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The Impact of Gamification on Gen Z's Behavioral Intention through E-Commerce Shopee: Does Reward Moderate the Relationship?

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ABSTRACT

This study explores the impact of gamification on the behavioral intention of Generation Z users within the Indonesian Shopee e-commerce platform, examining rewards as a moderating factor. Using the Technology Acceptance Model (TAM) framework, the research analyzes how perceived enjoyment, usefulness, ease of use, and social interaction influence users' intentions to engage with gamified features. Data from 178 respondents were analyzed via Structural Equation Modeling (SEM) using SmartPLS. Findings indicate that gamification positively affects perceived enjoyment, usefulness, ease of use, and social interaction, enhancing behavioral intention. However, rewards as a moderating factor did not significantly impact these relationships. The study emphasizes gamification's role in boosting engagement on digital platforms among Generation Z consumers, though the role of rewards in moderating this effect may vary. This research contributes to understanding how gamified elements enhance user engagement and loyalty on e-commerce platforms.

Keywords: **Gamification, Behavioral Intention, Generation Z, Technology Acceptance Model (TAM), Rewards**

INTRODUCTION

Digitalization is a strategy that makes it easier to do business with its efficiency in getting and providing information about a brand (Geng et al., 2020). As a result, electronic markets are integrated in companies as their strategies to increase visibility and as a step towards the global market, ultimately leading to the growth of electronic commerce. E-commerce has many advantages because it makes it easier, effective and efficient for consumers to obtain all kinds of information about products and make transactions through the internet (Taiminen & Karjaluoto, 2015). Based on the data in figure 1, the rapid development of e-commerce has given rise to many choices of e-commerce in Indonesia, some of which are Shopee, Tokopedia, Lazada, Blibli, and Kalapa. Throughout 2023, these five e-commerce sites competed to occupy the highest position, but based on similar web data, as of December 2023, Shopee was recorded as the e-commerce site that received the most visits, with 242.2 million visits to its site, this number shot up 41.39% compared to Shopee's initial position last year.

The use of the Shopee application is also carried out to meet daily needs such as buying food and drinks. This delivery feature is called Shopee food, which is still in the same page as the main application (Sujarwo & Matruty, 2021). Shopee also has a Shopee games feature where all games can be played for free by users to get lots of prizes such as Shopee coins, vouchers, or other attractive prizes. These features can actually be found in another e-commerce app such as, Tokopedia, which has Lucky Egg and a loyalty program called Tok points (Sundjaja et al., 2022).

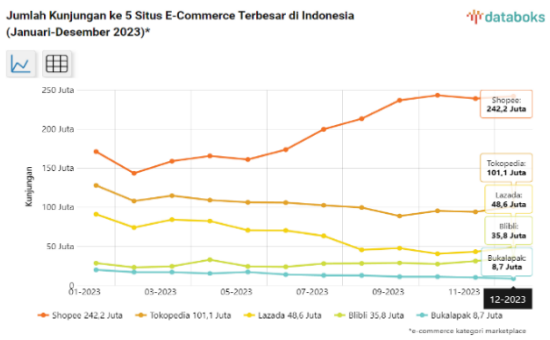

Fig. 1. Total Visitors of the 5 Leading E-commerce Sites in Indonesia
Source: Databoks (2023)

The Pew Research Center (2019) states that people born in 1997-2012 or aged 11-25 years in 2023 are included in Z Generation. Z Generation has a different way of thinking and character, because this generation grows up along with the speed of technological change and digitalization. (Dimock, 2019). One of them is the habit of doing online shopping, where in the process, this generation prioritizes the shopping experience as a reason for choosing one of the online shopping platforms (Ayuni, 2019).

Another study conducted by Susilo, (2022) uses TAM as a moderating variable of gamification and repurchase intention in Gen Z who uses Tokopedia, but the result shows that TAM doesn't have a significant effect on repurchase intention. A study by Raman, (2020) discusses the influence of gamification, social interactions, and perceived enjoyment on young women who are online buyers in India. The study was conducted by examining 1,700 women aged 30 years in India. So, to answer the research gap, this research about the influence of Gamification on Z Generation's Behavioral Intention on the Shopee Application in Indonesia was conducted with respondents consisting of Men and Women in Indonesia and by adding the Rewards variable as a moderation, which is a novelty in this study.

LITERATURE REVIEW

This study uses the Technology Acceptance Model (Davis, 1989) as the main theoretical basis, where TAM has become one of the most applicable models of technology acceptance, with two main factors influencing a person's intention to use new technology, namely perceived ease of use and perceived usefulness, which will then influence intention to use. People who consider digital games too challenging to play or a waste of time are unlikely to want to adopt this technology, while people who think digital games to provide the mental stimulation they need and are easy to learn are likely to want to learn how to use digital games (Charness & Boot, 2016).

Koivisto & Hamari, (2014) states that gamification is a fun and enjoyable feature. Consumers tend to enjoy competitive activities with others, especially if the activity allows consumers to get rewards and prizes. Gamification elements take advantage of the characteristics of game-oriented consumers and apply them to online shopping sites to facilitate increased customer loyalty. Thus, it can be concluded that consumers who enjoy game activities will have high motivation to engage in game activities again, just as the conclusion that if the activation is fun, the tendency to do it repeatedly will be higher (Raman, 2020). Thus, the following hypotheses were proposed in this research:

H1: Gamification will affect Behavioral Intention.
H2a: Gamification will affect Perceived Enjoyment.
H2b: Perceived Enjoyment will affect Behavioral Intention.

H2c: Perceived Enjoyment mediates the relationship between Gamification and Behavioral Intention.

According to Davis, (1989) Perceived Usefulness is defined here as "the degree to which a person believes that using a particular system will improve his or her job performance." This is taken from the definition of the word useful, which is "capable of being used profitably". A system that has high perceived usefulness and benefits makes users believe that there is a positive use-performance relationship (Davis, 1989). Perceived Ease of Use refers to the degree to which a user is willing to use a system without having to exert any effort (Davis, 1989). Hanafizadeh et al., (2014) stated that this is an important factor for technology adoption and also for the long-term use of technology. Researchers are convinced that the higher the perceived ease of use of a technology, the more likely the platform will be used. Thus, the following hypotheses were proposed in this research:

H3a: Gamification will affect Perceived Usefulness.
H3b: Perceived Usefulness will affect Behavioral Intention.
H3c: Perceived Usefulness mediates the relationship between Gamification and Behavioral Intention.
H4a: Gamification will affect Perceived Ease of Use.
H4b: Perceived Ease of Use will affect Behavioral Intention.
H4c: Perceived Ease of Use mediates the relationship between Gamification and Behavioral Intention.

Social interaction in an online context is defined as an event where users interact on a platform, which in this case means that gamification forms social behavior (Koivisto & Hamari, 2014). Gamification elements offer rewards to consumers that encourage consumer engagement, increase collaboration between different online users, facilitate the exchange of ideas, and enhance social interaction. (Rodrigues et al., 2016). Thus, the following hypotheses are purposed:

H5a: Gamification will affect Social Interactions.
H5b: Social Interactions will affect Behavioral Intention.
H5c: Social Interactions mediate the relationship between Gamification and Behavioral Intention.
H6: Perceived Ease of Use will affect Perceived Usefulness.

According to Oliver, (1997) behavioural intention can be defined as “the possibility expressed in terms of involvement in a behaviour”. More broadly, behavioural intention includes the following two concepts (Tan et al., 2014): intention to use and intention to buy. These concepts refer to “the degree to which a person has formulated a conscious desire to perform or not perform a behaviour in the future.” Intention to use is formed after the user experiences a favourable outcome towards the product/service.

Reward is a strategy many companies use as a form of appreciation for their customers, aiming to increase customer engagement with online shopping websites (Snipp, 2017). Usually, the reward system has several components, such as points, badges, and leaderboards; this system also allows users to compete and interact with other users. Rewards favourably impact behavioural intention in social commerce. The results imply that rewards may persuade users of social networking services to make online purchases and may persuade even more people to adopt new features in social commerce (Saprikis et al., 2018). The elements of Gamification offer rewards to consumers that encourage consumer engagement, increase collaboration between online users, facilitate the ideas exchange, and enhance social interaction. (Rodrigues et al., 2016).

Thus, the following hypotheses were proposed in this research:

H7: The effect of Perceived Enjoyment on Behavioral Intention will be moderated by Reward.
H8: The effect of Perceived Usefulness on Behavioral Intention will be moderated by Reward.
H9: The effect of Gamification on Behavioral Intention will be moderated by Reward.
H10: The effect of Perceived Ease of Use on Behavioral Intention will be moderated by Reward.

H11: The effect of Social Interactions on Behavioral Intention will be moderated by Reward.

Based on the relationship of variables above, the research model in this study is as follows:

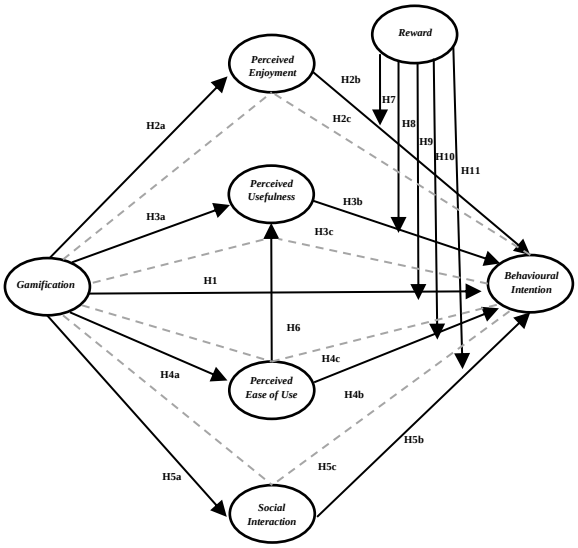

Fig. 2. Conceptual Framework
Source: Modified from Raman (2020)

METHODOLOGY

The research methodology employed in this study is quantitative research with explanatory research. This research uses the SEM SMART PLS analysis technique as it is an analysis that uses a thorough multivariate statistical methodology and is capable of assessing all of the relationships between the variables in the conceptual framework, including structural and measurement components (Hair, Hult, Ringle, & Sarstedt, 2017). The population in this study is all active users on the Shopee Application in Indonesia, Gen Z, Shopee users who play games and use gamification to buy food on Shopee. The research sample is a part of a group taken from the entire object or population being studied (Sekaran & Bougie, 2016). The sample is also interpreted as a representative representation of a population's characteristics. The software used to calculate the number of samples is G*Power (Memon et al., 2020). The G*Power software's power analysis computations reveal that the smallest sample size required is 146 respondents. Data collection techniques are methods or ways used to collect data. In this study, data collection was conducted using the online Questionnaire Survey method and Literature Study on Shopee users who are included in Z Generation in Indonesia. The survey via questionnaire was distributed and filled by 178 respondents using the Google Forms link, which was then shared via WhatsApp Group and Personal, the Shopee Community on Facebook, and the Shopee user forum on the Telegram App. To avoid bias responses, this study uses skip logic questions as a screening method to ensure the respondents are true.

RESULTS

The resultant multi-item constructs were evaluated for convergent and discriminant validity. For the final model, all factor loading estimates measuring the same constructs are highly

significant (p 0.001), demonstrating that all indicators support convergent validity and effectively measure their respective constructs.

Besides, the standardized loadings are all above 0.5, with the larger part being over 0.7. The construct realibility was measured utilizing the degree of Construct Realibility (CR), which is computed from the squared whole of factor loadings and the whole of error variance terms. All composite reliability is above 0.7, illustrating satisfactory reliability. Discriminant validity was calculated by comparing the square root of the variance extracted measures with the inter-construct relationships related with that factor. All square root variance-extracted gauges are more prominent than the corresponding inter-construct relationship gauges, hence affirming discriminant validity. Table 1 appears the mean, standard deviations, average variance extracted (AVE), realibility estimates, and correlation coefficients for the latent contructs in this research.

TABLE 1.
MEAN, COMPOSITE RELIABILITIES, AVERAGE VARIANCE EXTRACTED, CROSS LOADINGS.

Construct	Mean	CR	AVE	1	2	3	4	5	6	7
1. Behavioral Intention	4.45	0.891	0.620	**0.788**						
2. Gamification	4.29	0.885	0.719	0.456	**0.848**					
3. Perceived Enjoyment	4.22	0.914	0.779	0.519	0.533	**0.883**				
4. Perceived Ease of Use	4.30	0.891	0.671	0.554	0.416	0.522	**0.819**			
5. Perceived Usefulness	4.28	0.895	0.635	0.565	0.401	0.530	0.560	**0.797**		
6. Rewards	4.52	0.834	0.558	0.530	0.296	0.407	0.340	0.475	**0.747**	
7. Perceived Social Interactions	4.23	0.927	0.761	0.521	0.403	0.353	0.385	0.400	0.326	**0.872**

Source: Data Processed Smart PLS (2024)

TABEL 2.
STRUCTURAL MODEL ESTIMATES

Hypotheses	Hypothesized paths	Path Coefficient	p-value	Results
H1	GA - BI	0.402	0.000	Support
H2a	GA - PE	0.533	0.000	Support
H2b	PE - BI	0.079	0.273	No Support
H2c	GA - PE - BI	0.042	0.283	No Support
H3a	GA - PU	0.401	0.000	Support
H3b	PU - BI	0.171	0.084	Support
H3c	GA- PU - BI	0.035	0.212	No Support
H4a	GA - PEU	0.416	0.000	Support
H4b	PEU - BI	0.309	0.001	Support
H4c	GA - PEU - BI	0.094	0.035	Support
H5a	GA - SI	0.403	0.000	Support
H5b	SI - BI	0.196	0.027	Support
H5c	GA - SI - BI	0.079	0.037	Support
H6	PEU - PU	0.475	0.000	Support
H7	R X PE -> BI	-0.042	0.650	No Support
H8	R x PU -> BI	0.081	0.434	No Support
H9	R x GA -> BI	0.073	0.394	No Support
H10	R x PEU -> BI	-0.021	0.853	No Support
H11	R x SI -> BI	-0.137	0.079	No Support

Source: Data Processed Smart PLS (2024)

DISCUSSION

Gamification towards Behavioral Intention

The current research confirms that gamification does have a positive impact on intention to buy from Shopee. The research is in line with (Raman, 2020) where it is concluded that gamification act as one of the foremost persuasive technologies to influence consumer behavior, by invigorating their motivation, through games design elements. Despite the significant effect, previous research also stated that the sustainability of gamification is still a matter of further

research by researchers whether gamification can be used as one of the consumer attractors (Hamid & Kuppusamy, 2017).

Gamification to Perceived Enjoyment, Perceived Usefulness, Perceived Ease of Use and Social Interactions.

This study also confirms that Gamification has a significant impact on Perceived Enjoyment, Perceived Usefulness, Perceived Ease of Use and Social Interactions. A study by Bittner & Shipper, (2014) also reveal that most young customers consider gamified frameworks to be more fun-oriented and enjoyable. The gamification components impressively influence the convenience and seen exertion of the female buyers whereas utilizing the online shopping websites (Raman, 2020). Another research also shows that Gamification enhances the collaboration between different online users, facilitate the exchange of ideas and increase social interaction (Rodrigues et al., 2016).

Perceived Enjoyment, Perceived Usefulness, Perceived Ease of Use and Social Interactions to Behavioral Intention.

The other important result in this study reveals that the TAM variables (Perceived Usefulness, Perceived Ease of Use, Behavioral Intention) and Social Interactions are significant, except for Perceived Enjoyment and Behavioral Intention. A study by Davis & Venkatesh, (1996) about TAM confirms that Perceived Usefulness and Perceived Ease of Use significantly influences Behavioral Intention. However, it is also revealed that Perceived Enjoyment has no influence on Behavioral Intention. Typically conflicting to a few of the past considers that believe Perceived Enjoyment has a favorable influence on Behavioral Intention (Raman, 2020). Social Interactions is also an essential antecedent in influencing the consumers' Behavioral Intention, particularly in the e-commerce arena (Lu et al., 2010).

Rewards as moderator of Perceived Enjoyment, Perceived Usefulness, Perceived Ease of Use and Social Interactions to Behavioral Intention.

This study finds that Rewards as moderator between Perceived Enjoyment, Perceived Usefulness, Perceived Ease of Use and Social Interactions does not significantly influence Behavioral Intention. This is contradictory with research conducted by (Wei & Atuahene-Gima, 2009) which stated that rewards are vital moderators that influence commitment and behavioral in individual performance. Another study about reward (Azmi et al., 2021) also stated that rewards were the most used in these studies as rewards may impact buyers mentally to repeat their transactions and became loyal users of e-commerce. A study by (Mustikasari, 2022) used Reward as Independent Variables proven that Reward has a positive effect on Customer Loyalty. Which can be concluded that Rewards as moderating variables does not strengthen or weaken the relationship between Perceived Enjoyment, Perceived Usefulness, Perceived Ease of Use, Social Interactions, and Behavioral Intention, but the result may differ if rewards were used as Independent Variables.

CONCLUSION

Of 19 relationships between variables in 11 hypotheses proposed in this study, eleven have been proved to have significant effect, while eight have been rejected. Gamification has been found to influence Perceived Enjoyment, Perceived Usefulness, Perceived Ease of Use, Social Interactions, and Behavioral Intention. Perceived Usefulness and Perceived Ease of Use and Social

Interactions has been found to influence Behavioral Intention. Perceived Ease of Use has been found to influence Perceived Usefulness. Social Interactions have been found to influence Gamification and Behavioral Intentions as mediators.

Social Interactions and Perceived Ease of Use as mediators have been found to influence the relationship between Gamification and Behavioral Intention. Additionally, it has been observed that Perceived Enjoyment does not significantly affect Behavioral Intention. Perceived Enjoyment and Perceived Usefulness as mediators does not significantly influence the relationship between Gamification and Behavioral Intention. Rewards as moderator does not significantly influence the relationship between Perceived Enjoyment, Perceived Usefulness, Perceived Ease of Use, Social Interactions and Behavioral Intention.

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