

EFFECT OF INTERACTION WITH GAMIFICATION FEATURE ON PURCHASE INTENTION: THE MEDIATION ROLE OF BRAND ENGAGEMENT

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ABSTRACT

The purpose of this study was to examine the effect of interactions with the gamification feature on purchase intention and brand engagement as a mediation on Tokopedia. The sampling technique used was simple random sampling, with a total sample size of 113, and the following conditions were met: ever shopping on the Tokopedia e-commerce website or application, completing an account profile as a buyer, and having participated in the “Sharing the Spirit of Ramadhan” campaign. Data collection was done by distributing questionnaires using Google product, Google Form. The data analysis technique used PLS-SEM and processed through SmartPLS v3. The results show that the interaction with immersion and achievement gamification features positively affects brand engagement and purchase intention. Interaction with social gamification features only has a positive effect on brand engagement. The interaction with immersion and achievement gamification feature, mediated by brand engagement, is stated as a complementary mediation of purchase intention. In contrast, the social gamification feature is mediated as a full mediation of purchase intention.

Keywords: Gamification; Brand engagement; Purchase intention; E-commerce.

INTRODUCTION

Ease of practicality is one of the benchmarks for netizens to shop online. All these conveniences include payment methods, choice of delivery couriers, and even e-commerce application access through various devices that make finding goods easier. In addition, other aspects that are considered when shopping online in the marketplace are aspects of security, product completeness, and promos (Triwijanarko, 2018).

Tokopedia is one of the largest e-commerce in Indonesia so far. In 2014, Tokopedia became the first e-commerce that received cash injection in Indonesia with the largest investment in history. Currently, Tokopedia claims that they have reached 97% of the districts, have around 90 million monthly active users, 7.2 million sellers, and 86.5% are new businessmen. Tokopedia also claims to have created 10.3% of total employment in Indonesia in 2018 (Maranti, 2019).

Based on data on e-commerce visitors in the third quarter of 2019, Tokopedia still leads at the top with a total of 66 million visitors, followed by Shopee in second place with a total of 56 million visitors (Jayani, 2019). Given the presence of Shopee e-commerce in Indonesia, which is no longer than the birth of e-commerce in the homeland of Tokopedia, this is a rapid increase in reaching second place in total visitors as of the third quarter of 2019.

Brand	TBI 2020
Lazada.co.id	31,9%
Shopee.com	20,0%
Tokopedia.com	15,8%
Bukalapak.com	12,9%
Blibli.com	8,4%

The brand index 2020 (Top Brand Index, 2020) shows that Tokopedia was currently in third place with a top brand index of 15.8% for the online web-commerce category. Tokopedia lags behind Lazada and Shopee, where the top brand index 2020 is led by Lazada with 31.9%, followed by Shopee in second with 20% and Blibli in third with 15.8% (Table 1). Tokopedia still surpasses total visitors, but the brand index is still lower than Lazada and Shopee in the online web-commerce category. It is quite important to pay attention to gamification because top e-commerce was quite aggressively optimizing their platform's gamification feature.

This research also makes brand engagement a mediating variable. Brand engagement tends to include important brands like how they see themselves in different individuals (Spratt et al., 2009). With a certain brand engagement with a brand, someone is more likely to make purchases from related brands. This research focuses on purchase intention with gamification as the main independent variable to test whether the features of this gamification can increase or decrease brand engagement and purchase intention in Tokopedia.

LITERATURE REVIEW

Gamification in E-commerce

In terms of etymology, gamification uses elements from game design into non-game contexts (Deterding et al., 2011). According to Zichermann and Cunningham (2011), "Gamification is a process of the game thinking that motivates users with mechanics to perform particular tasks to solve problems or engages customers." Gamification is also defined as the process of improving the playing experience services offered by an environment to support the creation of overall user value (Huotari & Hamari, 2017). This definition refers more to creating additional value for its users when users experience "playing" services.

The referral program is one of the gamification that is often held in e-commerce platforms. The social interdependence theory supports the application. The power of teamwork was found to depend on strong and constructive interdependencies that lead to true productive relationships. Another theory that is also used in forming the concept of gamification is the goal-setting theory (Locke & Latham, 1990). This goal-setting theory is based on the principle that measurable goals are more effective than unmeasured goals.

On the other hand, it has been stated before that the best level of success is achieved when the objectives are challenging; that is, they are impossible to achieve. This concept is also widely used in the application of gamification - for example, the determination of gifts in stages, from the easiest to the most difficult.

The platform provided various features that shaped in such a way as to produce a 'play' impression. Gamification designs are classified into three based on their features (Ufford, 2017):

- Immersion-related features - attempts to immerse the player in self-directed curiosity activities, including game mechanics such as avatars, storytelling, narrative structure, roleplay mechanics, and more.
- Achievement-related features - strives to increase the players' sense of accomplishment and includes game mechanics such as badges, challenges, missions, objectives, leaderboards, progress metrics, and more.
- Social-related features allow social interaction and include game mechanics such as teams, groups, and competitions.

According to Ufford (2017), nearly nine out of ten retailers will utilize gamification methods as their marketing practice and tactics in the next five years. Lazada holds a Lazgame feature in a special column that provides Lazada's typical games. Also, Shopee is quite aggressive in holding gamification campaigns as one of their marketing techniques, namely "Shake Shopee" from Shopee. With only 10 million fewer total visitors with a higher brand index, it is necessary to review what Lazada and Shopee have done as lessons learned in this study. Tokopedia can retain Tokopedia visitors and brand index. For example, it is easy for us to remember a gamification feature embedded by Shopee Indonesia "Shake Shopee" in 2015. It can be one of the main drivers for someone to continue using the Shopee application, which leads to spending through related applications. It is also easier for us as users or potential users to interpret "Shake Shopee" against the Shopee brand itself because of its exciting gamification features with easy procedures. E-commerce requires high retention, and this allows cross-selling of other products that may be complementary or closely related to products that are often searched for or purchased. The rise in implementing gamification is a marketing tactic and a way for companies to increase user interaction with company applications and websites. It has made all players in the digital company industry, primarily e-commerce, do everything they can to develop their users' gamification system. That is an important reason in this study to identify how this gamification can increase brand engagement and purchase intention towards a company.

Brand Engagement

Brand engagement itself can be divided into three different dimensions. The three dimensions are cognitive, emotional, and behavioral (Hollebeek, 2011). The same thing was stated by Xi and Hamari (2020) and defines brand engagement as the level of customer motivation related to the brand and depends on the customer context characterized by certain cognitive, emotional, and behavioral levels in direct brand interactions. According to Xi and Hamari (2020), brand engagement is considered a result of a creative customer experience where consumers interact with a portfolio of services and service providers who represent certain brands, reflecting the basis of consumer interactive brand relationships. In his research, brand engagement is divided into three slightly different dimensions: emotional, cognitive, and social.

Purchase Intention

The intention to buy online is "customer's willingness to purchase behavior via the Internet" (Meskaran et al., 2013). Purchase intention is also stated by Younus et al. (2015) that purchase intention is "the preference of consumers to buy the product or service. In other words, purchase intention has another aspect that the consumer will purchase a product after evaluation". The intention to buy online is also expressed as a consumer's willingness and intention to participate in online offers based on an evaluation of the website's quality and information (Ali, 2016).

RESEARCH HYPOTHESES

In this study, user interaction with gamification features to be tested. There are three gamification variables, namely, immersion, achievement, and social. Based on the explanation above, the problem formulation is as follows:

1. Does interaction with the gamification feature affect brand engagement?
2. Does interaction with the gamification feature affect purchase intention?
3. Does brand engagement affect purchase intention?
4. Does brand engagement mediate interactions with gamification features and purchase intentions?

Research conducted by Yüksel and Durmaz (2016) states that gamification has a positive effect on purchase intention. The effect of gamification on brand engagement in research conducted by Xi and Hamari (2019) shows positive and significant results. Studies examining the effect of brand engagement on purchase intention by Kircova et al. (2018) show positive and significant results. The sample in the related research was 384 respondents. The positive and significant influence of brand engagement on purchase intention is also shown by research (Lee et al., 2018) (Figure 1).

Based on the model above, the researcher describes the hypothesis as follows:

H1: The interaction with the immersion gamification feature has a positive effect on brand engagement.

H2: The interaction with the achievement gamification feature has a positive effect on brand engagement.

H3: Interaction with social gamification feature has a positive effect on brand engagement.

H4: Interaction with the immersion gamification feature has a positive effect on purchase intention.

H5: Interaction with the achievement gamification feature has a positive effect on purchase intention.

H6: Interaction with social gamification feature has a positive effect on purchase intention.

H7: Brand engagement has a positive effect on purchase intention.

H8: Interaction with the immersion gamification feature positively affects purchase intention with brand engagement as a mediating variable.

H9: The interaction with the achievement gamification feature positively affects purchase intention with brand engagement as a mediating variable.

H10: Interaction with social gamification feature positively affects purchase intention with brand engagement as a mediating variable.

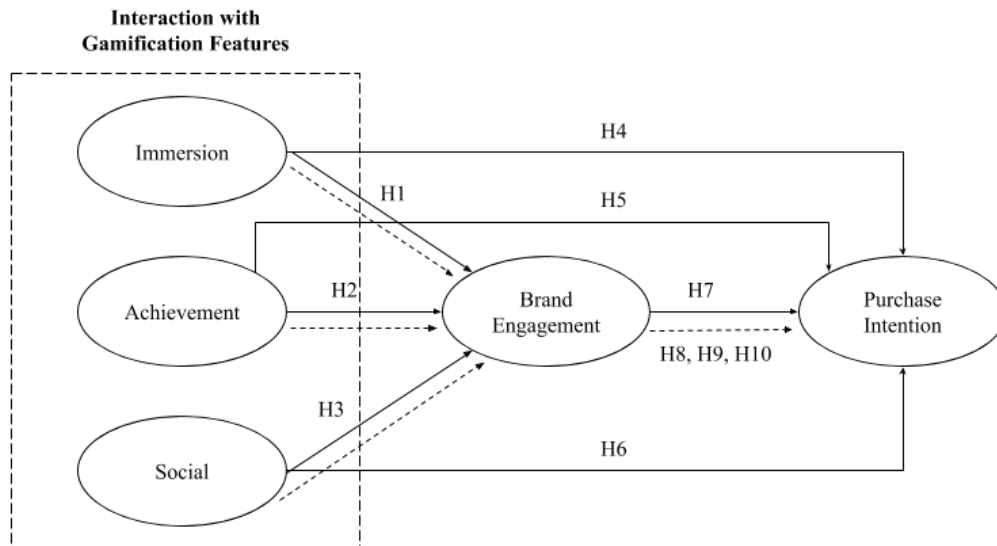


FIGURE 1

CONCEPTUAL FRAMEWORK

METHODOLOGY

In this study, online questionnaires were used to measure each variable. Previously, a literature study was conducted to understand and interpret the results of previous research. The study also aims to determine the measurement items for each variable packed into a questionnaire that will be distributed. After that, the questionnaire data from the valid respondents will be processed and analyzed. The objects in this study are all users of the Tokopedia online shopping application registered in Indonesia. In this study, researchers used simple random sampling. The samples in this study will be categorized as suitable if: (a) ever shop through the Tokopedia web or mobile application, (b) have completed the respondent's own Tokopedia account profile, and (c) have participated in the gamification referral campaign "Sharing the spirit of Ramadhan" that Tokopedia held via the web or application. The sample size according to Fraenkel and Norman (2009) for descriptive research with a total of 100 research subjects, is considered to be fundamental. The minimum sample size was also described by Hair et al. (2014), a minimum of 100 samples for model containing five or fewer constructs, where each construct has more than three question items. Based on these literatures, the number of samples to be desired in this study is a minimum of 100 users according to the previously described categories.

Interaction with gamification feature. The purpose of the interaction measurement was to examine the importance and intensity of the existing gamification features. This gamification feature itself is divided into three, and each of them is treated as an independent variable in this study, namely: immersion, achievement, and social. A total of nine gamification features were

identified in Tokopedia May 2020 version, specifically: avatar/virtual identity/profile, customization/personalization features, and narrative/story are categorized as immersion-related features; virtual currency/coins, points/ score/experience points, status bar/progress, and avatar level are categorized as achievement-related features; and team and social network features are social interaction-related features. The analysis asked the participants the level at which they interact with each feature and its significance.

Brand engagement. The brand engagement variable will be assessed through three different dimensions. The first dimension is the emotional dimension, which was assessed with six items. The second is the cognitive dimension, which was assessed with four items. The last is social dimension, which was assessed with six items. Customer brand engagement will be declared higher if the score, which measures emotional, cognitive, and social aspects, is also higher.

Purchase intention. As a research objective, purchase interest will be measured by eight items. The questionnaire was created digitally using one of Google's products, Google Forms. The item measurement scale uses a 5-point Likert scale.

This research used the partial least square structural equation modelling (PLS-SEM) approach to evaluate respondents' responses. There is an Outer Model Analysis in the SEM process: formative and reflective model. The formative model tested the interaction with the gamification feature for collinearity and external validity. The other variables, such as brand engagement and purchase intention, are treated as the reflective model, which will be tested for Validity Test and Reliability Test. The validity Test consists of convergent validity and discriminant validity. Reliability Test consists of reliability of indicators and reliability of internal consistency. Next, an Inner Model Analysis consists of the Determination Coefficient Test, the Predictive Relevance Test, Effect Size, and the Coefficient and Significance Test.

RESULTS

Participants

Three hundred sixty-eight respondents have filled in the distributed online questionnaire, but only 113 people passed the screening question requirements. The gender distribution of the sample was slightly dominated by male respondents representing 56.6%. The majority of respondents were between the ages of 19 and 24 years, representing 65.5% of the total sample. 60.2% of the total respondents prefer to shop online, although not always. Respondents who often compare the price of goods with other e-commerce were 86.73%, of which 84.7% chose Shopee as a comparison (Table 2).

Criteria		N	%
Gender	Male	64	56.6%
	Female	49	43.4%
Age	16-18	8	7.1%
	19-24	74	65.5%
	25-35	22	19.5%
	36-50	9	7.9%
Preference in shopping	Physical store	22	19.5%

	Seek by online, go to physical store	11	9.7%
	Often shop online	68	60.2%
	Always shop online	12	10.6%
Compared goods' price to other e-commerce	Yes	98	86.7%
	No	15	13.3%
E-commerce main option as comparison	Blibli	5	5.1%
	Bukalapak	5	5.1%
	Lazada	3	3.1%
	Shopee	83	84.7%
	Other	2	2%

Outer Model Analysis

Three distinct gamified interactions are used as formative constructs in this analysis since each gamification feature's intensity, and importance is posited as the common cause of construct and variation in item measures that cause construct variation (Xi & Hamari, 2019). In comparison, brand engagement and the desire to buy are used as reflective models. Likewise, given that their measures are believed to be affected by the latent variables, brand engagement and purchase intention are used as reflective models. Therefore, the model contains both formative (interaction with gamification features) and reflective constructs (brand engagement and purchase intention).

Formative model

The formative model concept is not that items would correspond, but that the measures "form" the construct (Xi & Hamari, 2019). To assess the formative model, we need to run a collinearity and external validity test. The Variance Inflation Factors (VIF) suggest the potential existence of collinearity for each variable, and the VIF values should be lower than 5 for formative measures (Hair et al., 2011). Table 3 shows all VIFs ranged from 1.317 to 2.133 (all were smaller than 5), which indicates the model has passed the multicollinearity test. As an indicator of the external validity of the interaction with gamification feature variables, the values of outer weights must statistically significant (below 0.05) (Cenfetelli & Bassellier, 2009), or if the weight is insignificant, the high outer loading (above 0.70) indicator should be preserved (Majchrzak et al., 2013). Nine indicators have insignificant weight. Once again, its loading value assessed those nine indicators and not exceeding 0.70; hence, the indicators were excluded.

Variables	Construct	Loading	Weight	VIF
Immersion gamification features interaction	The importance of interacting with ___			
	FIP1 avatar/virtual identity/profile	0.747	0.000	1.521
	FIP3 narrative/story	0.757	0.006	1.556
	The frequency of interacting with ___			
	FIF2 customization/personalization	-0.271	0.007	1.611
Achievement gamification features interaction	The importance of interacting with ___			
	FAP1 virtual currency/coins	0.747	0.003	1.690
	FAP2 points/scores/experience points	0.086	0.019	2.133
	FAP4 leaderboards/rankings/			

	highscore lists	0.829	0.000	1.862
	The frequency of interacting with ___ FAF2 points/scores/experience points	0.224	0.032	2.013
Social gamification features interaction	The importance of interacting with ___ FSP1 team	0.642	0.027	1.317
	FSP2 social networking features	0.932	0.000	1.405

Reflective model

In the reflective model, we conducted confirmatory factor analysis, a form of factor analysis, by confirming several empirical constructs assumed to be factors of the latent constructs. Brand engagement is divided into three dimensions, the measurement of which is carried out through two levels. First, the analysis is carried out from the latent constructs of the dimensions to their respective indicators. Then at the second level, the analysis was carried out from the latent construct to the dimensional construct. For a stepwise variable reduction stage like this, in CFA, it is known as Second-Order Factor Analysis (Ghozali & Latan, 2015). The validity in the reflective model is divided into two, namely convergent validity and discriminant validity. This value of brand engagement and purchase intention average variance extracted in Table 4 respectively are 0.578 and 0.626, which are still above 0.50 so that it passes the convergent validity test (Hair et al., 2011).

The heterotrait-monotrait ratio value shows a value of 0.873 (Table 5), which below 0.90; hence it can be concluded that these variables passed the discriminant validity test (Henseler et al., 2015). Reliability in this study is also divided into indicator reliability and internal consistency reliability. According to Table 4, all brand engagement loading values have passed the recommended critical value greater than 0.70 (Hair et al., 2011). Meanwhile, the loading value on the indicator measuring purchase intention found on MB1 and MB3 were only 0.027 and 0.659. After removing MB1, MB3's loading has not exceeded 0.70. After that, the study also removed MB3. Regarding internal consistency reliability, both brand engagement and purchase intention composite reliability were 0.956 and 0.909, higher than 0.7 (Hair et al., 2011).

TABLE 4 REFLECTIVE MEASUREMENT		
Variable	Construct	Loading
Brand Engagement CR = 0,956 AVE = 0.578	Emotional dimension	0.885
	KME1 I feel excited about Tokopedia brand	0.807
	KME2 I feel this brand is a part of my life	0.788
	KME3 I am passionate the Tokopedia brand	0.817
	KME4 I am enthusiastic about the Tokopedia brand	0.871
	KME5 I love Tokopedia brand	0.843
	KME6 I am proud to shop on e-commerce with Tokopedia brand	0.721
	Cognitive dimension	0.894
	KMK1 I like to learn more about Tokopedia brand	0.859
	KMK2 I pay a lot of attention to anything about Tokopedia brand	0.924
	KMK3 Anything related to Tokopedia brand grabs my attention	0.953
	KMK4 I think about Tokopedia brand a lot	0.848

	Social dimension		0.899
	KMS1	I love talking and using Tokopedia's services brand with my friends	0.897
	KMS2	I enjoy talking and using Tokopedia's services more when I'm with others	0.841
	KMS3	Talking and using Tokopedia's services with other Tokopedia users are more fun	0.895
	KMS4	I feel good to share experiences about Tokopedia's services with others	0.893
	KMS5	I feel fellowship with other Tokopedia users	0.800
	KMS6	I like recommending Tokopedia's services to others	0.855
Purchase Intention CR = 0,909 AVE = 0.626	MB2	I intend to shop through Tokopedia in the future	0.729
	MB4	It is most likely for me to shop through Tokopedia	0.803
	MB5	I will shop through Tokopedia rather than other e-commerce	0.732
	MB6	I want to shop on the gamified Tokopedia	0.846
	MB7	I will shop on the gamified Tokopedia	0.835
	MB8	I tend to shop at the gamified Tokopedia	0.794

TABLE 5 DISCRIMINANT VALIDITY		
Variable	Heterotrait-monotrait ratio	
	Brand Engagement	Purchase intention
Brand engagement		
Purchase intention	0.873	

Inner Model Analysis

The model explained 28.9% ($R^2 = 0.289$) of the brand engagement variance and explained 69.4% ($R^2 = 0.694$) of the purchase intention variance. Brand engagement and purchase intention have Q-square values of 0.172 and 0.429, respectively. These results indicate the model's predictive accuracy has met the requirements because the Q-Square value is above 0 (Sarstedt et al., 2017). Regarding the effect of the interaction with gamification features on brand engagement, the results (Table 6) show that either interaction with immersion features ($\beta = 0.196$, $p = 0.026$) or interaction with achievement features ($\beta = 0.352$, $p = 0.000$) or interaction with social features ($\beta = 0.164$, $p = 0.020$) have a positive effect on brand engagement. Therefore, H1, H2, and H3 were supported according to the results. If we look at the effect of interaction with gamification features on purchase intention, both interaction with immersion features ($\beta = 0.148$, $p = 0.011$) or interaction with achievement features ($\beta = 0.241$, $p = 0.000$) have a positive effect on purchase intention and only interactions with social features ($\beta = 0.012$, $p = 0.422$) have no effect on purchase intention. Thus, H4 and H5 were supported while H6 was rejected. Brand engagement ($\beta = 0.616$, $p = 0.000$) have a positive effect on purchase intention regarding to the result hence H7 was supported. According to the size effect analysis, only the direct effect of H7 ($f^2 = 0.890$) has a strong effect (Sarstedt et al., 2017). H6 has a no change effect because it was rejected. The rest have a relatively weak change effect (H1, $f^2 = 0.043$; H2, $f^2 = 0.146$; H3, $f^2 = 0.028$; H4, $f^2 = 0.055$; H5, $f^2 = 0.141$). All interactions with gamification

features, either immersion features ($\beta = 0.121$, $p = 0.028$) or achievement features ($\beta = 0.217$, $p = 0.000$) or social features ($\beta = 0.101$, $p = 0.021$), have a positive effect on purchase intention with brand engagement as the mediation.

Path coefficients	β	p	f^2
Immersion features → Brand engagement	0.196*	0.026	0.043
Achievement features → Brand engagement	0.352*	0.000	0.146
Social features → Brand engagement	0.164*	0.020	0.028
Immersion features → Purchase intention	0.148*	0.011	0.055
Achievement features → Purchase intention	0.241*	0.000	0.141
Social features → Purchase intention	0.012	0.422	0.000
Brand Engagement → Purchase intention	0.616*	0.000	0.890
Immersion features → Brand engagement → Purchase intention	0.121*	0.028	N/A
Achievement features → Brand engagement → Purchase intention	0.217*	0.000	N/A
Social features → Brand engagement → Purchase intention	0.101*	0.021	N/A

DISCUSSION

When viewed from gender, respondents are dominated by men. Looking further by age, the highest number of respondents was at the age of 19 to 24 years, while for the age category 25 to 35 the second highest. Furthermore, based on their shopping preferences, the majority of respondents fall into the category of frequent online shopping, although not every time. From a total of 113 respondents in this study, 98 of them admitted that they often compare the prices of goods on Tokopedia with other e-commerce. Then, the majority of the 98 people chose Shopee as the price comparison e-commerce option. The result of the determination coefficient of brand engagement was classified as weak. On the contrary, the result of the determination coefficient of purchase intention was classified as moderate.

Interaction with achievement feature has the highest coefficient path and size effect on either brand engagement or purchase intention. The dimension that has the greatest influence on the brand engagement variable is the social dimension. The mediation effect found in the study states that interaction with immersion features on purchase intention with brand engagement as a mediating variable is classified as complementary mediation. This type of complementary mediation is also found in the positive effect of interaction with achievement features on purchase intention with brand engagement as the mediating variable. Furthermore, the mediation effect of interaction with a social feature on purchase intention with brand engagement as a mediating variable is classified as full mediation. It should be emphasized that the interaction with social gamification features does not have a direct effect on purchase intention, so it is necessary to rely on brand engagement as the mediating variable. With brand engagement having a major influence on purchase intention, it is important to know which dimension is the biggest in shaping the brand engagement variable itself, which in this case is the social dimension. In line with this, seeing the biggest influence in this research is on the interaction with achievement gamification feature, so the main priority should be the development of achievement feature.

APPLICATION OF RESEARCH RESULTS

Based on the results, there are several suggestions for Tokopedia in increasing purchase intention, especially in terms of the gamification features and brand engagement. The results show that there is a significant effect of the interaction with immersion gamification on brand engagement and purchase intention hence Tokopedia can develop an automated pop-up promo campaigns with interactive narratives or stories when visitors visit the Tokopedia website or application. There is also a significant effect of the interaction with achievement gamification on brand engagement and purchase intention hence Tokopedia needs to develop a profile level that can generate points after reaching a certain level by pressing the profile level. For example, when a customer has reached the gold profile level, the customer can collect points by pressing silver and gold profile level milestones. Although interaction with social gamification does not have a direct effect on purchase intention, interaction with social gamification can have a significant effect on purchase intention after being mediated by brand engagement. With this result, Tokopedia might want to develop a “Product Recommendation” campaign, where if a purchase occurs as a result of the product sharing by social media, recommender and buyers will get special points. All of the interaction with immersion, achievement, and social gamification feature have a significant effect on purchase intention with brand engagement as the mediating variable. Therefore, Tokopedia should develop a dedicated game inside the platform. This separate game will involve customers collaborating between customers to reach a certain point. These points will determine how many discount coupons the customers will get.

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