

THE IMPACT OF GAMIFICATION ON FEMALE GEN Z USERS' CONTINUANCE INTENTION TO USE DIGITAL PAYMENT METHOD IN JAKARTA

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ABSTRACT

The rapid advancement in technology today has altered the way and conduct of customers when making purchases. Almost every part of life has started to change from conventional to digital. This is relevant, for example, in the case of payment transactions. The large number of e-commerce industries, online transportation, and payment systems through digital payment applications reflect Indonesia's rapid digitalization. The payment system emerged as a revolution that transformed the cash payment system into a non-cash payment system. GoPay, OVO, Dana, Linkaja, Qris, Shopee Pay Later, Doku, and other digital payment methods are currently available in Indonesia. The aim of this study was to examine the impact of the gamification on the intention to continue using the Digital Payment Services. This form of study is known as quantitative analysis. This study's data source is primary data collected from digital payment users in Indonesia.

INTRODUCTION

The rapid development of e-commerce, social-commerce and the rise of fully integrated lifestyle applications that encompass an array of services within their ecosystem, along with other new mobile based technologies, has drastically changed how vendors compete for sales and consumers complete their transactions, safely with a scan, pin, fingerprint, or push of a button. The shift from cash to non cash transactions has become the key for financial institutions to keep businesses competitive and resilient at the same time. This has led to the growing popularity of mobile payments. Mobile Payments are defined as transactions or money transfer from one person to another or from person to vendor using a mobile phone (Dahlberg et al., 2015).

The fundamental advantage of mobile payments is in its convenience, as it is not limited to time or location. In the case of brick & mortar vendors, where maximizing orders is key for the business, a consumer may simply scan a QR code and allow the next customer to purchase, in-turn increasing capacity and subsequently, revenue. E-money transactions reached Rp 15.8 trillion in January of this year. In Indonesia, the largest digital transactions are coming from retail (28%), online transportation (27%), food order (20%), e-commerce (15%), and bill payments (7%) (Wang et al., 2017). This implies that all organizations, not just start-up companies but also traditional banks, telecommunication companies, utilities and so on, can become part of the fintech phenomenon, if they can craft innovative business models and add-value to the overall consumer journey and experience.

As of February 2020, 41 licensed e-Wallet platforms have been approved by Indonesian government regulators. Between 2017 and 2018, digital consumers in Indonesia grew from 64 million to 102 million, almost half the total population in Indonesia (Sanny et al., 2022). The top five digital payment platforms in Indonesia based on the number of monthly active users between 2017-2019 were GoPay, OVO, DANA, LinkAja, and Jenius.

Nowadays digital payment has penetrated into various business sectors. With the growing affluence of mobile technology, digital payment has become the leading platform that facilitates the transaction of payment between the consumers and sellers (C.-M. Leong et al., 2021; L.-Y. Leong et al., 2020) However, we also know that digital payments have an effective way to attract first-time customers, such as by giving benefits that we can call instant reward programs. These short and instant rewards, especially in the marketing domain are introducing the gamification techniques at a rapid pace in the non-gaming environments. Gamification is one such technology that falls under this category. It not only helps in improving the efficiency of users but also motivates and encourages them to perform a particular task in an enjoyable way (Koivisto & Hamari, 2019). Still in its early development, the abilities and elements of gamification are deemed to be readily adaptable for their app users in this sector. Instant Reward Programs is a short-term program that rewards consumers instantly with small premiums per fixed spending (Minnema et al., 2017). The instant reward programs include discount, cashback, and points, badges, ladders, and so on.

Mobile payment research from 2007 to 2014 and concluded that the research has focused mainly on three themes: strategy and ecosystems, technology, and adoption (Dahlberg et al., 2015). There are many reasons or various motivations behind why the consumer continues to use digital payment. There are still currently no studies available where the influence of different elements of gamification has been conducted on female consumers. This research focuses on addressing these gaps that focus on the impact of gamification in digital payments, the intention to continue using digital payment services, and the factors that influence payment preferences. The goal is to determine which factors or reasons are important to consumers.

In the present research, technology acceptance model (TAM) is used to examine the impact of gamification on the young female consumers' willingness to use online websites for shopping. Then though elaborate efforts have been made on identifying determinants of using digital payment methods, the variables used in preceding research using planned theory behavior have been selectively limited. This research is also a crucial objective of the study where there is a need to comprehensively evaluate the influence of gamification and attitude implemented on different digital payment methods on the gen Z female consumers' behavior.

By extending the Theory of Planned Behavior, this research tries to study the effect of gamification in reference to digital payment methods and determine whether the model still holds good even after so many years of change in consumer behavior and technological innovations. The goal of this study is to examine the impact of gamification on female gen Z users' continuance intention to use digital payment method in Jakarta. This study is structured into three parts. The first reviews the previous literature on digital payment and defines the factors that influence its adoption. Part two presents theories related to the study topic and constructing framework models. The description research method and sampling characteristic will be described in part three.

Gamification is the application of game design ideas, game thinking, and game mechanics to non-game situations (Deterding et al., 2011). Gamification became a popular topic around 2010, and it has been used as one of the methods to motivate community involvement in various actions. The use of gamification can not only be used in one particular field of science but can also be used to increase motivation and involvement in various scientific disciplines such as health (Orji & Moffatt, 2018), education (Barata et al., 2017; Najjar & Salhab, 2022), and consumer behavior (Morganti et al., 2017; Tobon et al., 2020) as well as in fintech and e-commerce businesses. Gamification is used to influence consumer behavior and attitudes. In this case, gamification's control over game features can have a positive impact on the gaming experience and the formulation of consumer intentions in terms of intent to continue using. Gamification components such as levels, points, badges, leader boards, avatars, quests, social graphs, awards, and certifications can all be used to track gamification (Zainuddin et al., 2020).

Actual use of gamification is also explored. Main findings suggest only a small percentage of teachers (11.30%) use gamification on a regular basis in their courses although teachers' attitude towards gamification is positive and high. Nevertheless there is a significantly more positive attitude towards gamification for teachers serving in private universities than in public universities. Results revealed no age dissimilarities in use or attitude towards gamification. Results also suggest an attitude-use gap (Martí-Parreño et al., 2016). From the following explanation, a hypothesis can be drawn :

H1: There is a positive relationship between gamification and attitude

Theory of planned behavior (TPB) proposes that behavior is predicted by behavioral intention which is predicted by three base components: attitudes toward the behavior, subjective norms regarding the behavior and perceived control over the behavior. This theory has been applied to hundreds of studies to predict behavior and found to be well supported by empirical evidence (Schifter & Ajzen, 1985). According to TPB, behavioral intention is determined by attitude toward the behavior, subjective norm, and perceived behavioral control. In this case, gamification has been defined as a process of enhancing services with motivational affordances in order to invoke gameful experiences and further behavioral outcomes (Koivisto & Hamari, 2019). In defining gamification, Koivisto and Hamari (2019) highlight the role of gamification in invoking the same psychological experiences as games does. However, it is unclear which affordances are unique to digital payment methods as well as which psychological outcomes can be strictly considered to stem from gamification. From the perspective of these definitions, there is room for a large variety of studies that could be framed as gamification. As a result, users' intentions and behavior to continue making transactions at a certain level have an indirect influence on their attitudes and behavior control (Ajzen, 1991). Therefore, the hypothesis proposed:

H2: There is a positive relationship between gamification and perceived behavior

Gamification, according to this description, is a three-part process that incorporates emotions, mechanisms, and dynamics (Sailer & Homner, 2020). Gamification may be inferred on three levels, according to Koivisto and Hamari (2019) psychological abilities, motivation, and behavior. Previous research done by Fang et al. (2019) stated that there is a positive relationship between gamification and subjective norms. Subjective norms are the incentives or pressures that one may detect in one's social interactions. Perceived behavioral control represents one's views about whether he or she can do the activity (self-efficacy) and reflects one's belief about the availability of elements that may make it easier or harder to accomplish the behavior. Aspects of attitude, subjective norms, and perceived behavior control should be considered in this framework when devising behavior modification tactics to promote one's aim. Gerdenitsch et al. (2020) stated that there is a positive relationship between gamification and subjective norms in digital payment. From the following explanation, we draw the hypothesis:

H3: There is a positive relationship between gamification and subjective norms

In this theory, attitudes, subjective norms and perceived behavioral control are used in order to predict an intention with a like-high accuracy. The theory of planned behavior is used widely to predict and modify human actions. According to Ajzen (2020), Theory of Planned Behavior elaborates that behavioral intentions, and the immediate precursors of behavior are defined by attitude toward the behavior and subjective norm with respect to the behavior as well as perceived control over the behavior. Along with being one of the most widely cited theories, it is one of the highly applied behavior theories. It evolved from the TRA, suggesting that intention to act is the best predictor of behavior. Intention is in itself an outcome of the combination of attitudes toward behavior. That is, the positive or negative evaluation of the behavior and its expected outcomes and subjective norms are the social pressures exerted on an individual resulting from their perceptions of what others think they should do and their inclination to comply with these expectations. Based on this literature (Cheon et al., 2012), thus, we hypothesize the following:

H4: There is a positive relationship between attitude and continuance intention to use

Ajzen (2020) introduced the construct 'perceived behavioral control' into his theory of planned behavior as a determinant of both behavioral intention and of the behavior itself. That appears, perceived behavioral control is much like self efficacy, but operationally, it is usually evaluated by the ease or perhaps difficulty of the behavior. Behavioral is directly predicted by perceived behavioral control. The behavioral intention to act would be the foremost variable in this model since it directly predicts action and acts as a mediator between other three variables in the theory of planned behavior (Ajzen, 2020). Perceived behavioral control refers to perception of their capability to do a given behavior. Based on the concept of planned behavior, perceived

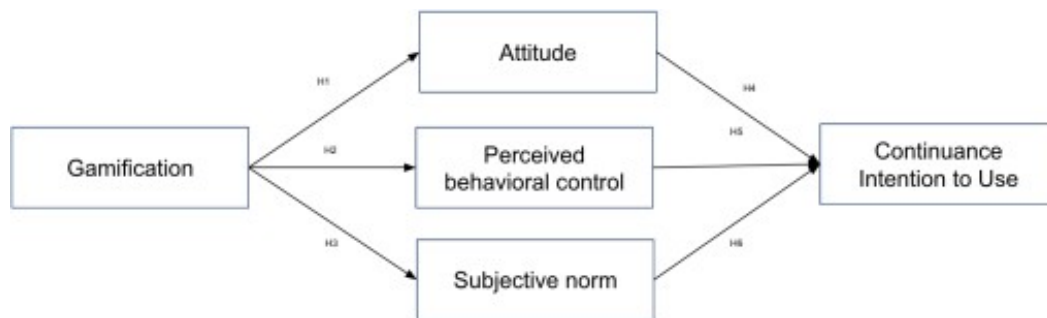
behavioral control, combined with behavioral intention, can easily be used to predict behavioral achievement (Ajzen, 2020).

H5: Perceived behavioral control of Gen Z user's are associated positively with the continuance intention to use digital payment method.

Social influences in the form of subjective norms are used as factors both in models of technology acceptance and in their subsequent adaptations (Venkatesh & Bala, 2008). This factor is defined as the degree that individuals' perception of what people important to them consider on whether they should adopt a system or perform a certain action (Lai, 2017). Lu (2005) suggested that social influences are potentially important determinants of mobile technology adoption. Previous studies have identified that subjective norms and attitudes are related. As for digital payment, by seeing others especially whom they regard as trustworthy using mobile payment, it will create this form of positive attitude. The subjective norm, in the context of mobile payment, is the degree to which a social environment perceives mobile payment as desirable (Schierz et al., 2010). This social construct is composed of two basic underlying sets of factors. First, the beliefs that consumers have about the people they regard as a reference and second is the motivation of individuals to behave according to the desires of the people of reference (del Bosque & Crespo, 2005).

H6: The subjective norms of Gen Z users' are associated positively with the continuance intention to use digital payment method.

Figure 1
Conceptual Framework



METHODS

A quantitative approach is used in this study in order to analyze the hypotheses by conducting an online survey. In this study, the authors will use a non-probability convenience sampling method because for the reasons of convenience and based on using people who are easily accessible (Mäntymäki et al., 2014). Research conducted for the respondents who are a user of the instant reward program on the digital payment for female, Lee (2009), the recommended sample size is 100 samples or more. In this study, the authors choose to use a green formula to predict the number of samples needed. In conclusion, the number of minimum respondents needed in this research is 90, but the authors decide to aim 150 respondents.

The authors designed a questionnaire into three parts including filter questions, demographic section and followed by research questions. The filter question consisting of first, whether the respondents are female or male, second whether they are born within 1997-2012, whether the respondents domicile in Jakarta or not and lastly whether they are a user of an instant reward program on the digital payment or not.

The authors use 6 point Likert-scale in order to avoid neutral answers and force the respondents to show their true feelings. To test the research constructs, the authors use PLS- SEM to analyze the cause-effect relation between the research construct. The PLS-SEM is a causal modeling approach aimed at maximizing the explained variance of the dependent latent constructs (Shao et al., 2019) and considered the "most fully developed and general system" (Aparicio et al., 2012).

RESULTS

This research was gathered specifically to data the generation z female who lives in Jakarta and using digital payment. The researcher gathered the main research with 158 respondents who passed the filter questions. To test the reliability and validity, following to test the hypothesis the researcher ran a structural equation model through Smart- PLS. Table 1 below shows the results of constructs' item loadings, average variance extracted (AVE), composite reliability (CR) and cronbach's alpha.

For the hypothesis testing, this study has revealed there is a positive association between gamification and attitude ($\beta = 0.754$, p -value = 0.000), gamification and perceived behavioral control ($\beta = 0.727$, p -value = 0.000), gamification and subjective norm ($\beta = 0.787$, p -value = 0.000) which concludes that H1, H2 and H3 were supported. This means gamification in digital payment most likely has a positive association to user's attitude, perceived behavioral control and subjective norms. The digital payment platform should consider adding gamification elements on their platform so users' will take it as a consideration to use it and find pleasure when using the digital payment method.

Furthermore, the results also reveal that there is no positive association between attitude and continuance intention to use ($\beta = 0.120$, p -value = 0.300) this concludes that H4 is not supported. The complete theoretical framework of Attitude is to understand how the external variables shape one's cognitive beliefs, the attitude of use, behavioral intention and other constructs that affect personal behavior. However, attitudes have strong behavioral elements. Assume that when someone forms an intention to act that they will be free to act without any limitation. But in the real world many constraints may exist of subjective normative and exterior influences, which limited personal freedom to act. Attitude is a relatively more lasting impact beyond all previous experience, hence to continue using digital payment methods have developed a strong continuance habit. This implies even though an individual's attitude can be influenced by the overall perception to access such services and beneficial to the users; but in essence, the continuance acts still depending on subjective norms and behavioral control of the individual. On the contrary, the effects of attitude on intention to continue using is found not to be the only variables that have effects.

The study from Bhattacharjee (2001) shows that attitude, as opposed to satisfaction, is a stronger driver of intention in the use of utilitarian (i.e. mobile apps) vs. hedonic products. The stronger the beliefs about the use of a technology, the stronger the intention to use. Hence why in this particular research, the attitude towards continuance intention to use is not supported. Attitude is defined as the extent to which a person likes certain technology, and the attitude toward technology can be in the form negative or positive. Therefore consumers will continue to use a specific technology when they have positive feelings about the technology (Khan et al., 2019; Schifter & Ajzen, 1985). Since the study found that subjective norms play an important role in the user's intention to continue to use digital payment methods services. Therefore, we proposed some practical implications, particularly those concerned with attitude and the continuance intention.

This study also revealed that there is a positive association between perceived behavioral control with continuance intention to use ($\beta = 0.406$, p -value = 0.001), subjective norms and continuance intention to use ($\beta = 0.407$, p -value = 0.000). This indicates that H5, and H6 were supported. It may be explained by the fact that social influences in the form of subjective norms are used as factors of acceptance and adaptations which leads to continuance intention to use.

Table 1
Table Construct Reliability and Validity

Variables	Item Loadings	AVE ^a	CR ^a	Cronbach's Alpha
Attitud				
eA1	0.770			
A2	0.785			
A3	0.867	0.615	0.888	0.843
A4	0.728			
A5	0.765			
Perceived Behavioral Control				
PBC1	0.777			
PBC2	0.826	0.621	0.868	0.797
PBC3	0.776			
PBC4	0.773			

Variables	Item Loadings	AVE ^a	CR ^a	Cronbach's Alpha
Subjective				
NormsSN1	0.873	0.719	0.928	0.902
SN	0.813			
2	0.810			
SN	0.866			
3	0.876			
SN				
4				
SN5				
Continuance				
Intention To Use	0.853	0.748	0.922	0.888
CTU	0.884			
1	0.823			
CTU	0.900			
2				
CTU				
3				
CTU4				
Gamificatio				
nGMF1	0.717	0.623	0.937	0.924
GMF2	0.789			
GMF3	0.827			
GMF4	0.859			
GMF5	0.793			
GMF6	0.776			
GMF7	0.761			
GMF8	0.745			
GMF9	0.828			

Table 2
Structural Equation Model

Hypothesis	Path-coefficient	P-Value	Conclusion
H1 GMF → ATT	0.754	0.000	Accepted
H2 GMF → PBC	0.727	0.000	Accepted
H3 GMF → SN	0.787	0.000	Accepted
H4 ATT → CTU	0.120	0.300	Rejected
H5 PBC → CTU	0.406	0.001	Accepted
H6 SN → CTU	0.407	0.000	Accepted

CONCLUSION

Digital payments have been carried out in recent years and has penetrated into various business sectors. With the advancement of mobile technology, digital payments have taken the lead as the platforms make it easier for buyers and sellers to do transactions. Incentives that we might refer to as instant reward programs are one way that digital payments have been successful in luring new customer. Gamification techniques are being introduced quickly in non- gaming environments because to these quick and easy rewards, particularly in the marketing field. One such technology that fits under this category is gamification. It not only increases user productivity but also inspires and encourages people to complete a task in a fun and engaging manner. Gamification positively influences the attitude and increases behavioral control among the gen z female consumers in Jakarta. The digital payment companies should design their digital payment methods in such a manner that it includes the gamification elements. Especially for the gen z female consumers, the digital payment services should incorporate the gamified elements so as to lead them to an enjoyable and engaging experience. Points and badges not only serve as rewards or stimuli for the consumers but also motivate them to repeat their behavior.

This technology adoption is also influenced by the social influence which will affect the users' attitude. However, attitudes strongly reflect behavior. Assume that when someone decides to act, they will be

unrestricted in their actions. However, in the real world, there can be a lot of restrictions due to subjective normative and outside forces, which would limit one's ability to act.

This paper has a number of research limitations, first this research is only focusing on Jakarta and female generation z. For future research, this paper makes some suggestions that could look into other concepts such as trust. In using digital payment, as a financial service trust is needed in order to make people use the platform because it involves money in it. Moreover, the enhanced model identifies certain positive elements that can help the digital payment services to develop gamified strategies to increase consumer engagement and in return generate revenue for the company. This highlights the importance of subjective norms and Perceived behavioral control in the decision-making of gen z female consumers.

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