

The Moderating Effect of Gamification on Loyalty Program Usage in Indonesian E-Commerce

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ABSTRACT

Previously, existing research has not comprehensively examined the determinant factors of loyalty programs, and there is limited research that analyzes the gamification of loyalty programs in e-commerce. The research investigated the determinant factors of loyalty program usage, focusing on the moderating effect of the gamified loyalty program. The research applied a quantitative method using Structural Equation Modeling (SEM) with AMOS. Then, the unit of analysis was the users who played the Lucky Egg. The population size was unknown due to limited access to the e-commerce company, so the sample size was determined using ten times indicators. Around 242 respondents were gathered using convenience sampling. The result confirms that seven hypotheses are accepted, and one hypothesis is rejected. The determinant factors of loyalty program usage are playfulness, affective commitment, and attitude toward loyalty program. The interaction moderation analysis shows that the loyalty program increases loyalty program usage. However, the reward attractiveness does not affect the loyalty program directly and must be mediated by attitude toward the loyalty program. The R² value of attitude toward loyalty program is 58,3%, and loyalty program usage is 58,5%. The research extends the loyalty program usage model in Indonesian e-commerce, and gamified loyalty program is proven as moderating variable of loyalty program usage.

Keywords: gamification, loyalty program, Indonesian e-commerce

INTRODUCTION

According to Kemp (2018), Internet users in Indonesia reached 132,7 million as of January 2019, with a penetration rate of 50% (equivalent to 262 million people). Data on active social media users were 130 million, while registered mobile phone users were 177,9 million or as equal to 67% of Indonesia's entire population. The same survey also revealed that 120 million active social media users accessed the servers using mobile devices. Moreover, the data showed that the majority of Indonesians started to use the Internet to look for products/services (45%), visiting online shops (45%), and buying goods/services through computers or smartphones (40%).

The high level of internet usage is one of the forces that drive e-commerce growth in Indonesia (Widowati, 2019). E-commerce is a dynamic set consisting of technology, applications, and business processes. It connects companies, customers, and communities through electronic transactions. Approximately 75% of online shoppers make transactions in e-commerce at least once a month (IPSOS, 2018). Moreover, Indonesia is among the ten countries with the fastest e-commerce growth, and it has increased by 78% since 2019 (Merchant Machine, 2019).

Since 2014, there has been significant growth, recorded around 60-70%. At that time, Indonesia's e-commerce market has been considered relatively

small compared to regional pioneers in China. The significant gap is proven that in 2016, Indonesia's total e-commerce retail sales totaled 1,6%, while e-commerce retail sales total in China amounted to 13%. Meanwhile, in 2017, e-commerce drove online sales growth in 24 Indonesian provinces. The top five most visited e-commerce websites during the second quarter of 2019 were Tokopedia, Bukalapak, Blibli, Lazada, and Shopee. It also showed that Tokopedia was at the first level of mobile e-commerce shopping application for having the most active users in Southeast Asia in the second quarter of 2019 (Moore, Akib, & Sugden, 2018).

Tokopedia has had a significant role in Indonesia with the collaboration between sellers, buyers, and business partners (Weboffice, 2019). In 2018, the total number of buyers increased to 5 million, and in 2019 the number of sellers increased to 6,4 million. New sellers were 86,55%, and traders included in the ultra-micro category were 94% (Moore et al., 2018). Through that statement, it is assumed that competition between Indonesian e-commerces gets tougher than before. Therefore, the government has a role in making regulations for all activities in e-commerce to protect both parties.

The government will encourage technopreneurs' growth and strengthen technical infrastructure, business strategies, and digital marketing strategies that play an essential role in increasing e-commerce profitability (Lukito, 2017). According to Yudhoatmojo and Ramadana (2016), one method to get customers' attention is the gamification feature. In recent years, the increase in online games, social devices, and compilations applied to electronic businesses has produced new attractive trends to the user experience and active participation through gamification (Hsu & Chen, 2018). In short, a must-have e-commerce feature that can attract users is gamification to increase profitability.

Gamification has been highly emphasized since 2010 and began to be popularly studied since 2011. A previous study about gamification has been conducted in a variety of fields, such as service/brand (Hamari, 2017), product adoption (Müller-Stewens, Schlager, Häubl, & Herrmann, 2017), education (Putz, Hofbauer, & Treiblmaier, 2020), online brand communities (Xi & Hamari, 2020), digital health program (Floryan, Chow, Schueller, & Ritterband, 2020), and retail (Hwang & Choi, 2020; Hsu & Chen, 2018). The application of gamification has been adopted rapidly since 2016, but not many of them have been realized. Gamification has changed from a new concept to a tool used by designers worldwide since 2017.

According to Pratama (2017), the application of gamification in Indonesia has begun since 2017, such as giving rewards to customers who frequently shop in the stores. For example, Gojek, one of the service applications, launched a customer loyalty program called GO-POINTS around January 10, 2017. The program users had first to play a mini-game to determine how many points they would collect

(Faspay, 2018).

Gamification makes products, services, or applications, more fun, exciting, and motivating (García-Jurado, Castro-González, Torres-Jiménez, & Leal-Rodríguez, 2019). Gamification uses design thinking and game mechanisms to engage users, increase loyalty, and solve behavioral economic problems (Rodrigues, Oliveira, & Costa, 2016). In a business context, gamification refers to designing products and services to provide experience through games to create value and encourage more positive responses (Hwang & Choi, 2020). The main types of game mechanics include badges, points, and leaderboards (Tobon, Ruiz-Alba, & García-Madariaga, 2020). Thus, gamification applies game rules to non-game applications to make the application more fun and exciting.

Applications use gamification, including gifts-offering for customers, and provide compilation information for specific purposes or supplements that indicate achievement level. The purpose of gamification is to make users happy, motivated, or attached to the products and services by using familiar elements in games (Yudhoatmojo & Ramadana, 2016). Gamification can be used in e-commerce for different purposes, such as creating content, increasing conversions, and supporting user loyalty (García-Jurado et al., 2019). Changing some activities or processes into games, specifically through various game design elements, such as an achievement imbalance, can induce the desired change (Groening & Binnewies, 2021).

Gamification has been applied in various sectors of life to encourage users' activity. Large companies such as Amazon or eBay have used game elements to encourage user activity (García-Jurado et al., 2019). eBay is a leader in retail gaming that uses gamification to simplify the bidding process in electronic auctions. In the education sector, gamification is used to promote behavior change (Putz et al., 2020). In the banking sector, gamification improves engagement without paying high fees or face-to-face relationships (García-Jurado et al., 2019). Then, in the health sector, gamification stimulates a sense of control and serves as an encouragement for customers to engage with health applications to share experiences and motivate them to perform better and avoid the shame of failing to achieve health goals (Eisingerich, Marchand, Fritze, & Dong, 2019).

Several e-commerce companies have implemented gamification to provide comfort while maintaining service users amid intense competition in Indonesia. The examples of local e-commerce that has implemented gamification are Tokopedia, Shopee, and Blibli. Tokopedia has the interactive game feature of Lucky Egg, Shopee with Shake Shopee feature, and Blibli with CAPIT mini-games. The purpose of the feature or program is to allow users to get attractive prizes, such as extra points, loyalty, or coupons.

The company's goal of providing comfort and establishing relationships with its customers is to

form strong loyalty. Loyalty programs are tools for building brand equity to increase value as competitive tools, such as personalized offers, gifts, and additional services (NastasoIU & Vandebosch, 2019). The loyalty program aims to create incentives to shop from the same store several times. Then, it leads to an increase in the company's customer retention rate and repeat purchases. Loyalty programs cover various trade types, such as e-commerce and retail stores (food retail, models, and electronics) (Figueiredo, 2019). Companies can use loyalty programs to offer additional benefits to customers, such as cashback, discounts, or other rewards (NastasoIU & Vandebosch, 2019). For example, there is a loyalty program of Tokopedia named TokoPoints.

According to Setiawan, Winati, Achmadi, and Shafira (2016), several reliable loyalty indicators exist. First, the customers say positive things about the products that have been consumed. Second, they recommend the products that have been consumed to their friends. Third, they continuously purchase the products. Gamification can be a marketing and business strategy used to increase customer engagement and loyalty.

The previous study has studied the effect of gamification on the loyalty program in the coffee shop business, Starbucks (Hwang & Choi, 2020). A loyalty program known as My Starbucks Reward has used a bingo game. The research uses an experimental method by taking samples from Starbucks customers in America. The study has also conducted a test of engagement between variables, such as reward type (self-oriented vs. altruistic) (Dose, Walsh, Beatty, & Elsner, 2019; Eason, Bing, & Smothers, 2015), Playfulness (Lee, 2020), gamified loyalty program (Palmer, Lunceford, & Patton, 2012), attitude towards loyalty program, (Bittner & Shipper, 2014), loyalty of the program, intention to participate in the loyalty program (Yi & Jeon, 2003), (Evanschitzky et al., 2012), intention to download the application (Koo & Fishbach, 2012) to see the effect of gamification on the loyalty program developed by Starbucks.

The research examines the gamified loyalty program, playfulness, attitude towards loyalty program, and loyalty program usage as the variables. Attitude is defined as an individual's positive or negative assessment of an entity's focus or behavior (Hwang & Choi, 2020). In the research, the attitude towards loyalty program refers to a positive or negative attitude of a person to the loyalty program. Moreover, the additional variables that will be tested are reward attractiveness (So, Danaher, & Gupta, 2015) and affective commitment (Goutam, Gopalakrishna, & Ganguli, 2021). The reward attractiveness can direct users to the benefits they will receive and indirectly increase their loyalty to the program. The better the reward attractiveness is, the more customers will feel the benefits of the loyalty program (So et al., 2015). Meanwhile, affective commitment reflects customers' emotional attachment to service providers (Izogo, 2017). Affective commitment is an emotional

attachment to a brand that creates a sense of ownership and personal identification with a product or service (Rather, Tehseen, & Parrey, 2018).

Playfulness is a complex concept, although, in the context of virtual environments (e.g., web browsing and online retail), it has been defined as an implicit belief in the effect of interactions on enjoyment or cognitive absorption (Ahn, Ryu, & Han, 2007). The dimensions of playfulness are concentration, curiosity, and enjoyment (Lee, 2020). In the process, individuals' attention will be on playing field activities to narrow the focus, and irrelevant ideas and perceptions can be removed. It will make people lose self-awareness to become immersed in activities. Then, curiosity will arise while playing to discover interesting interactions in the enjoyment of activities. It can be said that playfulness is the effect of enjoyment and pleasure encountered by individuals when they play or experience interesting interactions.

The influence of playfulness on attitude towards loyalty program is investigated by Ahn et al. (2007), Lee (2020), and Hwang and Choi (2020). According to Ahn et al. (2007), people will feel that interaction is intrinsically rewarding than extrinsic when playing the game. The engagement will arise when people feel fun and enjoy their activities. Hence, playfulness has a significant and positive effect on an individual's attitude toward online retail. It means that users are more likely to continue using online retail when they find it pleasing and shift their loyalty to a more enjoyable site. It is also confirmed that playfulness and attitude towards the program serve as a mediation mechanism that underlies the impact of gamification on loyalty programs (Hwang & Choi, 2020). Based on the explanation earlier, the research examines the effect of playfulness on the attitude towards loyalty program (H_1).

Reward attractiveness is a significant factor for joining a loyalty program. The reward attractiveness, the benefits of knowledge, and the required effort impact members' perception of the loyalty program (So et al., 2015). Similarly, efforts to redeem rewards are one element that drives customer's gift preferences. If the redemption system of the loyalty program is problematic or delayed, customer's motivation will decrease (Phuc, 2019). Based on the explanation, the research examines the effect of reward attractiveness on attitude towards loyalty program (H_2).

The effect of affective commitment on attitude towards loyalty program has been examined by Tanford, Raab, and Kim (2011) and Rather et al. (2018). It is argued that customers with a high level of affective commitment are less likely to switch, willing to pay more for services, and more likely to recommend companies to others. Customers with high levels of affective engagement consider the loyalty factor to be more significant. As a result, the higher the emotional engagement is, the greater the user's view will be on their favorite reward program. It shows that heavy purchasers at the early stages of the loyalty program are likely to exchange their eligible rewards,

but they are not urged by the program to alter their buying behavior. However, customers who are low or moderate purchasers gradually become more loyal to the brand. For light buyers, the loyalty program has broadened their relationship with the company to other business areas (Tanford et al., 2011). Based on the explanation, the research examines the effect of affective commitment on attitude towards loyalty program (H_3).

The implementation of gamification in businesses is an application of science that improves customer engagement. Customers' determinant factors to shop online are playfulness, perceived ease of use, and usefulness (Ahn et al., 2007). It is confirmed that perceived playfulness can increase satisfaction and contribute to the intention to continually use an e-book application (Liu, Shao, Liu, & Zhao, 2021). Playfulness is also the predictor of loyalty that inspires the users to play and recommend the game to their friends and relatives. The previous research mentions that loyalty program usage is significantly higher for a loyalty program with gamification than without gamification. It significantly mediates playfulness and attitude towards loyalty program in the impact of gamification. In short, playfulness has a significant indirect effect on the impact of gamification on loyalty program usage (Hwang & Choi, 2020). Based on the explanation, the research investigates the influence of playfulness on loyalty program usage (H_4).

Customers with a high degree of affective loyalty will prefer their chosen product and actively recommend it to their friends and relatives. Active commitment will have a role in growing customer satisfaction. Moreover, loyalty services not only build the customers' commitment but also show the commitment of the organization. Increasing customers' trust that their personal information will be appropriately used to support and strengthen relationships is essential for the loyalty program's sustainability and efficacy (Stathopoulou & Balabanis, 2016). Based on the explanation, the research investigates the effect of affective commitment on loyalty program usage (H_5).

The reward of a loyalty program must be aligned with the main services and products to improve satisfaction and trust (Stathopoulou & Balabanis, 2016). The behavioral impact of compensation refers to a persistent rise in long-term transactions. It results from factors such as recognition of earned gifts and greater loyalty to the organization. Moreover, the factor that influences the growth of continuous transactions is the appreciation of the offered rewards. However, according to Evanschitzky et al. (2012), giving discount vouchers does not affect user loyalty, so companies should develop a loyalty program. Based on the explanation, the research investigates the influence of reward attractiveness on loyalty program usage (H_6).

Customers who use loyalty programs will demonstrate an attitude towards the loyalty program (So et al., 2015). According to Putra, Hartoyo, and

Simanjuntak (2017), the customer's attitude is a clear way of showing positive or negative attitudes towards a brand, service, individual, or event. Hence, the company must meet customers' standards to create customer loyalty, product, brand, or service quality assurance. Based on the explanation, the research analyzes the impact of attitude towards loyalty program on loyalty program usage (H_7).

Gamification has been used to promote behavioral change because humans prefer to compete, challenge and communicate socially. According to Yi and Jeon (2003), the relationship between customer satisfaction and customer loyalty can be divided into four groups. First, it is a failure. It happens when the level of satisfaction and loyalty is low or, in this case, unsatisfied and disloyal. Second, defectors (intersections) are when there is high customer satisfaction but low loyalty. Third, forced loyalty is when customer satisfaction is low, but loyalty is high. It can happen because customers feel tied to the company's loyalty promotion program. Fourth, it is a success if the level of customer satisfaction and loyalty is high.

Moreover, customers become loyal at any point of the actions related to the different systemic elements of behavior modification (Evanschitzky et al., 2012). Then, a loyalty program with gamification elements will enable customers to feel more optimistic about the loyalty program (Bittner & Shipper, 2014). Based on the explanation, the research investigates the relationship between attitude towards loyalty program and loyalty program usage as moderated by a gamified loyalty program (H_7).

The previous researchers have not examined the determinant factors of loyalty program comprehensively. Therefore, researchers develop the research model by accommodating the affective commitment and reward attractiveness as determinant factors of loyalty program in Indonesian e-commerce. Moreover, the research also examines the gamified loyalty program as moderating effect of loyalty program usage. Previously, Hwang and Choi (2020) examined the coffee shop industry. Meanwhile, the research focuses on Indonesia's e-commerce. It investigates the determinant factors of loyalty program usage, focusing on the moderating effect of the gamified loyalty program. The research benefit is that the academics and e-commerce management will get a better understanding and formulate an action plan for improving the gamification of the loyalty program.

METHODS

The research applies a quantitative method to examine the populations and samples using statistical procedures (Eisingerich et al., 2019). Researchers administer electronic questionnaires using Google Forms, and the data collection has been undertaken from November to December 2019. Researchers routinely submit online invitations to the prospective

respondents to fill out questionnaires. The targets for the questionnaire distribution are users and sellers of Tokopedia, who join the Line group, the Indonesian Line Marketplace Group, and from the researchers' social media accounts. The population in the research is not known due to limited access to the knowledge of the internal data of Tokopedia users. The target population is Tokopedia users in Indonesia (Ahn et al., 2007). The sampling technique is convenience sampling through a filtering process. (Hsu & Chen, 2018). The criteria for respondents are Tokopedia users who have played Lucky Egg.

The research uses an approach of 10 times the number of indicators to determine the number of samples. The questionnaire indicators have 22 items. So, the minimum sample size is 220 respondents. However, the researchers can collect 242 eligible respondents for data analysis.

The analysis method in the research is Structural Equation Modeling (Hwang & Choi, 2020; So et al., 2015) and AMOS version 22 as the software. There are three independent variables, namely reward attractiveness, playfulness, and affective commitment. Meanwhile, the moderating variable is the gamified loyalty program, the mediating variable is the attitude towards the loyalty program, and the dependent variable is loyalty program usage. Playfulness illustrates the degree of fun in the TokoPoint gamification, and the indicators are from Hwang and Choi (2020). Then, reward attractiveness describes how attractive the prizes or rewards that TokoPoints offers for users. The

indicators are adapted from So et al. (2015). Affective commitment illustrates how strong the user's affective commitment is to TokoPoints. Its indicators are adapted from Evanschitzky et al. (2012). All indicators are measured using a five-point Likert scale between strongly agree and strongly disagree.

RESULTS AND DISCUSSIONS

Table 1 shows the respondents' profile and purchase behavior in Tokopedia. They have ever played Lucky Egg. Based on gender, 51,2% or 124 respondents are male, and 48,8% or 118 respondents are female. For age, most of the respondents are 18 to 22 years old (56,6% or 137 respondents). The result is followed by 23 to 27 years old (21,1% or 51 respondents), 28 to 32 years old (7,9% or 19 respondents), 33 to 37 years old (5,4% or 13 respondents), over 37 years old (4,6% or 11 respondents), and below 18 years (4,5% or 11 respondents). Then, in educational background, 49,6% or 120 respondents have a senior high school education level. The others are 44,2% or 107 respondents for undergraduate education level and 6,2% or 15 respondents for master, doctoral, or other education levels. By profession, 54% or 132 respondents are students. The rests, 40,9% or 99 respondents, are employees, and 4,5% or 11 respondents are entrepreneurs. Based on the respondents' profile, most of the respondents who play the Lucky Egg are males aged 18 to 22 years old and students and have senior high school degrees.

Table 1 Descriptive Analysis of Respondents' Profile and Purchase Behavior

		Question			
Gender		%	Occupation		%
Male	124	51,2	Employee	99	40,90
Female	118	48,8	Student	132	54,55
Age			Entrepreneur	11	4,55
< 18 y/o	11	4,55	E-Commerce Purchase Frequency		
18–22 y/o	137	56,61	0 time	36	14,88
23–27 y/o	51	21,07	1–3 times	172	71,07
28–32 y/o	19	7,85	4–6 times	23	9,50
33–37 y/o	13	5,37	> 6 times	11	4,55
> 37 y/o	11	4,55	E-Commerce Purchase Value		
Education Background			< Rp100.000,00	42	17,4
Senior High School	120	49,6	Rp100.000,00–Rp500.000,00	144	59,5
Undergraduate	107	44,2	Rp500.001,00–Rp1.000.000,00	31	12,8
Master	6	2,5	> Rp1.000.000,00	25	10,3
Doctoral	1	0,4	Purchase Type		
Others	8	3,3	Shopping	211	87,2
			Top-up and Bill	25	10,3
			Entertainment, Finance, and Travel	6	2,5

N= 242 Respondents
y/o: years old

Based on the frequency of shopping on e-commerce, 71% or 172 respondents have an average shopping on e-commerce sites once to thrice per month. Meanwhile, 14,9% or 36 respondents do not purchase goods on e-commerce sites, 9,5% or 23 respondents have an average shopping on e-commerce four to six times per month, and 4,5% or 11 respondents have an average shopping on e-commerce over six times per month. Then, in the e-commerce purchase value, 59,5% or 144 respondents spend Rp100.000,00 to Rp500.000,00. The result is followed by below Rp100.000,00 (17,4% or 42 respondents), Rp500.001,00 to Rp1.000.000,00 (12,8% or 31 respondents), more than Rp1.000.000,00 (10,3% or 25 respondents). For the purchase type, 87,2% or 211 respondents do the shopping on the e-commerce. Meanwhile, 10,3% or 25 respondents use top-up and billing features, and 2,5% or 6 respondents use entertainment, finance, and travel features in e-commerce. Based on the respondents' purchase behavior, the research concludes that most of them use e-commerce for shopping and purchase goods in e-commerce once to thrice per month by spending Rp500.001,00 to Rp1.000.000,00.

There are several tests done in the research. First, it is the normality test. The sample used in the research is below 300, so normality tests can be done by evaluating the distribution of skewness and kurtosis. Table 2 present the skewness and kurtosis values of all variables. Most indicators have negative skewness. Only one indicator in affective commitment has positive skewness. The maximum skewness value is 0,248 (AC3), and the minimum skewness value is -0,921 (AC2). Then, the maximum kurtosis coefficient is 0,655 (P4), and the minimum kurtosis value is -0,848 (AC1). If the skewness and kurtosis coefficient is $\pm 2,58$, the data distribution is considered abnormal. Therefore, it means that the data are normally distributed.

Second, the research conducts confirmatory factor analysis for testing the validity and reliability

of the model. Table 2 (see Appendix) shows the standardized loading, average variance extracted, and construct reliability of each indicator and variable. In the research, there are cut-off values: factor analysis of 0,50, Average Variance Extracted (AVE) of 0,40, and Composite Reliability (CR) of 0,70 (Lam, 2012). The composite reliability value ranges between 0,700 and 0,912. The values meet the acceptable value. However, the AVE value ranges between 0,371 and 0,774. The results are slightly below the recommended value. The AVE of affective commitment falls slightly below the recommended level, but the composite reliability is 0,700. Therefore, the validity of the measurement for affective commitment is adequate.

Third, the measurement model is examined using the goodness-of-fit indices. First, the results of goodness-of-fit indices show the model has fairly fit ($\chi^2/d.f = 2,049$; GFI = 0,864; CFI = 0,932; RMSEA = 0,066; TLI = 0,92). The research refines the model using modification indices by adding five correlations between indicators of AC1 and AC2, RA1 and RA2, P1 and P4, ATT1 and ATT3, and LL2 and LL5. Table 3 shows the modification indices and par change value from three variables. After the modification of the model, the goodness-of-fit indices increase and show good fit ($\chi^2/d.f = 1,683$; GFI = 0,887; CFI = 0,957; RMSEA = 0,053; TLI = 0,948). The final model demonstrates a good understanding of the Lucky Egg to increase customer loyalty in the Tokopedia loyalty program.

Table 3 Modification Indices and Par Change Value

Covariance	M.I.	Par Change
e22 (AC1) – e23 (AC2)	25,592	0,182
e17 (RA1) – e19 (RA2)	11,365	-0,091
e15(P1) – e16 (P4)	8,288	-0,077
e2 (ATT1) – e4 (ATT3)	6,379	-0,043
e5 (LL2) – e8 (LL5)	13,105	-0,104

Table 4 Hypotheses Testing Results

Hypothesis	Estimation	S.E.	C.R.	P
H ₁ : Playfulness – Attitude toward Loyalty Program	0,268	0,059	4,573	***
H ₂ : Reward Attractiveness – Attitude toward Loyalty Program	0,381	0,063	6,001	***
H ₃ : Affective Commitment – Attitude toward Loyalty Program	0,232	0,053	4,388	***
H ₄ : Playfulness – Loyalty Program Usage	0,341	0,061	5,571	***
H ₅ : Affective Commitment – Loyalty Program Usage	0,227	0,055	4,121	***
H ₆ : Reward Attractiveness – Loyalty Program Usage	0,092	0,068	1,345	0,179
H ₇ : Attitude toward Loyalty Program – Loyalty Program Usage	0,26	0,064	4,034	***
H ₈ : Attitude toward Loyalty Program – Loyalty Program Usage Moderated by Gamified Loyalty Program	0,092	0,033	2,786	0,005

R² of Attitude toward Loyalty Program = 58,3%
R² of Loyalty Program Usage = 58,5%

***= p < 0,001.

Table 4 shows the path coefficients and p-value for all hypotheses. Seven paths are significant, and one path is not significant. The R^2 value of attitude toward loyalty program is 58,3%, and loyalty program usage is 58,5%. This finding indicates that the model has good predicting power and explains the observed variable moderately well. Playfulness, reward attractiveness, affective commitment, attitude toward loyalty program, and gamified loyalty program explain 58,5% of the variance in loyalty program usage.

The playfulness affects the attitude towards loyalty program (H_1). This finding supports the previous research regarding a significant and positive influence of playfulness in attitude toward loyalty program (Ahn et al., 2007; Hwang & Choi, 2020). Similarly, the reward attractiveness impacts the attitude toward loyalty program (H_2). This finding is in line with Phuc (2019) and So et al. (2015), who suggested a significant and positive influence between reward attractiveness and attitude toward loyalty program. Then, affective commitment also affects the attitude toward loyalty program (H_3). The finding supports the previous research about a significant and positive influence between affective commitment and attitude toward loyalty program (Tanford et al., 2011). The finding indicates that the strongest predictor of attitude toward loyalty program is reward attractiveness ($\beta = 0,381$)

Moreover, playfulness has an effect on loyalty program usage (H_4). This finding aligns with the previous research regarding a significant and positive influence between playfulness and loyalty program usage (Hwang & Choi, 2020; Liu et al., 2021). Similarly, affective commitment influences loyalty program usage (H_5). The finding is in line with the research by Stathopoulou and Balabanis (2016), who mentioned a significant and positive influence between affective commitment and loyalty program usage. Then, reward attractiveness also affects loyalty program usage (H_6). This finding supports the previous research about a significant and positive influence between reward attractiveness and loyalty program usage (Evanschitzky et al., 2012; Stathopoulou & Balabanis, 2016).

Besides, the attitude towards loyalty program affects loyalty program usage (H_7). This finding aligns with the previous research about a significant and positive influence between attitude toward loyalty program and loyalty program usage (Chen et al., 2020; So et al., 2015). Next, the gamified loyalty program increases loyalty program usage (H_8). This finding is similar to Bittner and Shipper (2014), who found a strong moderating effect.

Based on the results, it can imply that the game mechanics in Lucky Egg are enjoyable and easy to play for Tokopedia customers. Tokopedia customers can play The Lucky Egg and get points, loyalty points, and coupons with every completed purchase. However, Tokopedia management needs to maintain and improve the customers' experience in playing Lucky Egg. From the analysis of research indicators,

an important aspect that needs to be maintained is that TokoPoint is a fun, creative, and interactive program. Then, an aspect that needs to be improved is the innovation in the gamification concept of the Tokopedia application. There are several suggestions to improve the gamification in Tokopedia. First, Tokopedia can enhance the gaming experience by developing more complicated and fun gameplay (Lee, Cheung, & Chan, 2021). Second, Tokopedia should create a monthly event so the users will play frequently and be entertained (Daneels et al., 2021). Third, Tokopedia can add the ranking system for the completed task and reward the winners with the attractive gift (Daneels et al., 2021).

Based on the analysis of research indicators, an important aspect that needs to be maintained is the diverse reward types. The aspects that need to be improved are the exchange options and useful rewards. The reward point can be exchanged with coupons, such as discounted prices, free shipping, cashback, and others. The loyalty points will also increase membership status. Hence, Tokopedia management should maintain and offer more attractive rewards.

Then, Tokopedia customers with affective commitment always prefer to use Tokopedia to other platforms. They trust Tokopedia will protect their personal information. Therefore, Tokopedia management should maintain and improve information technology security so that customers feel secure to share their personal information. The analysis results of the research indicator show that users are familiar with and trust TokoPoints. However, Tokopedia management should keep improving because customers who use Tokopedia do not feel emotionally attached. Therefore, the existing customer may switch to other e-commerce platforms that offer a better experience.

CONCLUSIONS

The research findings show that playfulness, reward attractiveness, and affective commitment affect the loyalty program usage mediated by attitude toward loyalty program. The gamified loyalty program increases loyalty program usage. Then, R^2 of attitude toward loyalty program and loyalty program usage is 58,3% and 58,5%, respectively.

The research offers some theoretical contributions. First, the research extends to the current understanding of e-commerce loyalty program usage in Indonesia. The proposed variables that affect the loyalty program are already tested and discussed. The affective commitment and reward attractiveness determine the attitude toward the Tokopedia loyalty program. Second, the research confirms that the gamified loyalty program increases loyalty usage. Previously, the gamified loyalty program is tested as an antecedent of a loyalty program of Starbucks. The research also examines the gamified loyalty program as moderating effect, and the hypothesis is accepted.

The research also has some managerial and practical implications. First, Tokopedia needs to develop and implement a loyalty program strategy by containing and providing fun or playful effects to customers. So, it can lead to customers' intention to continue to use it and be loyal. Second, Tokopedia should provide gifts with more appeal to customers. Then, customers can feel that they are not at a disadvantage and are interested in using the loyalty program.

Although there are interesting findings from the hypotheses testing, the research has several limitations and future research suggestions. First, most of the respondents' ages are 18 to 27 years old, and they are familiar with Tokopedia. These respondents are distinct from older generations. Future research can replicate the proposed model in different age groups. Second, the application of gamification can be found in other e-commerce applications, such as Shopee, Blibli, and others, with more sophisticated game experiences. Future research can use the proposed research model in other e-commerce applications. Third, the respondents are not asked to state their place of residence. Since Indonesia is a diverse country, it is good to investigate the moderating effect on the loyalty program usage using the cultural identity. Fourth, the research does not address some determinant variables, such as trust, the perceived value of loyalty program, timing of reward, and brand loyalty. Future research can explore these variables to gain a deeper understanding of loyalty program usage in e-commerce.

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APPENDIX

Table 2 The Descriptive Analysis, Normality Test, and Confirmatory Factor Analysis Results for the Indicators

Variables/Indicators	Mean	λ	Skewness	Kurtosis	ΔVE	CR
I trust TokoPoints (AC1)	3,89	0,576	-0,216	-0,848		
I am familiar with TokoPoints (AC2)	3,99	0,503	-0,921	0,214	0,371	0,700
I am emotionally attached to TokoPoints (AC3)	2,68	0,645	0,248	-0,671		
I am treated like a loyal customer in TokoPoints (AC4)	3,27	0,696	-0,186	-0,169		
Mean of Affective Commitment is 3,46						
TokoPoints offers attractive financial benefit (RA1)	3,60	0,783	-0,379	-0,071		
TokoPoints offers various type of rewards (RA2)	3,76	0,834	-0,772	0,590	0,625	-0,870
TokoPoints provides various redemption options (RA3)	3,44	0,762	-0,503	0,282		
TokoPoints provides useful rewards (RA4)	3,57	0,782	-0,343	-0,367		
Mean of Reward Attractiveness is 3,59						
TokoPoints is fun (P1)	3,66	0,789	-0,428	-0,408		
TokoPoints is a creative program (P2)	3,82	0,773	-0,360	-0,467	0,539	0,822
TokoPoints is an innovative program (P3)	3,26	0,586	-0,237	-0,746		
TokoPoints is an interactive program (P4)	3,72	0,769	-0,715	0,655		
Mean of Playfulness is 3,62						
Lucky Egg provides a challenge that suits my ability (G1)	3,24	0,738	-0,269	-0,665		
Lucky Egg gives me clear objectives (points, levels, and tickets) (G2)	3,53	0,871	-0,447	-0,418	0,597	0,815
I get the rewards information (points, levels, and tickets) after the game is finished (G3)	3,91	0,698	-0,702	0,190		
Mean of Gamified Loyalty Program is 3,56						
Overall, my attitude towards TokoPoints is good (AT1)	3,90	0,867	-0,576	0,409		
Overall, I am comfortable with TokoPoints (AT2)	3,75	0,885	-0,625	0,574	0,774	0,912
Overall, I am satisfied with TokoPoints (AT3)	3,62	0,888	-0,282	-0,327		
Mean of Attitude toward Loyalty Program is 3,58						
I like the loyalty program developed by Tokopedia compared to others (LL1)	3,38	0,779	-0,204	-0,268		
I prefer to use TokoPoints compared to others (LL2)	3,23	0,859	-0,098	-0,357		
TokoPoints offers more attractive rewards compared to others (LL3)	3,25	0,836	-0,002	-0,172	0,648	0,902
I will use TokoPoints even others offer similar programs (LL4)	3,25	0,809	-0,175	-0,519		
I will recommend TokoPoints to others (LL5)	3,26	0,735	-0,088	-0,374		
Mean of Loyalty Program Usage is 3,27						