



The Effect of Gamification on Customer Satisfaction through Customer Engagement on the Marketplace

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Info Article

History Article:

Submitted: 15 February 2024

Revised: 03 March 2024

Accepted: 20 March 2024

Keywords:

Customer Engagement;
Customer Satisfaction;
Gamification

Abstract

The rapid growth of the internet has led to the rise of the marketplace industry in Indonesia. Quite a few of these companies are competing to engage with their users and satisfy their customer, one of which is through gamification. This research aims to determine the effect of gamification on customer satisfaction through customer engagement on marketplace users, both directly and indirectly. The method used is a quantitative approach with a descriptive and explanatory research types. The data collection technique uses a questionnaire whose validity and reliability have been tested. The research sample was 200 respondents. The analysis technique used descriptive statistical analysis and Partial Least Square (PLS). Through this research, it is proven that gamification directly has a positive and significant effect on customer satisfaction and customer engagement. Customer engagement also has a direct, positive and significant effect on customer satisfaction. Gamification indirectly has a positive and significant effect on customer satisfaction through customer engagement. Thus, it can be concluded that gamification influences customer satisfaction both directly and indirectly through customer engagement in the marketplace.

Pengaruh Gamification terhadap Customer Satisfaction melalui Customer Engagement pada Marketplace

Abstrak

Tingginya laju pertumbuhan internet turut menyebabkan kian menjamurnya industri marketplace di Indonesia. Tak sedikit dari perusahaan tersebut yang berlomba-lomba melakukan engagement dengan penggunanya dan menciptakan customer satisfaction, salah satunya melalui gamification. Penelitian ini bertujuan untuk mengetahui pengaruh gamification terhadap customer satisfaction melalui customer engagement pada pengguna marketplace baik secara langsung maupun tidak langsung. Metode yang digunakan adalah pendekatan kuantitatif dengan jenis penelitian deskriptif dan explanatory research. Teknik pengumpulan data menggunakan kuesioner yang sudah diuji validitas dan reliabilitasnya. Sampel penelitian sebanyak 200 responden. Teknik analisis menggunakan analisis statistik deskriptif dan Partial Least Square (PLS). Melalui penelitian ini terbukti bahwa gamification secara langsung berpengaruh positif dan signifikan terhadap customer satisfaction dan customer engagement. Customer engagement juga secara langsung, berpengaruh positif dan signifikan terhadap customer satisfaction. Gamification secara tidak langsung berpengaruh positif dan signifikan terhadap customer satisfaction melalui customer engagement. Sehingga dapat disimpulkan bahwa gamification berpengaruh terhadap customer satisfaction baik secara langsung maupun tidak langsung melalui customer engagement pada marketplace.

How to Cite: Puspasari, S.A., Wilujeng, I.P., Ali, A. (2024). The Effect of Gamification on Customer Satisfaction through Customer Engagement on the Marketplace. *Ekonomi Bisnis*, Vol.29 (No 1), 11-23

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ISSN

0853-7283 (print) 2528-0503 (online)

The rapid growth of the internet has led to the rise of the marketplace and e-commerce industry in Indonesia. A new kind of shopping concept has emerged as a result of the marketplace, one that does not require customers to visit stores in person. A data from iPrice Group (2021) shows that there is an increase in e-commerce and marketplace website visitors in Indonesia every year. The increase in visits is clearly noticeable in two marketplaces in Indonesia. Starting from the first quarter of 2020 to the second quarter of 2022, the two marketplaces showed significant visitor growth compared to other e-commerce websites and marketplaces. There was a review by APJII (Association of Indonesian Internet Service Providers) in 2021 regarding the 2 most frequently used online stores in Indonesia. In conducting the survey, 2 online shop applications were obtained, with the top applicant receiving 55% of the total (Indonesian Internet Service Providers Association, 2022).

Customer satisfaction is a manifestation of consumer assessments of the perceived performance of a product or service (Marino & Lo Presti, 2018). Customer satisfaction is an essential indicator for assessing the quality of services a company offers to its users and customers. Ensuring customer satisfaction has the potential to both sustain and grow a company's business. According to Putri & Karim (2019), gamification can be utilized as a strategy for user satisfaction. Gamification provides the means for a fun, enjoyable and interactive customer experience, thereby improving customer satisfaction. The use of game design in non-gaming contexts and environments is known as gamification (Eisingerich et al., 2019). Buhalis (2020) regarded gamification as a technology that

will contribute to future improvements in customer satisfaction and engagement.

Customer engagement is described as an emotional relationship between businesses and their customers, with a particular emphasis on the interaction between customers and customers value. (Al-dmour et al., 2019). The presence of gamification in a business environment may foster relationships and interactions between businesses and users. Subsequently, this may encourage more engagement between the two. This gamification concept was then implemented by the marketplace through combining game features. Through this feature, users will win prizes that they may use to make purchase on the marketplace site. Despite the fact that mobile applications are already an integral part of people's lives, there is still a lack of empirical study on the influence of gamification towards user engagement with mobile applications (Bitrián et al., 2021). Research on gamification in e-commerce is still quite limited, only 2.9% of the reviewed gamification were in the e-commerce/e-services domain (García-Jurado et al., 2021). Given this phenomenon, the influence of gamification on customer satisfaction through customer engagement among marketplace users will be discussed in this research.

The urgency of this research is based on the phenomenon that digital-based sectors, particularly Indonesian marketplaces, are growing at an accelerating rate. The use of gamification as a digital marketing strategy is a popular phenomenon in Indonesia that has not been widely researched. This study aims to discuss and test the influence of gamification on customer satisfaction through customer

engagement, both directly and indirectly, from which the following hypothesis is then formulated.

- H1: Gamification has a direct, positive and significant effect on Customer Satisfaction
- H2: Gamification has a direct, positive and significant effect on Customer Engagement
- H3: Customer Engagement has a direct, positive and significant effect towards Customer Satisfaction
- H4: Gamification indirectly has a positive and significant effect on Customer Satisfaction through Customer Engagement

METHOD

This research uses quantitative methods with descriptive statistical and explanatory approaches. Explanatory research is used to test the relationship between hypothesized variables (Sari et al., 2023). The purpose of this research is to test the influence between the independent variable and the dependent variable through intervening variables, both directly and indirectly.

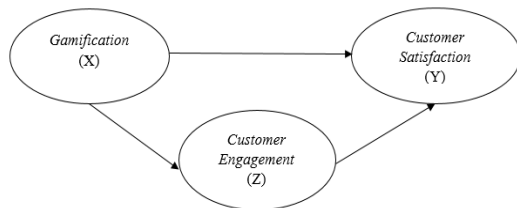


Figure 1. Conceptual Framework

Source: Processed by the Authors (2023)

The population in the research are marketplace users which can be classified as an infinite population, in other words, their numbers cannot be ascertained. The sampling itself was conducted using a non-probability sampling technique, namely purposive sampling. The criteria for respondents in this research are marketplace

users who are >17 years old and have used gamification more than twice. Then a sample of 200 respondents was obtained. A questionnaire was employed in this study's data collection method. Following data collection, two analysis methods—descriptive statistical analysis and partial least squares (PLS)—was used to examine the data.

RESULT

The distribution of online questionnaire resulted in 200 responses that matched the predetermined respondent criteria. Based on the data, out of 200 samples, 180 respondents, or 90% of them were female. This is consistent with research by Muhammad Alif Setiawan published in Sari (2020), which asserts that gender influences the type of game that someone might play. Women tend to play casual games or games that can be played in a short period of time, with a simple rule and concept, and can be enjoyed by everyone. In terms of age, majority respondents between the age of 17-25 totaling over 146 respondents or 73%. This finding is considered appropriate since there is a high level of interest in technology and games in this age group (Anggraeni et al., 2021).

All districts have been represented in this study, although the majority are from Lowokwaru District with 100 respondents or 50%. As for employment status, 130 respondents, or 65%, were students. From the questionnaire results, it can be seen that the average frequency of accessing the marketplace application within 1 month is >7 times, as indicated by the 102 respondents, or 51%, who accessed the site more than >7 times a month. These findings support the claim made by Taruli et al.

(2020) that the degree of customer engagement in an e-commerce can be measured based on the number of monthly active users. A user can be classified as a monthly active user if they use the application at least once a month. Therefore, it can be concluded that there are a significant number of monthly active users of the marketplace site in Indonesia.

Table 1. Variable Frequency Distribution

No. Item	Gamification (X)		Customer Engagement (Z)		Customer Satisfaction (Y)	
	Mean	No. Item	Mean	No. Item	Mean	No. Item
GMF1	3,860	CE1	4,080	CS1	3,825	
GMF2	3,630	CE2	3,925	CS2	3,850	
GMF3	3,675	CE3	3,480	CS3	3,945	
GMF4	3,660	CE4	3,915	CS4	3,990	
GMF5	4,010	CE5	3,990			
GMF6	4,040	CE6	3,580			
GMF7	3,910	CE7	3,705			
GMF8	3,785	CE8	3,435			
GMF9	3,990	CE9	3,655			
GMF10	3,950	CE10	3,470			
GMF11	3,505	CE11	3,200			
GMF12	3,645					
GRAND MEAN	3,805	3,675	3,9025			

Source: Processed by the Authors (2023)

Regarding the duration of using the marketplace website, it was discovered that the majority of the respondents, to be exact 108 of them, or 54%, accessed the website for >7 minutes. This is in line with Likos Corbett's (2017) claim that the level of customer engagement in e-commerce can be measured based on average session duration. In general, a time span of around 2-3 minutes is a good average session duration. This indicates that the typical session length on this marketplace is rather high.

Based on the questionnaire data, it was discovered that, on average, respondents used gamification 2-4 times in

a month. This was demonstrated by data collected from 140 respondents, or 70% of the sample, who reported using gamification 2-4 times in a month. Meanwhile, the average time that respondents spend when using gamification is 2-4 minutes. This is based on the obtained data on the average time that respondents spend when using the marketplace, which for 120 respondents or 60% of them, equates to roughly 2-4 minutes.

Based on table 1. from 200 respondents, the grand mean for the gamification variable was 3.805, indicating that users of the marketplace site considered the gamification feature had been implemented well. The gamification variable's highest mean is located in item 6 (GMF6) with a mean value of 4.404 which indicates that users understand the flow and goals of the game in the gamification feature. The grand mean value for the customer engagement variable is 3.675, meaning that the marketplace users have a high level of engagement with the marketplace site. The customer engagement variable's highest mean is located in item 1 (CE1) with a value of 4.080, indicating that users are happy using the marketplace application. Meanwhile, for the customer satisfaction variable, a grand mean value of 3.9025 was obtained, meaning that marketplace users have a high level of satisfaction with the services on the marketplace application. The customer satisfaction variable's highest mean is located in item 4 (CS4) with a mean value of 3.990, which means that users are satisfied with the variety of features provided by the marketplace.

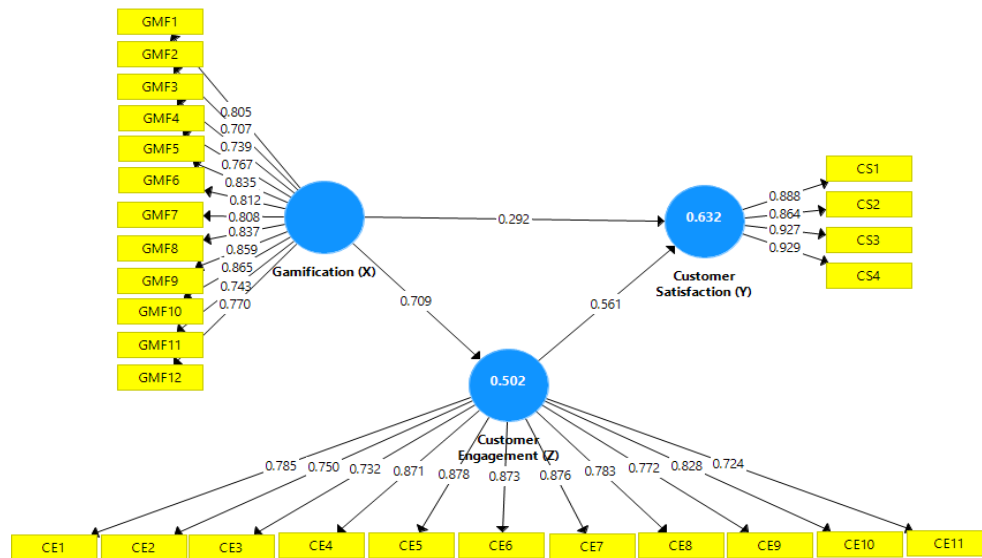


Figure 2. Outer Model

Source: Processed by the Authors (2023)

In addition to performing descriptive statistical analysis, SmartPLS 3.2.9 was used in this study's PLS (Partial Least Square) testing. Through this analysis, weak theories and data can be tested and can also be used to confirm theories. The PLS evaluation model is conducted by assessing both the outer model and inner model. The outer model is performed to test the validity and reliability of a model.

The loading factor value has to be more than 0.7 in order to evaluate convergent validity (Ghozali & Latan, 2014). From the research results, it was found that the loading factor value for all items and all variables had a value of >0.7 so it was declared valid. Apart from that, assessing convergent validity can also be seen from the ave value. If the average value is more than >0.50, it can be deemed as valid.

Table 2. Average Variance Extracted

	AVE
Customer Engagement (Z)	0,654
Customer Satisfaction (Y)	0,814
Gamification (X)	0,635

Source: processed by the authors (2023)

All of the variables in table 2. are determined to have an average value >0.50, indicating their validity. Apart from that,

assessing validity can also be done by assessing discriminant validity by looking at the cross-loading value. Cross loading is said to be valid if the value is greater than other variables. From the existing data, the cross-loading value of the latent variable is proven to be greater than other variables. Therefore, it is concluded that the discriminant validity of the latent variable is classified as good. Furthermore, discriminant validity can be tested by comparing the square root of ave with the relationship between the construct and other constructs.

Table 3. Square Root AVE

	Customer Engagement	Customer Satisfaction	Gamification
Customer Engagement	0,809		
Customer Satisfaction	0,768	0,902	
Gamification	0,709	0,690	0,797

Source: processed by the authors (2023)

From table 3. it can be seen that the square root of the AVE for each variables is greater than the square root of the AVE for the other variables. Therefore, the variables gamification, customer engagement, and customer satisfaction are valid. Apart from conducting validity tests, it is necessary to conduct reliability tests to ensure the

consistency, precision and accuracy of the instrument in measuring the construct. A construct is classified as reliable if it has a composite reliability of >0.7. Apart from that, a construct is also considered reliable if cronbach's alpha is >0.6.

Table 4. Composite Reliability dan Cronbach'a Alpha

	Composite Reliability	Cronbach's Alpha
Gamification	0,954	0,947
Customer Engagement	0,954	0,946
Customer Satisfaction	0,946	0,924

Source: processed by the authors (2023)

Table 4 shows that the variables related to gamification, customer engagement, and customer satisfaction have composite reliability values more than 0.70. Therefore, each of these variables meets the composite reliability rules. Furthermore, the test results also showed that the cronbach's alpha value for each variable above is >0.60, therefore the cronbach's alpha requirements have been met. Thus, it can be concluded that all constructs have high reliability. Aside from conducting an outer model, it is also important to perform an inner model to show the strength of estimates between constructs or latent variables. In this study, the inner model is assessed via R-Square, F-Square, and bootstrapping. To be able to explain how much influence exogenous variables have on endogenous variables, the r-square test can be performed.

Table 5. R -quare

	R-Square
Customer Satisfaction (Y)	0,632
Customer Engagement (Z)	0,502

Source: processed by the authors (2023)

Table 5 show that the customer satisfaction variable obtained an R-Square value of 0.632 (63.2%). The results show that the gamification and customer

engagement variables contributed to the customer satisfaction variable of 63.2%, with other variables influencing the rest. This R-Square value is classified as a high or strong influence category. Meanwhile, the customer engagement variable obtained a value of 0.502 (50.2%), meaning that the customer engagement variable contributed 50.2% to the influence of gamification on customer satisfaction, while the rest was influenced by other variables. This R-Square value can be classified as a medium or moderate influence category.

Tabel 6. F-Square

	Customer Engagement	Customer Satisfaction	Gamification
Customer Engagement			0,426
Customer Satisfaction			
Gamification	1,010	0,115	

Source: processed by the authors (2023)

F-square is to measure the magnitude of the influence of latent variables at the structural level. If the f-square value is 0.02, the latent variable predictor has little effect on the structural variable. An F-Square value of 0.15 has a moderate effect and and value of 0.35 has a large effect. The results of table 7 show that the F-Square of the customer engagement variable on the customer satisfaction variable has a value of 0.426 which is classified as having a large influence. F-Square of the gamification variable on the customer engagement variable has a value of 1.010 which is classified as having a large influence. F-Square of the gamification variable on the customer satisfaction variable has a value of 0.115 which is classified as having a small influence.

Table 7. Result of Bootstrap

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics (O/STDEV)	P-Values
Gamification (X) → Customer Satisfaction (Y)	0,292	0,292	0,074	3,946	0,000
Gamification (X) → Customer Engagement (Z)	0,709	0,712	0,039	18,399	0,000
Customer Engagement (Z) → Customer Satisfaction (Y)	0,561	0,560	0,065	8,594	0,000
Gamification (X) → Customer Engagement (Z) → Customer Satisfaction (Y)	0,398	0,399	0,051	7,870	0,000

Source: processed by the authors (2023)

Then there is a bootstrapping test, through the bootstrapping test the influence between variables can be determined as well as stability and estimation. The bootstrapping method was used to minimize data abnormalities in the research. The test results in table 7 show that the four relationships or hypotheses above have positive coefficient values, which means that there is a positive influence of gamification (X) on customer satisfaction (Y), gamification (X) on customer engagement (Z), customer engagement (Z) to customer satisfaction (Y), and gamification (X) to customer satisfaction (Y) through customer engagement (Z). Aside from that, a hypothesis that has a p-value below 0.05 is declared to be an accepted hypothesis. Therefore, from the bootstrapping results, the p-value for all influences is 0.000, meaning that all.

DISCUSSION

H1. Gamification has a direct, positive and significant effect on Customer Satisfaction

The research results showed that gamification has a direct, positive and significant effect on customer satisfaction. This suggests that customer satisfaction will likely rise in proportion to the quality

of gamification implementation. The frequency distribution results show that the highest mean item from gamification is that games have a clear game flow and goals. According to Fitrado et al., (2021), to achieve user satisfaction, a game system is required to have components that can support the game, including features, gameplay, interface, rules and levels. The presence of feature components that can visually convey the game flow, gameplay components that help developers in understanding the mechanics of the game, rule components, level components, and interface components that are interesting and easily understood, will satisfy users. This explanation further supports the influence of gamification on customer satisfaction because through the existence of a clear game flow and goals it can create a good understanding for users of the game. This explanation further supports the case for the influence of gamification on customer satisfaction by highlighting how well-defined the game's objectives and flow can help improve users understanding of a game.

Aside from that, the highest mean customer satisfaction item is that respondents are satisfied with the various features provided by the marketplace. The features in the marketplace application are

able to create and increase customer satisfaction. One of these various features is gamification in the marketplace application. The existence of gamification in this business process enhance customer's experience in a fun, enjoyable and interactive way which leads to an increase in customer satisfaction. This is supported by results which showed that the majority of respondents, on average, use gamification 2-4 times in a month. When a user feels satisfied with a product/service, they are more likely to use them again. This also contributed to increase in access to marketplace site by users, where in this study the majority of respondents accessed the site >7 times per month.

These results are supported by research by Hsu & Chen (2018), which states that creating pleasant experiences in marketing activities can influence customer perceptions of value, satisfaction, brand love and behavior. This finding aligns with the study from Putri and Karim (2020) which shows the influence of gamification on customer satisfaction. Gamification is said to be a strategy for achieving user satisfaction. Gamification also seeks to improve usability and satisfaction, make an experience more enjoyable, and to have positive impacts on business. Therefore, it can be concluded that gamification of the environment and business activities can have a number of beneficial effects, one of which is an improvement in customer satisfaction.

H2. Gamification has a direct, positive and significant effect on customer engagement

The results showed that gamification had a direct, positive and significant effect on

customer engagement. Such finding suggests that customer engagement tends to increase with better gamification implementation. This supports the claim made by Taruli et al. (2020) in their research that gamification is a marketplace strategy used to engage with users and encourage greater platform activity. This is also supported by the results of respondents' answers which stated that the majority of average time spent using the marketplace was >7 minutes and the average time of gamification was 2-4 minutes. According to Likos Corbett (2017), average session duration is one of the metrics for measuring the level of customer engagement. A good average session duration is in the range of 2-3 minutes. So, it can be stated that the marketplace has a fairly high average session duration.

Other than that, the coefficient value on the relationship between gamification and customer engagement has a higher value than the others. The frequency distribution results showed that the highest mean item from gamification is that games have a clear game flow and goals. Clarity of the flow and objectives of a game increases the user's understanding of the game which will eventually lead them to play the game for an extended amount of time. The opposite will happen if the objectives and game flow are unclear, it can drive players away and diminish their interest in the game. Therefore, the feature and interface components of a game must be well designed to ensure that users do not encounter difficulty while playing (Fitrado et al., 2021).

In actuality, every person has a desire to accomplish the greatest objectives and

to be recognized and honored for their accomplishments. Here, gamification also capitalizes on this trait by making users want to accomplish these objectives, which in turn encourages them to play games longer. In other words, there will be an increase in user engagement with marketplace applications. In addition, the frequency distribution results showed the highest mean item for customer engagement, namely that respondents feel happy when using the marketplace application. Customer engagement may be sustained by making marketplace applications usage enjoyable. These findings are consistent with the research and analysis conducted by Garcia-Jurado et al. (2021), which demonstrates that gamification directly affects consumer engagement in e-commerce.

H3. Customer engagement has a direct, positive and significant effect on customer satisfaction

Customer engagement was found to have a direct, positive and significant effect on customer satisfaction. This implies that a company's ability to engage and build connections with people directly correlates with the level of satisfaction that it generates. Customer engagement is characterized by the repeated interactions between consumers and companies which can strengthen the psychological or emotional side of consumers, brands and companies (hollebeek et al., 2014). This repeated interaction is proven by the results of respondents' answers, the majority of whom use gamification an average of 2-4 times a month and on average access the marketplace site >7 times per month. Realizing customer engagement through repeated interactions

and service experiences leads to satisfaction, behavioral intentions and relationships (wirtz et al., 2013).

The frequency distribution results show the highest mean item for customer engagement, namely that respondents feel happy when using the marketplace application. Customers can feel satisfied when they use the marketplace application and experience happiness and joy. Implementing a good service experience can lead to satisfaction, behavioral intentions and relationships (wirtz et al., 2013). This is in line with the frequency distribution's highest mean item for customer satisfaction, which shows that that respondents are satisfied with the variety of features offered in the marketplace application. Within the context of the marketplace, customer satisfaction may be understood as the level of satisfaction from online shopping sites, which includes reactions or emotions that customers feel while using particular online shopping site.

A corporation that builds stronger relationships and interactions with its consumers is more likely to succeed in making customers feel happy and satisfied when utilizing its products or services. The establishment of a strong relationship between the company and its customers can eventually lead to a high level of customer satisfaction. These findings are consistent with a research by Zaid & Patyawati (2020) which states that customer engagement has an influence on customer satisfaction. In addition, according to Ahn & Back (2018), customer engagement has several impacts, such as commitment, loyalty, satisfaction and trust. Therefore, the more the company and the

customer interact or connect, which in this case is present in the form of customer engagement, the greater the level of customer happiness that results.

H4. Gamification indirectly has a positive and significant effect on customer satisfaction through customer engagement

Gamification was also found to indirectly have a positive and significant effect on customer satisfaction through customer engagement. These results align with the research by Xi & Hamari (2019), which claims that features of gamification and brand equity were mediated by customer engagement. Although the research does not explicitly state that customer engagement mediates the correlation between gamification and customer satisfaction, it is stated that customers who have high engagement are more satisfied and loyal to that brand. This occurs because the use of gamification in marketplace apps can raise user satisfaction levels due to the interaction or development of relationships between marketplace companies and customers.

In several studies, the customer engagement variable also plays a role in mediating the relationship between the independent and dependent variables. Research by wirtz et al., (2013) conceptualizes online brand engagement as a mediator between engaging with a brand and increasing brand satisfaction and commitment. Apart from that, thakur (2019) in his research validated the proposed moderator role of customer engagement in the satisfaction-loyalty relationship. This explanation is strengthened by the calculation results with the highest mean value for each variable. In

the gamification variable, the highest mean value is that marketplace application users understand the flow and goals of the game in the gamification feature. The customer engagement variable with the highest mean value is that users feel happy when using the marketplace application. In the customer satisfaction variable, the highest mean value is that users feel satisfied with the various features provided by the marketplace. Based on the above, it can be interpreted that gamification influences customer satisfaction through customer engagement.

CONCLUSION

It can be concluded from the research findings that gamification has a direct effect on customer engagement and customer satisfaction in the marketplace. Customer engagement as an intervening variable also has a direct effect on customer satisfaction in the marketplace. Additionally, the gamification variable indirectly influences customer satisfaction through customer engagement in the marketplace. Thus, all hypotheses are accepted. However, this research has limitations in terms of the area where the research is conducted. Aside from that, this research only focuses on one version of the game. Therefore, further research can be done by focusing on other versions of the game and on a wider regional scope. Moreover, the marketplace can add other games that are not only engaging, but also more interactive, which can involve more interaction between fellow marketplace users. Not only that, considering that gamification is not an element that has a big influence on customer satisfaction, the marketplace needs to add and improve other elements that have a more direct

influence on customer satisfaction, for example adding a variety of features to the marketplace application that benefits users.

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