support, commitment, and knowledge management, which can mediate the effect of gamification on performance. Future researchers are expected to take a larger sample size and use narrative evidence through interviews to support the empirical evidence analyzed in the study to provide a more coherent picture. Future researchers are expected to take samples from other cities or in a larger scope to obtain research results that can be generalized.

Managerial Implications

Companies need to pay attention to the elements that motivate employees, both internal and external motivation that can motivate employees to work. Maintaining employee motivation will have an impact on good employee performance. Companies need to pay attention to other factors that can support employee engagement so that they can have a good influence on higher performance.

Companies need to consider the elements used in implementing gamification in management so that it is right on target and can improve employee performance.

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