

The Effect of Perceived Value Using the Gamification Program on Customer Loyalty through Customer Satisfaction as an Intervening Variable (Study on Dana E-Wallet Application Users)

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Abstract:

The tight competition of e-wallets in Indonesia requires DANA to continue to innovate in order to maintain the loyalty of its customers. One of these innovations is by providing value to customers through the application of gamification in the DANA application. On the other hand, although there is great hope that gamification can increase loyalty, researchers from Gartner stated that gamification tends to fail due to poor implementation. In DANA's own gamification program, many customers complain due to the current rules applied. This study aims to determine whether DANA's gamification program can create satisfaction as well as loyalty of its customers. The number of samples in this study were 100 respondents aged over 17 years, where the respondents were DANA users and had participated in the DANA Surprise program. Sampling was done using purposive sampling technique. The data analysis process was carried out using PLS with SmartPLS software version 4.0.9.2. Overall this research resulted in: (1) Hedonic, utilitarian, and social values in gamification affect customer satisfaction, (2) Customer satisfaction affects customer loyalty, (3) Hedonic values in gamification affect customer loyalty, while utilitarian and social values in gamification have no effect on customer loyalty, (4) Customer satisfaction mediates the relationship between hedonic, utilitarian, and social values in gamification to customer loyalty.

Keywords E-wallet, Gamification, customer satisfaction, customer loyalty, and SmartPLS

Introduction

Along with technological developments, the financial services industry gave birth to an innovation known as fintech (financial technology). Fintech is a financial industry that maximizes the use of technology to improve various aspects of financial services (Nikkel, 2020). Fintech-based companies offer new products which provide more flexibility and efficiency where these advantages could not be fulfilled by previous financial service providers (Gomber et al., 2017). One of the products from fintech is e-wallet. An E-wallet is a digital form of a physical wallet. E-wallets have the same uses as physical wallets, namely to carry out various financial transactions, store electronic money, and store various user identities (Junadi & Sfenrianto, 2015). The many features offered in e-wallets are called the easy triggers for e-wallets to be accepted in Indonesia. With e-wallets, people do not have to spend time or energy to carry out various transaction activities, such as cash transfers, credit payments, electricity, water, taxes, and some e-wallets even provide SPP payments in their applications.

One of the popular e-wallets in Indonesia is DANA. DANA was officially launched in November 2018; PT Espay Debit Indonesia Koe developed this e-wallet. The DANA application can make Various payment transactions, such as bank transfers, tuition payments, pulses and electricity. A survey conducted by Populix in mid-2022 showed that 83% of survey respondents used the DANA e-wallet (Goodstats.id). The data results show intense competition in the e-wallet industry in Indonesia; this certainly requires DANA to continue to innovate strategies to maintain its business. In a company's efforts to maintain business, customer loyalty is important to pay attention to.

According to SOLIHA et al. (2021), customer loyalty is the willingness of customers to continue to consistently use a product or service in the future, even though several factors can influence customers to switch to products or services offered by other companies. Loyal customers are not only limited to buying a product or a service, but they will also share good experiences with other products or services used by giving ratings to products, giving opinions about products, or recommending them. Maintaining the loyalty of DANA users is certainly not an easy thing, as evidenced by the results of a survey conducted by Ipsos at the end of 2020 using the "net promoter score" (NPS) calculation to analyze loyal customers, noting that DANA only ranks 4th after shopeepay, gopay, and OVO in terms of customer loyalty. The following is an Ipsos survey table regarding e-wallet customer loyalty in Indonesia. In order to create loyal customers, the company must first provide customer satisfaction. The higher the level of satisfaction that customers receive after using a company's products or services, the higher their loyalty to the company's products or services (Solimun & Fernandes, 2018). To support this statement, research results from Abror et al. (2019) and Shahisa & Aprilianty (2022) state customer satisfaction positively and significantly influences customer loyalty. Customer satisfaction itself is interpreted by Kotler and Armstrong (2008) as the result that customers receive from a company's performance where this performance has met their expectations (SASONO et al., 2021). Meanwhile, Hellier et al. (2003) define customer satisfaction as a feeling of pleasure consumers feel, which comes from the ability of a company's service to meet their needs and expectations (SASONO et al., 2021).

DANA has made various innovations to create satisfaction while maintaining or increasing customer loyalty. One of these innovations is to provide value to customers by applying gamification in the application. Gamification is the use of game elements in non-game contexts that aim to increase value creation (Whittaker et al., 2021). The application of gamification in a loyalty program is intended to bring joy to customers' hearts; later, this pleasure is expected to motivate customers to continue using the application in their transaction activities; from this, customer experience opportunities are created to get loyal customers.

In addition, the DANA Surprise feature in the DANA application includes game elements such as points, badges and challenges. Users can obtain points after completing challenges provided by the DANA application. Later, these points can be exchanged for raffle coupons which contain various cashback vouchers and discounts at merchants that work with DANA. Various efforts made to market this application contain using a multidimensional approach by adopting three dimensions (hedonic, utilitarian, and social values), proposed and tested by (Torres et al., 2021; Hamari & Koivisto, 2015; Putri et al., 2019; J. Yu et al., 2013). The hedonic value of the DANA surprise is obtained when users receive a reward after they make several transactions in the DANA application. This statement is in line with Putri et al. (2019), which states that customers will feel happy and entertained when making transactions in an m-payment when the transaction can generate a reward in the form of a voucher or cash. In addition to getting hedonic values, users can also get utilitarian values. The utilitarian value in DANA Surprise is obtained when the user gets an economic prize in the form of a reward, either in the form of cash or a discount voucher, ease of running the program and other benefits such as making the program a means of entertainment. The final value that DANA Surprise can give users is social value. The social value in DANA Surprise is obtained when users interact with other users. The interaction can be through exchanging ideas or information about the DANA Surprise program.

Literature Review

Research from Torres et al. (2021) shows that hedonic and utilitarian values in gamification can create satisfaction, and this satisfaction has a positive effect on brand loyalty. In addition, Putri et al. (2019) also stated that hedonic, utilitarian, and social values in gamification can motivate customers to be loyal to a brand. However, there are other conditions; in the DANA gamification program itself, many users complain about the rules currently being applied by DANA. With several customer complaints, it is interesting to see whether the

DANA Surprise program includes the implementation of gamification that fails or succeeds in creating satisfaction and fostering a sense of loyalty among its users.

This research is also motivated by research gaps in previous studies. The research results from Huang et al. (2019) show that social value in gamification affects satisfaction. However, in contrast to the results of a study by Torres et al. (2021), which shows that social value in gamification does not affect satisfaction. The research results from Putri et al. (2022) show that social value in gamification does not affect satisfaction. The research results from Sari & Ardiansari (2019) show that hedonic values significantly affect customer loyalty through customer satisfaction. However, it differs from the results of research from Kussudyarsana & Indraswari (2022), which show that hedonic values do not significantly affect customer loyalty through customer satisfaction. Based on previous research and existing conditions, the research model proposed by the researcher is as follows:

Methodology

Types of research

The method used in this study is a quantitative research method. The quantitative method is called the traditional variable because this method has been used for a long time. The quantitative method can also be referred to as the scientific or scientific method because it fulfills scientific principles, namely concrete or empirical, objective, measurable, rational and systematic. According to Sugiyono (2016), the Quantitative research method is based on the philosophy of positivism, used to examine certain populations or samples, collect data using research instruments, and analysis is quantitative or statistical, intending to test established hypotheses.

Data source

Sources of data used in this study are primary data and secondary data. According to Sugiyono (2016), primary sources are data sources that directly provide data to data collectors. In this study, primary data was obtained directly from respondents by providing a list of questions in the form of a questionnaire. At the same time, secondary sources do not directly provide data to data collectors, for example, through other people or documents. Secondary data in this study were obtained via the Internet.

Method of collecting data

Data collection in this study was carried out using a questionnaire. According to Sugiyono (2016), the questionnaire is a data collection technique carried out by giving questions or statements to respondents to answer. The data measurement technique in this study uses a Likert scale. The Likert scale measures attitudes, opinions, and perceptions of a person or group of people about social phenomena (Sugiyono, 2016). In this study, the Likert scale used was a Likert scale of 1-5, ranging from strongly disagree to agree strongly.

Population and Sample

According to Sugiyono (2016), a population is a generalized area consisting of objects or subjects with certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. The population in this study is DANA application users throughout Indonesia. While the sample itself, according to Sugiyono (2016), is part of the number and characteristics possessed by the population. The sample is used if the researcher can only use some elements of the population as research subjects due to limitations such as funds, workforce and time. To get the correct conclusions about the population, the sample taken from the population must be truly representative or representative. Because this research uses PLS, according to Chin's statement (1998 in Olugbara & Letseka, 2020) which states that research with PLS does not require a large sample because PLS has worked well with a minimum number of samples ranging from 30 to 100. Considering this, the number of samples used in this research is 100. The sampling technique used in this study was a purposive sampling technique which is a part of the non-probability sampling technique. According to Sugiyono (2016), purposive sampling uses certain considerations or criteria. The criteria are respondents who are at least 17 years old, are DANA users, and have participated in the DANA Surprise program.

Data analysis technique

The data analysis technique used in this study is Descriptive Statistics, Partial Least Square, and T-test. Sugiyono (2016) suggests that descriptive statistics are statistics used to analyze data by describing or describing data that has been collected as it is without intending to make conclusions applicable to the general

public or generalizations. Descriptive statistics can be used when the researcher only wants to describe sample data and wants to avoid making conclusions that apply to the population where the sample is taken. The data in this study came from respondents' answers to the questionnaire's questions.

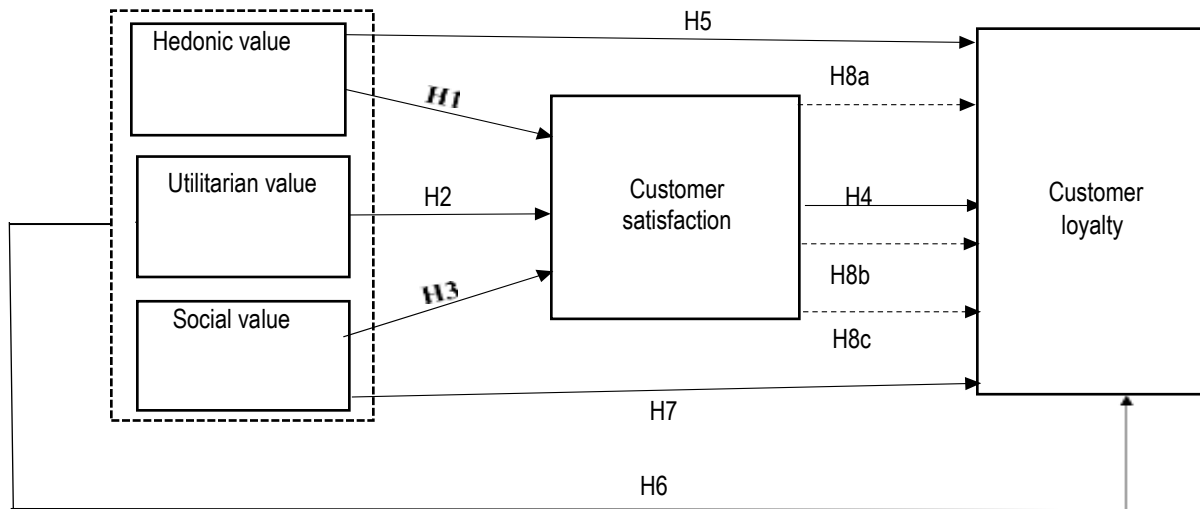
The collected data will be analyzed using Partial Least Square (PLS) based on the hypothesis and research paradigm. Partial Least Square (PLS) analysis is a multivariate statistical technique that compares multiple dependent and independent variables. PLS is also a variant-based Structural Equation Model (SEM) analysis that tests measurement and structural models simultaneously. According to Abdillah & Jogiyanto (2021), PLS is a variant-based SEM statistical method designed to solve multiple regression when specific problems occur in the data, such as small study sample sizes, missing data, and multicollinearity. The t-statistic test is used to see whether the hypothesis proposed by the researcher is accepted or rejected. According to Hair et al. (2008 in Abdillah & Jorgiyanto, 2021), the t-statistic value must be above 1.96 for the two-tailed hypothesis and above 1.64 for the one-tailed hypothesis for hypothesis testing at an alpha of 5% and 80% power.

Research variable

No	Variable	Definition	Indicator	Scale
1	The hedonic value of gamification	The extent to which consumers feel pleasure, happiness, and enjoyment when they participate in a gamification program (N. Yu & Huang, 2022)	1. Fun to use 2. Entertaining 3. Give happiness 4. Gives a sense of relaxation Source: N. Yu & Huang (2022)	Likert
2	The utilitarian value on gamification	User ratings related to usability, ease of use, and economic benefits in a gamification program (N. Yu & Huang, 2022) (Torres et al., 2021)	1. Useful for entertainment or saving costs 2. Get what you want 3. Get a better price 4. Reduce purchasing costs 5. Ease of use 6. Do not spend much effort 7. Easy to understand Source: N. Yu & Huang (2022), Hamari & Koivisto (2015), Torres et al. (2021)	Likert
3	The social value on gamification	The value generated by the ability of a gamification program to increase user social interaction (N. Yu & Huang, 2022)	1. Feeling that many people follow the same gamification program 2. Feeling that many people around follow the same gamification program 3. Easily influenced by people to join 4. Get a positive attitude from others. Source: N. Yu & Huang (2022)	Likert
4	Customer loyalty	According to Solomon (1996), customer satisfaction is everything consumers feel about their experience using a product or service (Zouari & Abdelhedi, 2021).	1. Satisfying experience 2. Pleasant experience 3. An entertaining experience 4. Needs are met Source: Yuan et al. (2020)	Likert
5	Customer satisfaction	According to Esmaili et al. (2021), customer loyalty is someone who subscribes to one brand to purchase a product or service, not only that they will also tell their experiences using the product or service positively to other people or even tend to recommend it.	1. Make the first choice in the future 2. Say positive things 3. Strong belief 4. Not easy to be influenced Source: Yuan et al. (2020)	Likert

Research model

Based on previous research and existing conditions, the research model proposed by the researcher is as follows:



Source: Research model adapted from Torres et al. (2021)

Result and Discussion

Characteristics of Respondents

Most respondents were female, namely as many as 61 respondents (61%), while the other 39% or as many as 39 respondents were male. The data obtained from the 100 respondents shows that most DANA e-wallet users and the DANA Surprise feature are women aged 22-26 years, namely 58 respondents (58%). Respondents aged 17-21 years are in second place, with as many as 20 respondents (20%). While respondents with an age range of 27-31 years were 14 respondents (14%), respondents with an age range above 31 years were in last place with as many as eight respondents (8%). The data obtained from the 100 respondents shows that most DANA e-wallet users and the DANA Surprise feature are 22-26 years old.

Most respondents work as students, namely as many as 64 respondents (64%). Respondents who work as private employees are 23 respondents (23%). While the other 13%, or as many as 13 respondents, work as civil servants. The data obtained from the 100 respondents shows that most DANA e-wallet users and the DANA Surprise feature work as students/students using DANA more than once a week, namely 58% of respondents. Twenty-six respondents (26%) use DANA once a week. A total of 11 respondents (11%) use DANA at least once a day. Meanwhile, 5% of 5 respondents use DANA less than once a week. The data obtained from the 100 respondents shows that the majority of DANA e-wallet users and the DANA Surprise feature use DANA more than once a week.

Variable Description Analysis

Based on data processing, it was found that the indicator "fun to use" received the highest rating, namely 3.98. In contrast, the weakest rating was the indicator "provides a sense of relaxation," which was equal to 3.61. The average value of the hedonic value variable in gamification, as a whole, is 3.83, which means it is included in a good interval scale. This shows that respondents agree they get hedonic benefits such as feeling happy, relaxed, entertained, and happy when participating in the DANA Surprise program from the DANA application. For the utilitarian value variable, the "ease of use" indicator gets the highest score, 4.50, while the weakest score is the

"getting what you want" indicator, 3.68. The average value of the utilitarian variable in gamification as a whole is 4.12, which means that it is included in a good interval scale. This shows that the DANA Surprise program in the DANA application has succeeded in giving respondents several utilitarian benefits such as economic prizes, ease of use, or getting what they want.

The indicator "Getting a positive attitude from other people" on social values gets the highest score, equal to 3.90. In contrast, the weakest score is the indicator "Feeling that many people around follow the same gamification program," which equals 3.54. The average value of the social value variable in gamification as a whole is 3.74, which means it is included in a good interval scale. This shows that the respondents agreed that when they took part in the DANA Surprise program in the DANA application, the respondents received several social benefits, such as a positive attitude from other people or increased the respondent's social self-concept. In addition, it was found that the "satisfying experience" indicator obtained the highest rating, namely 4.25, while the weakest rating was the "entertaining experience" indicator, namely 3.91. The average value of the overall customer satisfaction variable is 4.09, which means that it is included in the good interval scale. This shows that the respondents agree that the hedonic, utilitarian and social benefits they get when participating in the DANA Surprise program in the DANA application make them satisfied with the DANA application. The loyalty variable indicator, "Making the first choice in the future," gets the highest rating, 4.05, while the weakest rating is on the "Say positive things" indicator, which equals 3.84. The average value of the customer loyalty variable is 3.87, which means that it is included in the good interval scale. This shows that the respondents agree that the hedonic, utilitarian and social benefits they get when participating in the DANA Surprise program available on the DANA application make them loyal to the DANA application.

Structural Model Analysis (Inner Model)

The inner model is a structural model for predicting the causality relationship between latent variables. Structural models in PLS are evaluated using R-square for the dependent construct and path coefficients or t-values for each path to test the significance of the constructs in the structural model. Following are the results of testing on the inner model that has been carried out.

R-square

The r square value measures the level of variation in the independent variable changes to the dependent variable. The higher the R² value means, the better the prediction model of the proposed research model. In this study, two dependent variables are influenced by other variables, namely the variable Customer Satisfaction (KP), which is influenced by Hedonic Value (NH) in gamification, Utilitarian Value (NU) in gamification, and Social Value (NS) in gamification. The customer Loyalty (LP) variable is influenced by Hedonic Value (NH) on gamification, Utilitarian Value (NU) on gamification, Social Value (NS) on gamification, and Customer Satisfaction (KP).

Variable	R-square
Customer satisfaction	0.659
Customer loyalty	0.795

Source: Primary data processed, 2023

Based on Table 4.15, the R-square variable for customer satisfaction is 0.659. This means that the latent variables of hedonic values in gamification, utilitarian values in gamification, and social values in gamification can explain or predict 65.9% of customer satisfaction variables. In comparison, the remaining 34.1% is explained by other variables not used in this study. The R-square value of the customer loyalty variable is 0.795. This means that the latent variables hedonic value in gamification, utilitarian value in gamification, social value in gamification, and customer satisfaction can predict 79.5% of the customer loyalty variable. In comparison, the remaining 20.5% is explained by other variables not used in this study.

Path Coefficient Value

The path coefficient test is carried out by looking at the path value; if the path value is above 0.1, the path influences the model.

Patch coefficient	Original sample (0)
Customer Satisfaction -> Customer Loyalty	0.642
Hedonic Value -> Customer Satisfaction	0.322
Hedonic Value -> Customer Loyalty	0.282
Social Value -> Customer Satisfaction	0.263
Social Value -> Customer Loyalty	-0.01
Utilitarian Value -> Customer Satisfaction	0.343
Utilitarian Value -> Customer Loyalty	0.037

Source: Primary data processed, 2023

The table shows that eight paths have a path coefficient value above 0.1. The other two paths have a path coefficient value below 0.1, namely social value -> customer loyalty and utilitarian value -> customer loyalty. Based on these results, only social values and utilitarian values do not influence customer loyalty.

T-statistic test

In this test, the researcher tested the bootstrapping method and used the two-tailed test with a significance level of 5%. The hypothesis will be accepted if the t-statistic value is greater than 1.96.

	T statistics (O/STDEV)
Customer Satisfaction -> Customer Loyalty	8.465
Hedonic Value -> Customer Satisfaction	3.782
Hedonic Value -> Customer Loyalty	3.398
Social Value -> Customer Satisfaction	3.168
Social Value -> Customer Loyalty	0.117
Utilitarian Value -> Customer Satisfaction	3.837
Utilitarian Value -> Customer Loyalty	0.378

Source: Primary data processed, 2023

Based on the table, only social and utilitarian values do not affect customer loyalty because they have a value less than the t-statistic value of 1.96, namely for the effect of social and utilitarian values on customer loyalty.

Mediation Test

The mediating effect shows the relationship between the independent and dependent variables through the mediating variable. It is said to have a significant effect if the t-statistic value is above 1.96.

Mediation	T statistics (O/STDEV)
Social Value -> Customer Satisfaction -> Customer Loyalty	3.039
Hedonic Value -> Customer Satisfaction -> Customer Loyalty	3.441
Utilitarian Value -> Customer Satisfaction -> Customer Loyalty	3.419

Source: Primary data processed, 2023

Based on these tests, the effect of hedonic, social, and utilitarian values on gamification of customer loyalty through customer satisfaction produces a t-statistic of more than 1.96 so that customer satisfaction manages to mediate all of these relationships.

The influence of hedonic values on gamification affects customer satisfaction.

The results of the t-statistic value obtained from the path coefficient table show that H1 is accepted. This means that the hedonic value of gamification affects customer satisfaction. These results are consistent with the results of a study by Torres et al. (2021) and Hsu & Chen (2018b), which state that hedonic values significantly affect customer satisfaction. Researchers think DANA e-wallet users will feel happiness, pleasure, relaxation, and comfort when participating in the DANA Surprise program. This is supported by the answers of most respondents, who indicated they agreed that DANA Surprise could give them a sense of happiness, with a score of 3.98 on this indicator. Most respondents also agreed that DANA Surprise could make them happy, scoring 3.87 on this indicator. Then most of the respondents also agreed that DANA Surprise could foster a sense of relaxation for them, with a score of 3.91 on this indicator. Moreover, when respondents were asked, "Were they entertained after participating in DANA Surprise" the majority agreed, with a score of 3.61 on this indicator. In the end, all the things customers feel, such as happiness, comfort, relaxation, and pleasure after participating in DANA Surprise, can cause them to feel satisfied with the DANA e-wallet.

The influence of utilitarian values on gamification affects customer satisfaction.

The results of the t-statistic value obtained from the path coefficient table show that H2 is accepted. This means that the utilitarian value of gamification affects customer satisfaction. These results are consistent with the results of a study by Torres et al. (2021) and Hsu & Chen (2018b), which state that utilitarian values significantly affect customer satisfaction. Researchers think that the economic prizes that users get from the DANA Surprise game lottery give users better prices or can reduce purchase costs when users make transactions at the DANA e-wallet. This is supported by the score on the "reducing purchasing costs" indicator of 3.96 and the score on the "get a better price" indicator of 3.92. Ultimately, these economic prizes can lead to their satisfaction with the DANA e-wallet.

The influence of social values on gamification affects customer satisfaction.

The results of the t-statistic value obtained from the path coefficient table show that H3 is accepted. This means that the social value of gamification affects customer satisfaction. These results are consistent with the research from Rahayu et al. (2020) and Huang et al. (2019), which state that social values significantly affect customer satisfaction. Researchers assume that people around users show a positive attitude towards DANA Surprise. The positive attitude shown by people around users towards DANA Surprise creates self-esteem for users, where in the end, the user is satisfied with his experience using the DANA e-wallet.

The influence of customer satisfaction affects customer loyalty.

The results of the t-statistic value obtained from the path coefficient table show that H4 is accepted. This means that customer satisfaction affects customer loyalty. These results are consistent with the results of a study by Abror et al. (2019), Han & Hyun (2018), and Shahisa & Aprilianty (2022), which state that customer satisfaction has a significant effect on customer loyalty. Researchers assume that users have a satisfying experience using the DANA e-wallet. This is made clear from the results of the score on the indicator "satisfying experience," obtaining the highest score of 4.25. From this satisfying experience, users feel loyal to the DANA e-wallet; this statement is supported by Abror et al. (2019), which state that customer satisfaction is the main factor that creates customer loyalty.

The influence of hedonic values on gamification affects customer loyalty.

The results of the t-statistic value obtained from the path coefficient table show that H5 is accepted. This means that the hedonic value of gamification affects customer loyalty. These results are consistent with research from Li et al. (2022) and Lee & Kim (2018), which state that hedonic values affect customer loyalty. Hedonic value is a consumer evaluation of the feeling of pleasure or happiness they receive when participating in a gamification program. Researchers think users are happy with their experience in the DANA Surprise program. This is

supported by the high score on the "fun to use" indicator, 3.98, where this happy feeling will form a strong commitment to the DANA e-wallet.

The influence of utilitarian values on gamification affects customer loyalty.

The results of the t-statistic value obtained from the path coefficient table show that H6 is rejected. This means that the utilitarian value of gamification does not affect customer loyalty. These results contradict the results of research from Li et al. (2022) and Nature et al. (2020), which state that utilitarian values significantly affect customer loyalty. However, these results are consistent with research from Lee & Kim (2018) and Kristian & Napitupulu (2022), which show that utilitarian values do not significantly affect customer loyalty. Researchers assume that the utilitarian value of gamification on loyalty is not significant in this study because users have yet to get what they want, such as economic rewards. This is made clear from the results of the score on the indicator "get what you want," which gets the smallest score of 3.68. In the DANA Surprise program, not all users can get economic prizes because the program is a lottery. For users who do not win the lottery, it allows them to switch to another e-wallet where they can immediately get prizes by simply exchanging the points they have earned without converting them into lottery coupons, as in the OVO and GOPAY gamification programs. Not only do they switch to using other e-wallets, but users who cannot win the lottery are also reluctant to talk about positive things about DANA to others. This is made clear from the score on the "say positive things" indicator, which obtained the lowest score of 3.72. Moreover, the score on the indicator "strong belief in DANA" also has a low score of 3.84.

The influence of social values on gamification affects customer loyalty.

The results of the t-statistic value obtained from the path coefficient table show that H7 is rejected. This means that the social value of gamification does not affect customer loyalty. These results contradict the research from Foroudi (2020), which shows that social values significantly affect customer loyalty. However, these results are consistent with a study by Rahayu et al. (2020) which shows that social values do not affect customer loyalty. Researchers assume that the social value of gamification in this study is insignificant because there are no people around the users who participate in the DANA Surprise gamification program. This is made clear from the results of the score on the indicator "feeling that many people around are participating in the same gamification program," which obtained the lowest score of 3.54. In the absence of people around the user who participate in DANA Surprise, the user is not motivated to continue using the program, so the user tends to switch to using another e-wallet whose gamification program is widely used by the people around them. Moreover, even users are reluctant to talk positively about DANA to others. This is made clear from the score on the indicator "saying positive things," which obtained the lowest score of 3.72. Furthermore, the score on the indicator "strong belief in DANA" also has a low score of 3.84.

The effect of customer satisfaction will mediate the relationship between hedonic value in gamification and customer loyalty.

The results of the t-statistic value obtained from the mediation test show that H8a is accepted. This means that customer satisfaction mediates the relationship between hedonic value in gamification and customer loyalty. These results are consistent with the results of research from Sari & Ardiansari (2019) and Vieira et al. (2018), which show that hedonic value significantly affects customer loyalty through customer satisfaction. Therefore, customer satisfaction is a component that successfully bridges the relationship between hedonic values in gamification and customer loyalty.

The effect of customer satisfaction will mediate the relationship between the utilitarian value of gamification on customer loyalty.

The results of the t-statistic value obtained from the mediation test show that H8b is accepted. This means customer satisfaction mediates the relationship between utilitarian value on gamification and customer loyalty. These results are consistent with the results of research from Kussudyarsana & Indraswari (2022) and Vieira et

al. (2018), which shows that utilitarian value significantly affects customer loyalty through customer satisfaction. In this study, consumer satisfaction is necessary for the social value of gamification to affect customer loyalty. Therefore, consumer satisfaction is a component that successfully bridges the relationship between utilitarian values in gamification and customer loyalty.

The effect of customer satisfaction will mediate the relationship between social value in gamification and customer loyalty.

The results of the t-statistic value obtained from the mediation test show that H8c is accepted. This means that customer satisfaction mediates the relationship between social value in gamification and customer loyalty. These results are consistent with the research from Rahayu et al. (2020), which shows that social values significantly affect customer loyalty through customer satisfaction. In addition, the research results from Huang et al. (2019) show an influence between social values on customer satisfaction; according to Kaya et al. (2019), customer satisfaction is a factor in creating customer loyalty. In this study, without consumer satisfaction, the social value of gamification cannot affect customer loyalty. Therefore, consumer satisfaction is a component that successfully bridges the relationship between social values in gamification and customer loyalty.

Conclusion

Based on the results of the discussion regarding the effect of perceived value on the use of gamification programs on customer loyalty through customer satisfaction using the Partial Least Square (PLS) method, it can be concluded that hedonic, utilitarian, and social values in gamification have an effect on customer satisfaction, customer satisfaction has an effect on customer loyalty, The hedonic value of gamification has an effect on customer loyalty. In contrast, the utilitarian and social values of gamification do not affect customer loyalty, and customer satisfaction mediates the relationship between hedonic, utilitarian and social values of gamification on customer loyalty.

DANA should be able to change the rules currently being applied; in the current rules, the requirements to get economic prizes are more difficult than the old rules that they applied. By changing the current rules back to the old rules, it can make it easier for users to get economic prizes, making it difficult for users to leave DANA because when they switch to another e-wallet, they will miss a great opportunity to gain as much benefit as possible in the e-wallet. DANA. In addition, DANA can create features that make it easier for DANA Surprise users to communicate with each other or exchange ideas regarding their experiences when using DANA Surprise. By creating this feature, the interaction between users will become more intense, making it difficult for users to leave the community, so inevitably, users will be loyal to the DANA e-wallet. Researchers who will conduct further analysis on similar topics are expected to be able to examine the effect of gamification in other businesses, such as investment brokers, online transportation services, or the food business, by implementing other game elements in gamification, such as leaderboards, avatars, teammates, performance graphs, or meaningful stories.

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