# The Effect of Brand Awareness, Brand Association and Perceived Quality on Consumer Loyalty through Consumer Satisfaction

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**Abstract:- This study aims to examine the effect of brand awareness, brand association, and perceived quality on consumer loyalty by using satisfaction as a connecting factor. The sample used is 256 users of the e-learning platform with various demographic backgrounds. The results of the study show that there is a positive and significant influence between brand awareness on consumer satisfaction, perceived quality on consumer satisfaction, brand awareness on consumer loyalty, brand association on consumer loyalty, and consumer satisfaction on consumer loyalty. This study also shows that brand association has a negative effect on consumer satisfaction. While perceived quality shows that there is no positive and significant effect between Perceived Quality and consumer loyalty statistically.**

*Keywords:- Brand Awareness, Brand Association, Perceived Quality, Consumer Satisfaction, Consumer Loyalty.*

## I. INTRODUCTION

Initially, rapid technological developments occurred because the world was entering an industrial era. Subsequent developments have made mankind enter the knowledge age which is marked by the presence of artificial intelligence. The world of education has also been transformed. Education is no longer confined to the classroom. The world of education is adapting to a civilization that requires speed and flexibility, so e-learning is also present. Due to the rapid development of the internet and information systems technology, e-learning has, and will, experience a significant increase in learning activities (Campece and Campisi, 2013)

E-learning began to develop rapidly in 2000 in the United States. Approximately 90% of two-year education and 89% of four-year education are offered through e-learning systems. Annually, the increase in students enrolling in e-learning programs is 33% (Tallent-Runnels et al., 2006). E-learning is especially popular with students who can only do distance education due to limited funds. Apart from the cost factor, the rapid growth of the e-learning industry is mainly due to the increasing number of access to distance education so that more and more people are interested in doing it (Bradford and Wyatt, 2010).

Based on a survey conducted by the Ministry of Education and Culture with Unicef, it shows that 45 million Indonesian children have undergone e-learning as a result of the pandemic (Unicef, 2020). Access made by Indonesian children to e-learning, generally in the form of teaching materials or teaching support materials. Given the number of learning platforms, the competition in the e-learning industry has become tougher. It takes strong loyalty from consumers to stay afloat in this digital education industry. Customer loyalty is a form of consumer loyalty to choose a brand in a particular product or service category. That is, consumers choose the brand over other brands in the same category. Gaining customer loyalty is the ultimate goal of a company because this factor is considered to contribute to long-term profits (Tan et al., 2017). Loyalty, one of which arises from user satisfaction (Tjiptono, 2000) and the influence of brand equity.

Brand Equity is said to have a positive and significant influence on User Loyalty (Harahap et al. 2014). Another study states that brand equity does have an important role in creating customer loyalty (Rofiq et al. 2009). Brand Equity consists of five assets, namely Brand awareness (brand awareness), Brand Loyalty (brand loyalty), Perceived Quality (perceived quality), Brand association (brand association), and other brand assets.

One of the problems related to customer loyalty is brand awareness, brand association, and perceived quality. Unsatisfactory factors from existing variables will cause consumers to feel dissatisfied with products that affect customer loyalty. Meanwhile, low user satisfaction will make consumers choose to use other similar products, thereby reducing customer serviceability.

## II. LITERATURE REVIEW

### A. Brand awareness

Brand awareness is one of the important variables in marketing communication. Aaker (1996) defines brand awareness as the ability of potential consumers or consumers themselves to recognize and identify a product or service. Brand awareness is the ability of potential consumers to recognize or remember that a brand belongs to a certain product category (Khasanah, 2013).

Unaware of the brand, brand recognition, brand recall, and top of mind shape how much influence brand awareness has on potential consumers for the company's products or services. Basically, the success of brand awareness on a product cannot be separated from the success of marketing communications, such as promotion in various media. Promotional offers help potential consumers to consider new

brands and reconsider existing brands (Percy, 2008). With regard to e-learning, this brand awareness must be the initial focus in starting a business and being able to compete with other platforms.

## B. Brand association

According to Kilei et al., (2016) Brand association is everything that is related in memory to the brand. Brand associations are thoughts related to brands in the minds or minds of consumers (Gordon et al., 2016). Brand association is closely related to brand attitude and image. Gordon et al., (2016) suggest that brand association is a thought held by consumers for a particular brand and can be characterized by two dimensions, namely attributes and benefits. Kilei et al., (2016) added that Brand association is the most accepted aspect of brand equity. This aspect consists of all thoughts, feelings, perceptions, images, experiences, beliefs, and attitudes related to the brand. The brand association relates to information about what is in the minds of consumers, both positive and negative. Low and Lamb (2000) mention the dimensions of brand associations including brand image and brand attitude.

## C. Perceived Quality

Perceived Quality is a consumer's perception of the overall quality or superiority of a product or service that is the same as the expected intent (Khasanah, 2013). This perceived quality arises from the consumer's cognitive response and the experience of the service obtained. For example, when someone wants to buy a cellphone based on the brand because he believes the brand is quality. He perceives that the after-sales service of the brand is good so he won't be bothered if he needs repairs as long as the warranty has not expired. The dimensions of perceived quality according to Utama (2003) are tangibles, reliability, competence, responsiveness, empathy.

## D. User Satisfaction

User satisfaction is the benefit that users feel after buying or using a product or service. This will influence the user's decision to buy again and whether he will become a loyal consumer or not (Jin and Xu, 2020). User satisfaction can also be defined as a consumer's affective condition resulting from the evaluation of all aspects that build relationships with consumers (Flavián et al., 2006). Pham et al. (2019) describes three factors in the success of the e-learning learning system, namely system quality, information quality, and service quality. These factors shape consumer attitudes or perceptions of the e-learning used.

User satisfaction turns out to increase the desire to buy a brand (Tan et al., 2017). That is, the user can buy a product or service when he reaches the point of satisfaction. There is a close relationship between user satisfaction, teaching success, and the quality of the course itself.

## E. Customer Loyalty

Loyalty is defined as consumer loyalty to a product or service (Putro, 2014). Tan et al. (2017) say that loyal consumers are the main source of income for a business in the long term. Loyal consumers will continue to consume the product or service of a brand and promote it voluntarily to others. Compared to finding new customers, managing loyal customers to continue to make purchases is actually more profitable for the business in the long run.

There are four phases of loyalty (Fraering and Minor, 2013). The weakest phase is the cognitive phase, which is based on factual information about a brand. The second phase is stronger than the cognitive phase, namely the affective phase. This means that consumers have used this brand for a longer time, have had a good experience, and have a liking for the brand. The third phase is called true loyalty, when repurchase of a brand becomes a behavioral intention. This means that consumers feel compelled to repurchase. The fourth phase is the loyalty action phase. Consumers feel motivated to repurchase and will look for them even if the product or service is not available. Even consumers will voluntarily seek information about the brand. Putro (2014) said that there are three dimensions of customer loyalty, namely making repeated purchases, recommending products to others, and being immune to competing brands.

## III. METHODOLOGY OF RESEARCH

This research is a quantitative research. Quantitative research is research that sees reality as single, concrete, observable, and can be fragmented. According to Nursapiah (2020) quantitative research emphasizes the breadth of information, so it is suitable for a large population with limited variables. Quantitative research has a specific, clear, detailed, and predetermined design. This type of quantitative research shows the relationship or influence between variables by testing theories and looking for generalizations that have predictive value. According to Hardani et al. (2020) quantitative research methods are strongly influenced by the hypothetico-deductive paradigm which is a research approach that starts with the theory of how things work and creates a hypothesis that can be tested.

The determination of the sample used is the customer who uses the e-learning platform. The sample method uses purposive sampling with certain methods. Determination of the sample using the representative sample method. A representative sample is a sample with characteristics that are the same or relatively the same as the characteristics of the population. The level of representativeness of the sample taken from a given population is very dependent on the type of sample used, the size of the sample, which is taken, and the method of collection.

The sample size in this study refers to the Hair Formula. The Hair formula is used because the population size is not known with certainty, due to constant changes in data. According to Hair et al. (2018) the sample-to-variable ratio suggests a drinking variable observation ratio of 5:1 as a minimum requirement in hierarchical or multiple regression analysis. It can be interpreted that the determination of the number of samples depends on the number of indicators plus the number of latent variables multiplied by 5.

## A. Calssical Assumption Test

The first stage of carrying out the analysis in this study was through the classical assumption test. This classic assumption test is a prerequisite test that is carried out before conducting further analysis of the data that has been collected. This classical assumption test is intended to produce a regression model that meets the BLUE (Best Linear Unbiased Estimator) criteria. Regression models that meet the BLUE criteria can be used as a reliable and reliable estimator where the estimator is declared unbiased, consistent, normally distributed and efficient. To find out whether the regression model to be used has met the BLUE criteria, it is necessary to carry out a series of tests, namely the Normality Test, Multicollinearity Test, and Heteroscedasticity Test.

## B. Validity and Reliability Test

Validity testing was carried out to obtain data in accordance with the research objectives. Validity can be done by consulting with experts, and conducting trials with participants who have the same characteristics. The reliability (reliability) of the instrument is carried out to strengthen the reliability of the instrument by optimizing the variety of errors by expressing questions correctly, providing supporting questions with the same question and quality, and providing instructions for filling out the questionnaire correctly and clearly.

## C. Multiple Linear Regression Analysis

This analysis is used to determine the direction of the relationship between the dependent and independent variables, whether each of the independent variables is positive or negative. Also this analysis can predict the value of the dependent variable when there is an increase or decrease in the independent variable.

## D. Descriptive Analysis

Descriptive analysis is used to analyze data by describing or describing data sets or observations that have been performed. The aim to make the data presented is easy to understand and informative. Then the descriptive hypothesis and statistics can be formulated:
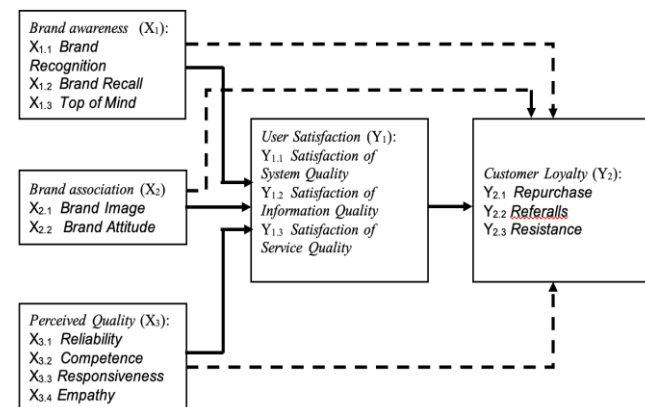


Image I. Conceptual Image

## E. Hypothesis

H1: Brand awareness has an effect on User Satisfaction
H2: Brand association has an effect on User Satisfaction
H3: Perceived quality has an effect on User Satisfaction
H4: Brand awareness affects Customer Loyalty

H5: Brand association has an effect on Customer Loyalty
H6: Perceived Quality affects Customer Loyalty
H7: User Satisfaction affects Customer Loyalty

## IV. RESULT AND DISCUSSION

The results of the study were obtained from data processed by using the SPSS 16.0. The validity and reliability of any questions asked to respondents. The Output states that all variables in the study have validity, which all values are already above the R table. The following table provides an overview of the respondents in this study:

TABLE I. SAMPLE CHARACTERISTICS

| Variable | Classification | Value | |
|---|---|---|---|
| | | N | (%) |
| **Gender** | Male | 112 | 43,8 |
| | Female | 114 | 56,3 |
| | **Total** | **256** | **100** |
| **Age (year)** | 17 – 25 | 72 | 28,1 |
| | 26 – 35 | 97 | 37,9 |
| | 36 – 45 | 42 | 16,4 |
| | > 45 | 45 | 17,6 |
| | **Total** | **256** | **100** |
| **Education** | Elementary School | 1 | 0,4 |
| | Middle High School | 3 | 1,2 |
| | Senior High School | 57 | 22,3 |
| | Bachelor | 168 | 65,6 |
| | Others | 27 | 10,5 |
| | **Total** | **256** | **100** |
| **Profession** | Government employees | 55 | 21,5 |
| | Private employees | 85 | 33,2 |
| | Entrepreneur | 22 | 8,6 |
| | Student | 43 | 16,8 |
| | Other | 51 | 19,9 |
| | **Total** | **256** | **100** |

Characteristics of respondents based on gender as shown in the table that 56.3% of respondents are women, while 43.8% are men. Based on the table presented, it shows that the percentage of respondents who filled out the questionnaire was dominated by respondents who were in the age range of 26-35 years, with a percentage of 37.9%. And respondents with an age range of 17-25 years with a percentage of 28.1%. In general, respondents are in the age range of 26-35 years, mostly because they are still in their productive age.

The characteristics of respondents based on education as shown in the table are quite diverse with the dominance of 65.6% by scholars. The other respondents' education was divided into high school education/equivalent as much as

22.3%, postgraduate education as much as 10.5%, junior high school/equivalent as much as 1.2% and elementary school/equivalent as much as 0.4% of the total correspondents. Based on the processed data, the characteristics of respondents based on work are quite diverse. A total of 33.2% of respondents have a job as a private employee. Other respondents are divided into the work group of civil servants (PNS) as much as 21.5%, students as much as 16.8% and entrepreneurs as much as 8.6%. Meanwhile, 19.9% of respondents have other jobs such as housewives, freelancers, and other jobs.

## A. Classical Asumption Test

TABLE II. RESULT FOR NORMALITY TEST

**One-Sample Kolmogorov-Smirnov Test**

| | | Unstandardized Residual |
|---|---|---|
| N | | 256 |
| Normal Parameters[a,b] | Mean | ,0000000 |
| | Std. Deviation | 3,37547396 |
| Most Extreme Differences | Absolute | ,104 |
| | Positive | ,104 |
| | Negative | -,075 |
| Test Statistic | | ,104 |
| Asymp. Sig. (2-tailed) | | 4,722[c] |

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

**One-Sample Kolmogorov-Smirnov Test**

| | | Unstandardized Residual |
|---|---|---|
| N | | 256 |
| Normal Parameters[a,b] | Mean | ,0000000 |
| | Std. Deviation | 3,81824680 |
| Most Extreme Differences | Absolute | ,103 |
| | Positive | ,103 |
| | Negative | -,086 |
| Test Statistic | | ,103 |
| Asymp. Sig. (2-tailed) | | 5,632[c] |

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Normality test is conducted to test whether in the regression model, the independent and dependent variables have a normal distribution. Data that is good and feasible to use in research is power that has a normal distribution. If the value of Asymp.Sig.(2-tailed) is greater than 0.05, it can be concluded that the data is normally distributed. Based on the test results above, it is known that the data on the independent and dependent variables are normally distributed.

TABLE III. RESULT FOR MULTI/VIF TEST

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 3,929 | ,900 | | 4,367 | ,000 | | |
| | Brand Awareness | ,099 | ,038 | ,132 | 2,577 | ,011 | ,273 | 3,657 |
| | Brand Association | -,100 | ,102 | -,070 | -,982 | ,327 | ,142 | 7,065 |
| | Preceived Quality | ,703 | ,052 | ,859 | 13,597 | ,000 | ,181 | 5,530 |

a. Dependent Variable: Kepuasan Pelanggan

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 3,044 | 1,018 | | 2,991 | ,003 | | |
| | Brand Awareness | ,132 | ,044 | ,158 | 3,038 | ,003 | ,273 | 3,657 |
| | Brand Association | ,503 | ,115 | ,317 | 4,371 | ,000 | ,142 | 7,065 |
| | Preceived Quality | ,426 | ,058 | ,467 | 7,281 | ,000 | ,181 | 5,530 |

a. Dependent Variable: Loyalitas

The results of the multicollinearity test of each independent variable show that the variance value of Inflation Factor (VIF) has a value of not more than 10, as well as when viewed from the Tolenrace value it has a value of not less than 0.1. So it can be said that each of the independent variables is free from multicollinearity in the regression model.

## B. Validity dan Reliabilty Test

TABLE IV. VALIDITY AND RELIABILITY TEST FOR BRAND AWARENESS

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| X1.1 | 71,7266 | 402,623 | ,848 | ,758 |
| X1.2 | 71,8750 | 406,306 | ,759 | ,762 |
| X1.3 | 71,3320 | 415,972 | ,643 | ,769 |
| X1.4 | 71,6133 | 410,215 | ,781 | ,764 |
| X1.5 | 71,8086 | 404,814 | ,862 | ,760 |
| X1.6 | 71,6406 | 405,439 | ,850 | ,760 |
| X1.7 | 71,8633 | 409,209 | ,799 | ,763 |
| X1.8 | 71,4961 | 412,478 | ,757 | ,765 |
| X1.9 | 71,8594 | 407,180 | ,839 | ,761 |
| X1.10 | 71,8203 | 405,356 | ,864 | ,760 |
| X1.11 | 71,7773 | 405,397 | ,895 | ,760 |
| Brand Awareness | 37,5625 | 111,753 | 1,000 | ,954 |

In this study, the amount of data used was 256 questionnaires, with a 95% confidence level (α=5%), the rtable value of 256 was 0.1381.

From the validity test table, it can be seen that the results of the calculation of the correlation coefficient for all questions have a Pearson correlation significance greater than r table, where r table is 0.1381 (rcount > rtable). Therefore, it can be concluded that the questions are valid and can be used as an instrument for further research.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,782 | 12 |

From the reliability test table, it can be seen that all variables in this study can be said to be reliable because the Cronbach alpha coefficient is 0.782 and is greater than 0.6, so the range of Cronbach's Alpha values is 0.60 - 0.80 = Reliable.

TABLE V.    VALIDITY AND RELIABILITY TEST FOR BRAND ASSOCIATION

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| X2.1 | 38,3203 | 101,983 | ,872 | ,778 |
| X2.2 | 38,2461 | 103,410 | ,898 | ,781 |
| X2.3 | 38,2227 | 103,272 | ,888 | ,781 |
| X2.4 | 38,0820 | 104,334 | ,882 | ,784 |
| X2.5 | 38,0469 | 104,719 | ,868 | ,785 |
| X2.6 | 38,0625 | 104,663 | ,873 | ,785 |
| Brand Association | 20,8164 | 30,801 | 1,000 | ,953 |

From the validity test table, it can be seen that the results of the calculation of the correlation coefficient for all questions have a Pearson correlation significance greater than r table, where r table is 0.1381 (rcount > rtable). Therefore, it can be concluded that the questions are valid and can be used as an instrument for further research.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,815 | 7 |

From the reliability test table, it can be seen that all variables in this study can be said to be reliable because the Cronbach alpha coefficient is 0.815 and is greater than 0.8, so the range of Cronbach's Alpha values is 0.81 - 1.00 = very reliable.

TABLE VI.    VALIDITY AND RELIABILITY TEST FOR PRECEIVED QUALITY

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| X3.1 | 75,3359 | 341,542 | ,858 | ,768 |
| X3.2 | 75,4453 | 341,597 | ,886 | ,768 |
| X3.3 | 75,5078 | 342,188 | ,885 | ,768 |
| X3.4 | 75,4961 | 341,490 | ,890 | ,768 |
| X3.5 | 75,4531 | 340,978 | ,907 | ,767 |
| X3.6 | 75,4492 | 340,711 | ,904 | ,767 |
| X3.7 | 75,5156 | 342,298 | ,874 | ,768 |
| X3.8 | 75,3750 | 340,549 | ,894 | ,767 |
| X3.9 | 75,4414 | 340,734 | ,892 | ,767 |
| X3.10 | 75,3984 | 341,307 | ,908 | ,767 |
| X3.11 | 75,4102 | 341,733 | ,890 | ,768 |
| Preceived Quality | 39,5156 | 93,615 | 1,000 | ,977 |

From the validity test table, it can be seen that the results of the calculation of the correlation coefficient for all questions have a Pearson correlation significance greater than r table, where r table is 0.1381 (rcount > rtable). Therefore, it can be concluded that the questions are valid and can be used as an instrument for further research.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,788 | 12 |

From the reliability test table, it can be seen that all variables in this study can be said to be reliable because the Cronbach alpha coefficient is 0.782 and is greater than 0.6, so the range of Cronbach's Alpha values is 0.60 - 0.80 = Reliable.

TABLE VII.    VALIDITY AND RELIABILITY TEST FOR USER SATISFACTION

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| Y1.1 | 62,8594 | 223,572 | ,828 | ,771 |
| Y1.2 | 62,9492 | 222,848 | ,882 | ,770 |
| Y1.3 | 62,9258 | 222,453 | ,898 | ,769 |
| Y1.4 | 62,9492 | 224,111 | ,895 | ,771 |
| Y1.5 | 62,9336 | 223,380 | ,882 | ,770 |
| Y1.6 | 62,9766 | 223,537 | ,901 | ,770 |
| Y1.7 | 63,0391 | 224,147 | ,892 | ,771 |
| Y1.8 | 63,1133 | 225,105 | ,838 | ,773 |
| Y1.9 | 63,0313 | 224,360 | ,894 | ,771 |
| Kepuasan Pelanggan | 33,3398 | 62,649 | 1,000 | ,968 |

From the validity test table, it can be seen that the results of the calculation of the correlation coefficient for all questions have a Pearson correlation significance greater than r table, where r table is 0.1381 (rcount > rtable). Therefore, it can be concluded that the questions are valid and can be used as an instrument for further research.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,795 | 10 |

From the reliability test table, it can be seen that all variables in this study can be said to be reliable because the Cronbach alpha coefficient is 0.782 and is greater than 0.6, so the range of Cronbach's Alpha values is 0.60 - 0.80 = Reliable.

TABLE VIII.    VALIDITY AND RELIABILITY TEST FOR CUSTOMER LOYALTY

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| Y2.1 | 66,8789 | 281,236 | ,869 | ,767 |
| Y2.2 | 66,9883 | 280,992 | ,876 | ,766 |
| Y2.3 | 67,3125 | 281,549 | ,819 | ,767 |
| Y2.4 | 67,3047 | 281,601 | ,795 | ,768 |
| Y2.5 | 67,2031 | 281,135 | ,819 | ,767 |
| Y2.6 | 66,9844 | 282,439 | ,876 | ,768 |
| Y2.7 | 67,0586 | 281,585 | ,885 | ,767 |
| Y2.8 | 67,0039 | 282,647 | ,871 | ,768 |
| Y2.9 | 67,1992 | 280,568 | ,851 | ,766 |
| Y2.10 | 66,9297 | 281,556 | ,894 | ,767 |
| Loyalitas | 35,3086 | 77,916 | 1,000 | ,964 |

From the validity test table, it can be seen that the results of the calculation of the correlation coefficient for all questions have a Pearson correlation significance greater than r table, where r table is 0.1381 (rcount > rtable). Therefore, it can be concluded that the questions are valid and can be used as an instrument for further research.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,789 | 11 |

From the reliability test table, it can be seen that all variables in this study can be said to be reliable because the Cronbach alpha coefficient is 0.789 and greater than 0.6, so the range of Cronbach's Alpha values is 0.60 - 0.80 = Reliable.

*C. Multiple Resgression Analysis*

The hypotheses in this study were divided into two groups of models. The first model describes the results of hypothesis testing between brand awareness, brand association and perceived quality on user satisfaction. While the second model describes the results of testing the hypothesis between brand awareness, brand association, perceived quality and user satisfaction on customer loyalty.

TABLE IX.      MULTICOLLINEARITY TEST RESULT

**Coefficients<sup>a</sup>**

| Model | | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. | Collinearity Statistics Tolerance | VIF |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,929 | ,900 | | 4,367 | ,000 | | |
| | Brand Awareness | ,099 | ,038 | ,132 | 2,577 | ,011 | ,273 | 3,657 |
| | Brand Association | -,100 | ,102 | -,070 | -,982 | ,327 | ,142 | 7,065 |
| | Preceived Quality | ,703 | ,052 | ,859 | 13,597 | ,000 | ,181 | 5,530 |

a. Dependent Variable: Kepuasan Pelanggan

**Coefficients<sup>a</sup>**

| Model | | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. | Collinearity Statistics Tolerance | VIF |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,044 | 1,018 | | 2,991 | ,003 | | |
| | Brand Awareness | ,132 | ,044 | ,158 | 3,038 | ,003 | ,273 | 3,657 |
| | Brand Association | ,503 | ,115 | ,317 | 4,371 | ,000 | ,142 | 7,065 |
| | Preceived Quality | ,426 | ,058 | ,467 | 7,281 | ,000 | ,181 | 5,530 |

a. Dependent Variable: Loyalitas

The results of the multicollinearity test of each independent variable show that the variance value of Inflation Factor (VIF) has a value of not more than 10, as well as when viewed from the Tolenrace value it has a value of not less than 0.1. So it can be said that each of the independent variables is free from multicollinearity in the regression model.

TABLE X.      HETEROSCEDASTICITY TEST RESULT

**Coefficients<sup>a</sup>**

| Model | | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,849 | ,723 | | 5,321 | ,000 |
| | Brand Awareness | -,024 | ,031 | -,091 | -,781 | ,436 |
| | Brand Association | -,216 | ,082 | -,429 | -2,635 | ,894 |
| | Preceived Quality | ,105 | ,042 | ,364 | 2,526 | ,122 |

a. Dependent Variable: Abs_RES

**Coefficients<sup>a</sup>**

| Model | | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,849 | ,723 | | 5,321 | ,000 |
| | Brand Awareness | -,024 | ,031 | -,091 | -,781 | ,436 |
| | Brand Association | -,216 | ,082 | -,429 | -2,635 | ,894 |
| | Preceived Quality | ,105 | ,042 | ,364 | 2,526 | ,122 |

a. Dependent Variable: Abs_RES2

Based on the calculation results, it can be seen that the independent significant value indicates the sig value is greater than 0.05. Because this value is greater than the 0.05 significance level, it is concluded that the assumption of the heteroscedasticity test has been met.

Model 1 Linear Regression Test

TABLE XI.      MODEL I DETERMINATION TEST RESULT

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,905<sup>a</sup> | ,818 | ,816 | 3,39551 |

a. Predictors: (Constant), Preceived Quality, Brand Awareness, Brand Association

Based on the results of multiple linear regression analysis, the equation model between the independent variables on the dependent variable is as follows:

$$User\ Satisfaction = 3,929 + 0,099X1 - 0,100X2 + 0,703\ X3 + e$$

Based on the table, the coefficient of determination $R^2$ is located in the R-Square column. It is known that the coefficient of determination is $R^2 = 0.818$. This value means that Brand awareness, brand association and perceived quality affect simultaneously or jointly on the User Satisfaction variable by 81.8%, the remaining 18.2% is influenced by other factors.

TABLE XII.      MODEL I F TEST RESULT

**ANOVA<sup>a</sup>**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 13070,008 | 3 | 4356,669 | 377,873 | ,000<sup>b</sup> |
| | Residual | 2905,425 | 252 | 11,529 | | |
| | Total | 15975,434 | 255 | | | |

a. Dependent Variable: Kepuasan Pelanggan

b. Predictors: (Constant), Preceived Quality, Brand Awareness, Brand Association

The way to make a decision on the hypothesis can be done by comparing the significance value of calculated F with the research significance level of 0.05. If the significance value of calculated F < 0.05 then this means that the effect of the independent variables as a whole on the dependent variable is statistically significant. However, if the significance value of calculated F> 0.05 then this means that the effect between the independent variables as a whole on the dependent variable is not statistically significant.

Note that based on the Table, the calculated F significance value is 0.000. Because the significance value of calculated F < 0.05, it can be concluded that the independent variables simultaneously have a significant effect on the dependent variable statistically.

TABLE XIII.    MODEL I T TEST RESULT

Coefficients<sup>a</sup>

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3,929 | ,900 | | 4,367 | ,000 |
| | Brand Awareness | ,099 | ,038 | ,132 | 2,577 | ,011 |
| | Brand Association | -,100 | ,102 | -,070 | -,982 | ,327 |
| | Preceived Quality | ,703 | ,052 | ,859 | 13,597 | ,000 |

a. Dependent Variable: Kepuasan Pelanggan

The decision-making method can be done by comparing the t-count significance value with the significance level in the study, which is 0.05. If the significance value of t count < 0.05 then this means that the influence between the independent variables on the dependent variable is statistically significant. However, if the significance value of t count > 0.05 then this means that the influence between the independent variables on the dependent variable is not statistically significant.

Model 2 Linear Regression Test

TABLE XIV.    MODEL II DETERMINATION TEST RESULT

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,919<sup>a</sup> | ,844 | ,842 | 3,51261 |

a. Predictors: (Constant), Kepuasan Pelanggan, Brand Awareness, Brand Association, Preceived Quality

Based on the results of multiple linear regression analysis, the equation model between the independent variables on the dependent variable is as follows:

$$Loyality = 1,229 + 0,086X1 + 0,550X2 + 0,101\ X3 + 0,462Y1 + e$$

Based on the table, the coefficient of determination R2 is located in the R-Square column. It is known that the coefficient of determination is R2 = 0.844. This value means that Brand awareness, brand association, perceived Quality and User Satisfaction affect simultaneously or jointly on the Customer Loyalty variable by 84.4%, the remaining 15.6% is influenced by other factors.

TABLE XV.    MODEL II F TEST RESULT

ANOVA<sup>a</sup>

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 16771,669 | 4 | 4192,917 | 339,825 | ,000<sup>b</sup> |
| | Residual | 3096,952 | 251 | 12,338 | | |
| | Total | 19868,621 | 255 | | | |

a. Dependent Variable: Loyalitas

b. Predictors: (Constant), Kepuasan Pelanggan, Brand Awareness, Brand Association, Preceived Quality

The way to make a decision on the hypothesis can be done by comparing the significance value of calculated F with the research significance level of 0.05. If the significance value of calculated F < 0.05 then this means that the effect of the independent variables as a whole on the dependent variable is statistically significant. However, if the significance value of calculated F> 0.05 then this means that the effect between the independent variables as a whole on the dependent variable is not statistically significant.

Note that based on the Table, the calculated F significance value is 0.000. Because the significance value of calculated F < 0.05, it can be concluded that the independent variables simultaneously have a significant effect on the dependent variable statistically.

TABLE XVI.    MODEL II T TEST RESULT

Coefficients<sup>a</sup>

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1,228 | ,965 | | 1,272 | ,204 |
| | Brand Awareness | ,086 | ,040 | ,103 | 2,142 | ,033 |
| | Brand Association | ,550 | ,106 | ,346 | 5,208 | ,000 |
| | Preceived Quality | ,101 | ,070 | ,111 | 1,432 | ,153 |
| | Kepuasan Pelanggan | ,462 | ,065 | ,414 | 7,093 | ,000 |

a. Dependent Variable: Loyalitas

The decision-making method can be done by comparing the t-count significance value with the significance level in the study, which is 0.05. If the significance value of t count < 0.05 then this means that the influence between the independent variables on the dependent variable is statistically significant. However, if the significance value of t arithmetic > 0.05 then this means that the influence between the independent variables on the dependent variable is not statistically significant.

## V.    CONCLUSION

Conclusion from this research:
- There is a positive and significant effect between brand awareness and User Satisfaction statistically
- The coefficient of the Brand association variable is negative, so it can be concluded that the variable has no statistically significant effect on User Satisfaction.
- There is a positive and significant effect between Perceived Quality and User Satisfaction statistically
- There is a positive and significant effect between brand awareness and Customer Loyalty statistically.
- There is a positive and significant effect between Brand association and Customer Loyalty statistically.
- There is no positive and significant effect between Perceived Quality and Customer Loyalty statistically.
- There is no positive and significant effect between User Satisfaction and Customer Loyalty statistically.

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