THE INFLUENCE OF BRAND AWARENESS, PERCEIVED QUALITY, BRAND ASSOCIATION, AND BRAND LOYALTY ON BRAND EQUITY OF APPLE PRODUCTS (CASE STUDY OF STUDENTS OF THE FACULTY OF ECONOMICS, SANATA DHARMA UNIVERSITY)

Gemma Galgani Karolina Nago[1], Maria Anggriani Jehamu[2]*
[1,2]Universitas Sanata Dharma
Email: [1]nagogemma5@gmail.com ,[2] mariaanggrianijehamu@gmail.com

ABSTRACT

This study investigates the impact of brand awareness, perceived quality, brand association, and brand loyalty on the brand equity of Apple products among students at the Faculty of Economics, Sanata Dharma University. Utilizing a quantitative approach, both confirmatory and exploratory research methods were employed. The study population comprised 168 respondents from the university's Faculty of Economics, spanning the classes of 2020-2023, who had used at least two Apple products. Purposive sampling was used to select participants. Data were collected through an online survey questionnaire. Data analysis included normality, multicollinearity, and heteroscedasticity tests, as well as multiple linear regression analysis, and simultaneous (F test) and partial (T test) tests. The findings reveal that brand awareness and brand association significantly and positively influence Apple product brand equity. However, perceived quality and brand loyalty did not show a significant positive effect on Apple product brand equity.

Keywords: Brand Awareness, Perception of Quality, Brand Association, and Brand Loyalty, Brand Equity.

1. Introduction

In the era of information and communication technology, technology has become a primary need that cannot be separated from human life. The industrial revolution that continues to experience development also changes consumer behavior (Shabrina, 2019). According to thekeenfolks, technological developments have an impact on the relationship between consumers and products and consumer needs for many technological devices. The generation 4.0 industrial revolution makes agility an achievement that a company must develop to face these developments (Kominfo, 2019).

The digital transformation that occurs affects companies to be able to maintain and increase their competitive advantage (Oktavenus, 2019). Realizing this, technology companies emerge and dominate the global market with advanced features in their products. According to iNews.id, companies in the technology sector dominate the top list of the world's largest companies. (Databoks, 2023) 10.71% of the 10 largest shopping categories in Indonesian E-Commerce are occupied by electronic products. The data shows significantly that the need for

electronic products in society is very high and provides dependence on each individual for ownership of at least one electronic device. Apple as one of the electronic brands with a significant transformation, with some of its flagship products, Apple has a very significant development. Present as a "pioneer" of advanced electronic products, Apple always returns with products with the latest features. In (cbsnews.com) Apple was launched in 1976 as a personal computer that sells on its journey, Apple continues to transform with its innovations, until 1986 Apple comes with more sophisticated graphics and design. In 1998 the iMac appeared with a more attractive design and brought the Internet to the public. The launch of this product brought much more rapid development to Apple products. It wasn't until 2007 that the iPhone was launched, bringing big changes as a revolutionary smartphone. More and more Apple products were launched with innovations that made Apple the leading electronic brand to date.

People's dependence on electronic products and their relatively fast development has an impact on a more impulsive desire for electronic products with more sophisticated features. These electronic product features give positive preference to consumer purchase interest (Yeang & Rahmawati, 2023). Therefore, the importance of brand awareness as the foundation of brand equity is widely recognized in marketing theory. High brand awareness helps companies to build a strong image in the minds of consumers. There are four categories of brand equity that help us assess the effectiveness of assets in products such as brand awareness, brand association, perceived quality, and brand loyalty (Binus, 2020).

Brand awareness encourages a brand to make efforts so that consumers can recognize the brand. (Stevi & Artina, 2022) states that a brand is recognized depending on the level of brand communication, this can increase brand equity. On the other hand, consumer perceptions cannot be concluded empirically. This relates to what is important to these consumers (Felita & Valerian, 2019). Perceptions of quality can determine the value of a brand, especially in consumer purchasing decisions. Brand association refers to the brand image in the minds of consumers. Strong brand associations can provide an established position compared to competitors (Haryanto, 2010: 68). Brand loyalty is related to the possibility of consumers switching to other products. Loyal consumers will generally use the brand for a long time, and are willing to make repeat purchases even when faced with different alternatives.

Apple as an icon in the world of technology has built extraordinary brand equity that attracts the attention of marketing researchers and practitioners. The brand equity of Apple products affects consumers' quality perceptions of these products, this arises because of consumers' personal experiences when using Apple products, they assume that although this brand tends to be expensive, the quality, design, durability and performance are superior when compared to others. (Dharma & Sumaatmadja, 2015) shows that apple products with simple names and distinctive logos make it easier for consumers to recognize Apple products. Strong brand awareness makes it easy for Apple to build a strong brand image in the minds of consumers. Apple also always presents innovation and creativity in the features and appearance of its products (Keller, 2001). This gives a positive perception of Apple products as products that have a superior image and quality in accordance with consumer desires. Apple, which is known as a superior product with the best innovation in its class, builds strong brand associations. Apple has succeeded in building a very loyal user base, which continues to choose Apple products with each new product launch. Consumers are loyal because products can provide pleasure and comfort for consumers (Haseeb, 2015).

Lito & Selamat, 2022) found that brand awareness, brand association, perceived quality, and brand loyalty play a positive role in brand equity. Research also confirms that brand awareness, perceived quality, brand association and brand loyalty significantly have a positive effect on brand equity. (Nugroho, Insani, & Cahyaningrum, 2020) state that brand association and brand loyalty have a positive effect on brand equity, but brand awareness and brand image have no effect on brand equity. The difference is an interesting thing to examine the most appropriate variables of brand equity.

This study aims to examine in depth the influence of brand awareness, perceived quality, brand association, and brand loyalty on brand equity of apple products on students of the Faculty of Economics, Sanata Dharma University. Testing the hypothesis of this study using regression analysis. Discussion of the research, its practical implications, and further research suggestions are explained later.

The rapid advancement of information technology now makes consumer demand for electronic products such as Apple products increase rapidly. This increase in demand is built by the premium value built by the brand that encourages consumers to pay high prices for these products. This brand value generates high brand awareness with positive quality perceptions, strong brand associations; andcustomer loyalty. This has led to the emergence of various studies related to brand equity and its relationship with the four elements in various perspectives but some studies use different elements.

Consumers realize and are embedded in the minds of consumers that Apple products have good quality and performance and have features that distinguish them from other products, thus becoming the added value of this product in the eyes of its consumers. According to Aaker (2020) brand awareness of brand equity depends on the context and the level at which awareness is achieved. In research conducted by Stevi et al., (2022) stated that brand awareness has a positive and significant effect on brand equity.

According to Keller (2013: 187) Perception of quality is the customer's perception of the overall quality or superiority of a product or service compared to alternatives and predetermined goals. The results of research conducted by Muhammad Doddy et al., (2020) suggest that perceived quality has a positive and significant effect on brand equity.

A well-built association between the company and consumers who buy Apple products can increase consumer awareness and loyalty to the brand itself. According to research conducted by Arnold et al., said that brand association has a positive but insignificant effect on brand equity.

Apple builds its brand loyalty by building emotional relationships with its consumers in the form of quality, design, exclusivity and content so that Apple consumers not only buy its products because of the function but the values provided by the brand itself and make consumers loyal to make repeat purchases. The results of research conducted by Vincy Lito et al. state that brand loyalty has a positive and significant effect on brand equity. This study aims to determine how the influence of brand awareness, perceptions of quality, brand association, and brand loyalty on brand equity of Apple products on students of the Faculty of Economics, Sanata Dharma University.

This research provides practical and theoretical benefits for Apple, the results of this study can help Apple to understand the factors that influence brand equity among students of the Faculty of Economics, Sanata Dharma University to improve marketing strategies, consumer loyalty and market share. For students, this research is useful to help understand

brand equity and the factors that influence it and this information can help students make more rational purchasing decisions.

2. Literature Review

2.1 Brand Equity

According to Kotler and Keller (2017: 263) argue that brand equity is the added value given to products and services. This can be reflected in the way consumers think, feel and act with respect to the brand as well as the price of market share and profitability obtained from the brand. Meanwhile, according to Aaker (2019: 266) argues that brand equity is brand awareness, brand loyalty, and brand associations that together add or reduce the value provided by a product and service.

2.2 Brand Awareness

According to Kotler and Keller (2012), brand awareness is the ability of consumers to identify brands under different conditions, as reflected in their brand recognition or recall performance. Rate (2016), brand awareness will help a brand understand how the brand has value.

2.3 Perception of Quality

Perception of quality according to Keller (2013: 187) is the customer's perception of the overall quality or superiority of a product or service compared to alternatives and predetermined goals. According to Effendy and Rubiyanto (2019), defining the perception of quality is the overall characteristics and characteristics of a product or service whose ability depends on meeting stated or implied needs.

2.4 Brand Association

Kotler and Keller (2018) suggest that brand associations are all thoughts, feelings, perceptions, images, experiences, beliefs, attitudes, and so on related to brands and brand nodes. Brand association according to Tjiptono (2015: 49) is all things related to memories of a brand.

2.5 Brand Loyalty

According to Kotler (2016) brand loyalty is a firmly held commitment to buy or support a preferred product or service again in the future even though the influence of the situation and marketing efforts has the potential to cause customers to switch. Schiffman and Kanuk in Sudaryono (2016: 82) suggest that brand loyalty is one of the consistent choices or purchases of the same brand made by consumers for a particular product

2.6 Hypothesis development

2.6.1 The Effect of Brand Awareness on Brand Equity

If customers can recognize or remember a brand well, it will have an impact on purchasing decisions. Brand awareness is a form of recognition of a brand and memories related to the brand, this brand recognition encourages consumers to recognize the brand as something different from other brands (Syaidah, Jauhari, Fauzia, & Safitri, 2020). Previous research shows that increasing brand awareness can have a positive impact on brand equity (Rudi Yacub, 2020). In addition, Ermawati et al., (2016) stated that brand awareness affects brand equity. Brand awareness can form a signal of presence, commitment, and substance to a

brand. This is in line with research conducted by (Nadhiroh, Nurhajati, & Wahono, 2020) which suggests that brand awareness has a positive and significant effect on brand equity. The higher the brand awareness that customers have will contribute positively to increasing their brand equity. Based on this explanation, a hypothesis can be formulated:

H1: Brand awareness has a positive effect on brand equity.

2.6.2 The Effect of Perceived Quality on Brand Equity

High perceived quality indicates that consumers take a long time to find differences and benefits of products compared to similar products (Nofriyanti, 2017). Previous research found that perceived quality has a significant effect on brand equity (Pandiangan, Masiyono, & Atmogo, 2021). In addition, (Nofriyanti, 2017) shows that perceived quality has a significant effect on brand equity. This is in line with research conducted by (Hidayati, 2019) which suggests that perceived quality has a positive effect. Perceptions of quality create value for consumers by providing reasons to buy products and differentiating brands from competitors (Brangsinga & Sukawati, 2019). Based on this explanation, a hypothesis can be formulated:

H2: Perceived quality has a positive effect on brand equity.

2.6.3 The Effect of Brand Association on Brand Equity

The brand association of a product provides an opportunity for the product to be remembered by consumers and consumers will be loyal to use the product (Nugroho et al., 2020). In (Litto et al., 2022), Kim & Kim (2004) state that strong brand associations can support brand positions to be attractive and competitive. Previous research found that brand association has a positive effect on brand equity (Hidayati, 2019). In addition, Nugroho et al. suggest that brand association has a positiveand significant effect on brand equity. This is in line with research conducted by (Litto et al., 2022) which states that brand association has a positive effect on brand equity. Based on this explanation, a hypothesis can be formulated:

H3: Brand association has a positive effect on brand equity.

2.6.4 The Effect of Brand Loyalty on Brand Equity

Loyal consumers will respond better to a brand. Consumers will buy regularly and are reluctant to deal with other brands (Litto et al., 2022). The results of the study (Litto et al., 2022)show that brand loyalty has a positive effect on brand equity. Hidayati (2019) also suggests thatloyalty has a positive effect on brand equity. This research is in line with the research of Aim & Ahmad (2016) in (Nugroho et al., 2020) which suggests that brand loyalty has a positive andsignificant effect on brand equity. Based on this explanation, a hypothesis can be formulated:

H4: Brand loyalty has a positive effect on brand equity.

This research model illustrates the framework of the brand awareness model, perceptions of quality, brand association, and brand loyalty affect brand equity.
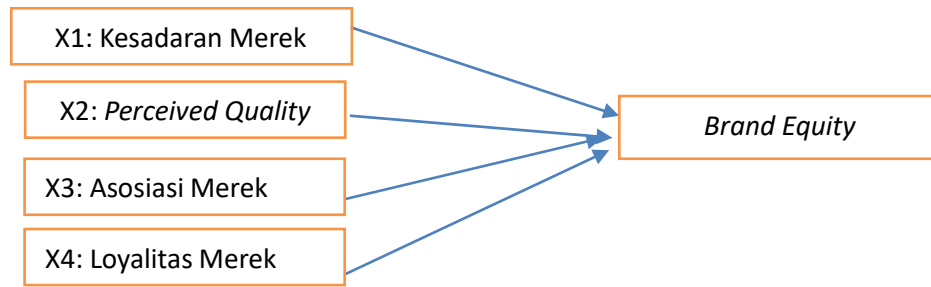
Figure 1. Framework of Thought

3. Research Methods

3.1 Research Design

This research is included in confirmatory quantitative research and explanatory research methods. This research design aims to explain the causal relationship between the independent variables (brand awareness, perceived quality, brand association, and brand loyalty) and the dependent variable (brand equity).

3.2 Population and Sample

The population of this study were all students of the Faculty of Economics, Sanata Dharma University. The research sample was taken using *purposive sampling* technique with the criteria that active students of the Faculty of Economics, Sanata Dharma University, Class of 2020-2023 and have used apple products at least 2 products.

3.3 Research Data and Data Analysis Techniques

The survey method, used to collect data for research by distributing questionnaires to respondents *online.* The total questionnaires that can be used to analyze in this study are 168 questionnaires. The data collected in this study were tested using normality test, multicollinearity test, heteroscedasticity test, multiple linear regression analysis, simultaneous test (F test) and partial test (T test). The variables used in this study are brand awareness, perception of quality, brand association, and brand loyalty. The analysis carried out was processed using SPSS with the *multivariant* analysis technique formulated:

$$Y = α + β1.x1 + β2.x2 + β3.x3 + β4.x4 + e$$

Description:

Y	= *Brand Equity*
A	= Constant
b1, b2, b3, b4	= Regression Coefficient of *Independent Variable*
X1	= Brand Awareness
X3	= Brand Association
X4	= Brand Loyalty
e	= *Standard Error*

3.4 Normality Test

The normality test aims to test whether in the regression model, confounding or residual variables have a normal distribution. According to Ghozali (2016) the normality test is carried out to test whether in a regression model, an independent variable and a dependent variable or both have a normal or abnormal distribution. The T and F tests are known to assume that the residual values follow a normal distribution, statistical tests performed on very small samples will be invalid if this assumption is violated. Graph analysis and statistical tests are two methods to determine whether residuals are normally distributed.

3.5 Multicollinearity Test

Multicollinearity testing, according to Ghazali (2016) aims to determine whether there is a correlation between independent variables or independent variables in the regression model. The effect of this multicollinearity is to cause high variables in the sample. This means that the standard error is large, as a result when the coefficient is tested, the t-count will be smaller than the t-table. This indicates that there is no linear relationship between the independent variables affected and the dependent variable.

3.6 Heteroscedasticity Test

The purpose of this test is to determine whether variance discomfort in the regression model occurs when residuals move from one observation to another. Heteroscedasticity occurs when there are differences in variance. One way to determine whether there is heteroscedasticity in multiple linear regression models is to look at the scatterplot graph or the predicted value of the dependent variable, SRESID, and the residual error value, ZPRED.

3.7 Multiple Linear Regression Test

Multiple linear regression analysis is performed to determine the direction and how much influence the independent variable has on the dependent variable (Ghozali, 2018). Data is declared normal, if there is no multicollinearity and no heteroscedasticity so that the data is processed for research purposes. Interpretation of the regression equation will be more accurate after knowing its significance, preferably after the analysis is complete.

3.9 Simultaneous Test (F test)

The F test is a *goodness of fit* test that must be performed in linear regression analysis. Test conditions for the F test:
Based on the significance value of the Anova Output
- If the Sig value is <0.05 then there is a simultaneous influence of X1, X2, and X3 on Y.
- If the Sig value> 0.05 then there is no simultaneous influence of X1, X2, and X3 on Y.

Based on the comparison of the value of F Count with F Table
- If the value of F count> F table then there is an effect of X1, X2, and X3 simultaneously on Y.
- If the value of F count < F table then there is no simultaneous influence of X1, X2, and X3 on Y.

3.10 Partial Test (T Test)

Partial tests are used to determine whether the *independent* variable regression model partially has a significant effect on the dependent variable.

Basis for taking the Partial t Test:
Based on the significance value (Sig.)

- If the Significance value (Sig.) <0.05 then there is an influence of the independent variable (X) on the dependent variable (Y).
- If the Significance value (Sig.) > 0.05 then there is no influence of the independent variable (X) on the dependent variable (Y).

Based on the comparison of the t value with the t table

- If the value of t count> t table then there is an influence of the independent variable (X) on the dependent variable (Y).
- If the value of t count < t table then there is no influence of the independent variable (X) on the dependent variable (Y).

4. Research Findings and Discussion

4.1 Data Analysis

4.1.1 Respondent Characteristics

This research does not limit any particular gender. Dynamic technological advances encourage the need for technology products that can keep up with the latest trends with the latest features. Respondents in this study were mostly women, namely 111 people (65.3%) and male respondents totaling 59 people (34.7%). With the target consumer apple students of the Faculty of Economics, Sanata Dharma University class of 2020-2023. This shows that apple products are dominated by female consumers, especially at the Faculty of Economics, Sanata Dharma University. Respondents who use apple products in this study are mostly aged 18-24 years, as many as 164 people (97.4%), this is because the respondents of the research objectives are students with this age range. Respondents aged 25-34 years were 2.6%.

Dua produk Apple yang digunakan/dimiliki.
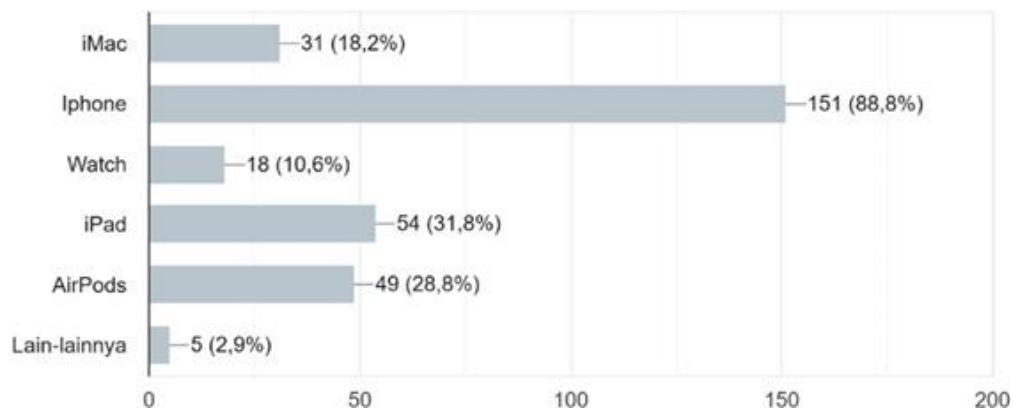170 jawaban

Figure 2. Diagram

Respondents in this study have an average of two Apple products, with the product most owned by respondents is the Iphone as much as 88.8%. iPad ranks second as the most owned apple product by respondents, namely 31.8%. Furthermore, respondents who use other apple products are AirPods as much as 28.8%, iMac as much as 18.2%, Watch as much as 10.6%, and other apple products as much as 2.9%. Respondents from the Management study program dominated the total respondents in this study, totaling 82 people (48.2%). Then, respondents

from the Economics study program were 49 people (28.8%). Finally, there were 39 people (22.9%) from the Accounting study program.

Respondents with an income level / month of IDR 1,000,000 - IDR 5,000,000 have the largest percentage, namely 89.4% of the total respondents. Respondents with an income level / month of < Rp1,000,000 amounted to 8.6% and respondents with an income level / month of Rp5,000,000- Rp10,000,000 as much as 2%.

Mourad (2012) in (Diva, 2020) found that the factors that influence brand equity significantly differ in income levels. Mujiono, 2018 suggests that income has a positive effect on consumer preferences in making purchasing decisions on a product. This shows that consumers of apple products are inseparably related to income levels.

4.2 Instrument Testing Results
4.2.1 Validity Test

(Cooper & Schindler, 2014; Hair, Jr, 2015) in Diva (2020) argue that validity testing is used as a measuring tool to measure what should be measured and how accurate it is in presenting an indicator in assessing something. The validity test was carried out on the five variables, namely brand awareness, perception of quality, brand association, brand loyalty, and brand equity. Table 1. Shows the results of the brand awareness validity test.

Table 1. Brand Awareness Validity Test Results

Variables	Grain	rcount	Rtabel	Description	Sig (2 tailed)	Sig	Description
	X1.1	0,514	0,1515	Valid	0,000	0,05	Valid
Brand Awareness (X1)	X1.2	0,447	0,1515	Valid	0.000	0,05	Valid
	X1.3	0,667	0,1515	Valid	0,000	0,05	Valid
	X1.4	0,651	0,1515	Valid	0,000	0,05	Valid
	X1.5	0,495	0,1515	Valid	0,000	0,05	Valid
	Total XI	1	0,1515	Valid	0,000	0,05	Valid

Source: Primary data processed 2024

Table 1 shows that all Brand Awareness variable statement items are valid. All statement items show rcount greater than **rtable,** which is 0.1515. Furthermore, Table 2 will present the results of testing the validity of perceptions of quality.

Variables	Grain	rcount	rtabel	Description	Sig (2 tailed)	(2Sig	Description
	X2.1	0,550	0,1515	Valid	0,000	0,05	Valid
Perception of Quality	X2.2	0,724	0,1515	Valid	0,001	0,05	Valid
(X2)	X2.3	0,733	0,1515	Valid	0,000	0,05	Valid
	Total X2	1	0,1515	Valid	0,000	0,05	Valid

Source: Primary data processed 2024

Based on testing the validity of perceptions of quality, Table 2 shows that all statement items for the perception of quality variable are valid. All statement items show rcount greater than rtable, which is 0.1515. Furthermore, Table 3 will show the results of testing the validity of brand association.

Table 3. Brand Association Validity Test Results

Variables	Grain	rcount	rtabel	Description	Sig (2 tailed)	Sig	Description
	X3.1	0,500	0,1515	Valid	0,000	0,05	Valid
Brand Association (X3)	X3.2	0,533	0,1515	Valid	0,000	0,05	Valid
	X3.3	0,614	0,1515	Valid	0,000	0,05	Valid
	X3.4	0,630	0,1515	Valid	0,000	0,05	Valid
	X3.5		0,1515	Valid	0,000	0,05	Valid
		0,628					
	X3.6	0,609	0,1515	Valid	0,000	0,05	Valid
	Total	1	0,1515	Valid	0,000	0,05	Valid

Source: Primary data processed 2024

Table 3 shows that all brand association variable statement items are valid. All statement items show $_{rcount}$ greater than **rtable,** which is 0.1515. Furthermore, Table 3 will show the results of testing the validity of brand loyalty.

Table 4. Brand Loyalty Validity Test Results

Variables	Grain	rcount	rtabel	Description	Sig (2 tailed)	Sig	Description
	X4.1	0,702	0,1515	Valid	0,000	0,05	Valid
	X4.2	0,620	0,1515	Valid	0,000	0,05	Valid
Brand Loyalty (X4)	X4.3	0,759	0,1515	Valid	0,000	0,05	Valid
	X4.4	0,748	0,1515	Valid	0,000	0,05	Valid
	X4.5	0,679	0,1515	Valid	0,000	0,05	Valid
	Total X4	1	0,1515	Valid	0,000	0,05	Valid

Source: Primary data processed 2024

Based on testing the validity of perceptions of quality, Table 4 shows that all statement items for the brand loyalty variable are valid. All statement items show **rcount** greater than **rtable,** which is 0.1515. The results of testing the validity of brand equity are shown in table 5.

Table 5. Brand Equity Validity Test Results

Variables	Grain	rcount	rtabel	Description	Sig (2 tailed)	Sig	Description
	Y.1	0,548	0,1515	Valid	0,000	0,05	Valid
	Y.2	0,550	0,1515	Valid	0,000	0,05	Valid
Brand Equity (Y)	Y.3	0,654	0,1515	Valid	0,000	0,05	Valid
	Y.4	0,725	0,1515	Valid	0,000	0,05	Valid
	Total Y		0,1515	Valid	0,000	0,05	Valid
		1					

Source: Primary data processed 2024

Table 5 shows that all brand equity variable items are valid, this is indicated by each **rcount** number which is greater than **r$_{tabel}$** , which is 0.1515. Based on the validity test of all variables, it shows that all statement items (23 statements) are declared valid.

4.2.2 Reliability Test

Table 6: Reliability Test Results

Variables	Cronbach's Alpha	r-Table	Description
Brand awareness (X1)	0,449	0,1515	Reliable
Perception of Quality (X2)	0,384	01515	Reliable
Brand Association (X3)	0,617	0,1515	Reliable
Brand Loyalty (X4)	0,744	0,1515	Reliable
Brand Equity (Y)	0,464	0,1515	Reliable

Source: Primary data processed 2024

Dewi & Sudaryanto, 2020 (in Rosita et al, 2021) state that the reliability test is a research instrument to determine whether the questionnaire used to collect research data is reliable or trustworthy. The basis for decision making in carrying out reliability is if the Cronbach's alpha value> rtable. Based on the output of "Reliability Statistics" the Cronbach's alpha value of the variables listed is greater than the **rtable** value obtained from N = 166 with a significance of 5%, namely 0.1515. So based on the basis of this decision, it can be concluded that the questionnaire is declared reliable or trustworthy.

4.3 Research results
4.3.1 Hypothesis Test Results
4.3.1.1 Normality Test
Based on the data that has been tested using the normality test, the significance value obtained is 0.200> 0.05, so the data can be said to be normally distributed.

4.3.1.2 Multicollinearity Test
Based on the results of the multicollinearity test that has been carried out in this study, it can be concluded that the research data above does not occur multicollinearity because the tolerance value of the brand awareness variable, perception of quality, brand association and brand loyalty is > 0.10 and the VIF value of the brand awareness variable, perception of quality, brand association and brand loyalty is < 10.

The tolerance value for each independent variable is:
Brand awareness:0.591
Perception of quality: 0,664
Brand association: 0.639
Brand loyalty: 0.640

The VIF value for each independent variable is:
Brand awareness: 1,693
Perception of quality: 1,507
Brand association: 1,444
Brand loyalty: 1,563

4.3.1.3 Heteroscedasticity Test

From the results of the heteroscedasticity test that has been tested in this study, it can be concluded that there has been no heteroscedasticity in this study because the results of the scatter plot show that the data points do not form a certain pattern and the data spreads above and below the number 0 on the Y axis.

Table 7. Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.544[a]	.296	.279	1.050

a. Predictors: (Constant), LoyalitasMerek, AsosiasiMerek, PersepsiTerhadapKualitas, KesadaranMerek

b. Dependent Variable: BrandEquity

Table 8. Anova

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.529	4	18.882	17.118	.000[b]
	Residual	179.804	163	1.103		
	Total	255.333	167			

a. Dependent Variable: BrandEquity

b. Predictors: (Constant), LoyalitasMerek, AsosiasiMerek, PersepsiTerhadapKualitas, KesadaranMerek

Table 7. shows the R Square value of 0.296. Where this figure means that the variables of brand awareness, perception of quality, brand association, brand loyalty simultaneously affect the brand equity variable by 0.296 or 29.6%. Meanwhile, the remaining 70.4% is influenced by variables outside this regression equation or variables not examined. Table 8. Shows that the calculated F value is 17.118 which means $T_{Count} < T_{table}$, where the T_{table} value is 2.43 and the significance value is below 0.05, namely 0.00. This means that brand awareness, perception of quality, brand association, brand loyalty simultaneously affect the brand equity variable.

Table 9. Hypothesis Testing

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.915	.525		3.650	.000
	KesadaranMerek	.199	.070	.244	2.853	.005
	PersepsiTerhadapKualitas	.142	.096	.120	1.482	.140
	AsosiasiMerek	.140	.055	.202	2.560	.011
	LoyalitasMerek	.077	.051	.124	1.506	.134

a. Dependent Variable: BrandEquity

Based on table 9. shows that brand awareness, perceived quality, brand association, and perceived brand loyalty have $_{TCount}$ < $_{Ttable}$ with a significance value of p <0.05. Brand awareness has $_{TCount}$ < $_{Ttable}$ with a value of 2.853> 1.97462 with a significance value of p <0.05, namely 0.005. This shows that H1 is accepted, brand awareness has a positive effect on brand equity. Perception of quality has $_{TCount}$ < $_{Ttable}$ with a value of 1.482 < 1.97462 with a significance value of p>0.05, namely 0.140. This shows that H2 is not accepted, perception of quality has no effect on brand equity. Brand association has $_{TCount}$ < $_{Ttable}$ with a value of 2.560> 1.97462 with a significance value of p <0.05, namely 0.011. This shows that H3 is accepted, brand association has a positive effect on brand equity. Brand loyalty has $_{TCount}$ < $_{Ttable}$ with a value of 1.506 < 1.97462 with a significance value of p>0.05, namely 0.134. This shows that H4 is not accepted, brand loyalty has no effect on brand equity.

Table 10. Multiple Linear Equations

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.915	.525		3.650	.000
	KesadaranMerek	.199	.070	.244	2.853	.005
	PersepsiTerhadapKualitas	.142	.096	.120	1.482	.140
	AsosiasiMerek	.140	.055	.202	2.560	.011
	LoyalitasMerek	.077	.051	.124	1.506	.134

a. Dependent Variable: BrandEquity

Y=1.915 + 0.199XI + 0.142X2 + 0.140X3 + 0.077X4

The magnitude of the constant is 1.915, which means that there is a positive influence on the variables of brand awareness, perception of quality, brand association, and brand loyalty. The regression coefficient value for the brand awareness variable of 0.199 is positive, so the brand awareness variable shows a unidirectional relationship with the dependent variable brand equity. The regression coefficient value of 0.199 means that each addition of the variable by one unit will increase the dependent variable by 0.199.

The regression coefficient value for the perceived quality variable of 0.142 is positive, so the perceived quality variable shows a unidirectional relationship with the dependent variable brand equity. The regression coefficient value of 0.142 means that each addition of the variable by one unit will increase the dependent variable by 0.142.

The regression coefficient value for the brand association variable of 0.140 is positive, so the brand association variable shows a unidirectional relationship with the dependent variable brand equity. The regression coefficient value of 0.140 means that each addition of the variable by one unit will increase the dependent variable by 0.140.

The regression coefficient value for the brand loyalty variable of 0.077 is positive, so the brand loyalty variable shows a unidirectional relationship with the dependent variable brand equity. The regression coefficient value of 0.077 means that each addition of the variable by one unit will increase the dependent variable by 0.077.

4.4 Discussion

The results of this study indicate that the Apple product brand awareness variable has a positive and significant effect on the Apple product brand equity variable with a value of TCount < Ttable with a value of 2.853> 1.97462 with a significance value of p <0.05, namely 0.005. So H1 is accepted, brand awareness has a positive effect on brand equity. So H1 is accepted, brand awareness has a positive effect on brand equity, the results of this study are in accordance with previous research conducted by Ernawati et al., (2016) which shows that brand awareness has a positive effect on brand equity. In addition, this is also in line with research conducted by (Nadhiroh, Nurhajati, & Wahono, 2020) which suggests that brand awareness has a positive and significant effect on *brand equity*. The higher the brand awareness that customers have of a product, it will have a positive impact on increasing *brand equity* for that product.

The results of this study indicate that the perception of the brand quality of Apple products has no significant effect on the brand *equity of* Apple products. This can be seen from the test results of the variable perception of the quality of Apple products on brand equity which has a value of TCount < Ttable with a value of 1.482 < 1.97462 with a significance value of p>0.05, namely 0.140. This study shows that H2 is not accepted because the perception of the quality of the Apple brand in this study has no effect on the brand equity of Apple brand products. the results of this study are in accordance with research conducted by Darminto et al., (2015) in the study stated that perceptions of brands do not have a positive and significant effect on brand equity.

The results of this study indicate that brand association of Appleproducts has a positive and significant effect on brand equity of Apple products as indicated by the value of TCount < Ttable value of 2.560> 1.97462 with a significance value of p <0.05, namely 0.011. This shows that H3 is accepted, brand association has a positive effect on brand equity. This is in line with research conducted by (litto et al., 2022) which states that brand association has a positive and significant effect on *brand equity*. The higher the influence of a brand association, it will provide many benefits to the brand.

The results showed that Apple brand loyalty has no positive and significant effect on Apple product brand equity, indicated by the value of TCount < Ttable value of 1.506 < 1.97462 with a significance value of p>0.05, namely 0.134. This shows that H4 is not accepted, brand loyalty has no effect on brand equity. This research is in line with research conducted by Nadhiroh, R. S., Nurhajati, & Wahono, B. (2019) which states that brand loyalty has no positive and significant effect on brand equity.

The results of this study indicate that brand association of Apple products has a positive and significant effect on brand equity of Apple products as indicated by the value of TCount < Ttable value of 2.560> 1.97462 with a significance value of p < 0.05, namely 0.011. This shows that H3 is accepted, brand association has a positive effect on brand equity. This is in line with research conducted by (litto et al., 2022) which states that brand association has a positive and significant effect on *brand equity*. The higher the influence of a brand association, it will provide many benefits to the brand.

The results showed that Apple brand loyalty has no positive and significant effect on Apple product brand equity, indicated by the value of TCount < Ttable with value of 1.506 < 1.97462 with a significance value of p>0.05, namely 0.134. This shows that H4 is not accepted, brand loyalty has no effect on brand equity. This research is in line with research conducted by Nadhiroh, R. S., Nurhajati, & Wahono, B. (2019) which states that brand loyalty has no positive and significant effect on brand equity.

5. Conclusion

Based on the research results, the following conclusions can be drawn:

a. Apple product brand awareness has a positive and significant effect on Apple product brand equity. The higher the brand awareness that consumers have, the higher the brand equity of Apple products.

b. Perceptions of the brand quality of Apple products do not have a significant effect on the brand equity of Apple products. This means that customer perceptions of the quality of Apple products do not directly increase the brand equity of Apple products.

c. Apple product brand association has a positive and significant influence on Apple product brand equity. The stronger the brand association that Apple products have, the higher the brand equity of Apple products.

d. Apple brand loyalty has no positive and significant effect on Apple product brand equity. This means that customer loyalty to Apple products does not directly increase the brand equity of Apple products.

6. Recommendations and Implications

6.1 Recommendation

This research can be repeated with a larger and more diverse sample. This research can be conducted using different research methods, such as qualitative research. This research can be done by examining other factors that can affect brand equity, such as customer satisfaction and brand value.

6.2 Implications

Apple needs to maintain and increase brand awareness of its products to increase brand equity. Apple needs to strengthen its product brand associations with positive things to increase brand equity. Apple needs to re-evaluate its loyalty program to increase its influence on brand equity.

References

(Heriyanto, 2018). (2018). BAB II Tinjauan Pustaka BAB II TINJAUAN PUSTAKA 2.1. 1–64.

Gastronomía Ecuatoriana y Turismo Local., *1*(69), 5–24.

Alapján-, V. (2016). 済無 *No Title No Title No Title*. 1–23.

Dedy, A. (2020). Pengaruh Green Perceived Value Dan Green Brand Image Melalui Green Satisfaction Dan Green Trust Terhadap Green Brand Equity Pada Pariwisata Kreatif Di Jawa Barat. *Komitmen: Jurnal Ilmiah Manajemen*, *1*(1), 1–14. https://doi.org/10.15575/jim.v1i1.8284

Ermawati, P. W., Sudiro, A., & khusniyah, N. (2016). Pengaruh Kesadaran Merek dan Asosiasi Merek terhadap Ekuitas Merek pada Pelanggan Hypermarket di Kota Malang. *Jurnal Aplikasi Manajemen*, *14*(2), 373–386. https://doi.org/10.18202/jam23026332.14.2.19

Górska-Warsewicz, H., Dębski, M., Fabuš, M., & Kováč, M. (2021). Green brand equity—empirical experience from a systematic literature review. *Sustainability (Switzerland)*, *13*(20), 1–34. https://doi.org/10.3390/su132011130

Hidayat, A. K., & Martini, E. (2019). Pengaruh Kesadaran Merek, Asosiasi Merek, Persepsi Kualitas, Dan Loyalitas Merek Terhadap Ekuitas Merek Lazada the Effect of Brand Awareness, Brand Association, Perceived Quality, and Brand Loyalty To Lazada'S Brand Equity. *E-Proceeding of Management*, *6*(1), 373–380.

Klompen, E. T. J., Engels, T. A. P., Van Breemen, L. C. A., Schreurs, P. J. G., Govaert, L. E., & Meijer, H. E. H. (2005). Quantitative prediction of long-term failure of polycarbonate. *Macromolecules*, *38*(16), 7009–7017. https://doi.org/10.1021/ma0504973

Litto, V., & Selamat, F. (2022). Ekuitas Merek Hotel Berbintang Di Jakarta: Peran Kesadaran Merek, Asosiasi Merek, Persepsi Kualitas Dan Loyalitas Merek. *Jurnal Muara Ilmu Ekonomi Dan Bisnis*, *6*(2), 299–308. https://doi.org/10.24912/jmieb.v6i2.20285

Nandiroh, R. S., Nurhajati, & Wahono, B. (2019). Pengaruh Asosiasi Merek, Loyalitas Merek, Brand Awarness, dan Citra Merek Terhadap Ekuitas Merek Produk Scarlett Whitening (Studi Kasus pada konsumen pembeli produk scarlett whitening pada mahasiswa prodi manajemen Angkatan 2019 Universitas Islam Malang). *E – Jurnal Riset Manajemen*, *12*(01), 1098–1105.

Nofriyanti, A. R. (2017). Pengaruh Brand Trust, Brand Image, Perceived Quality, Brand Loyalty Terhadap Brand Equity Pengguna Telkomsel. *EKOBIS- Ekonomi Bisnis*, *22*(2), 130–142.

Pandiangan, K., Masiyono, M., & Dwi Atmogo, Y. (2021). Faktor-Faktor Yang Mempengaruhi Brand Equity: Brand Trust, Brand Image, Perceived Quality, & Brand Loyalty. *Jurnal Ilmu Manajemen Terapan*, *2*(4), 471–484. https://doi.org/10.31933/jimt.v2i4.459

Pechyiam, C., & Jaroenwanit, P. (2014). The Macrotheme Review A multidisciplinary journal of global macro trends The Factors Affecting Green Brand Equity of Electronic Products in Thailand. *The Macrotheme Review*, *3*(9), 1–12.

Pustaka, K., & Pemikiran, K. (n.d.). *Bab Ii Kajian Pustaka, Kerangka Dan Hipotesis_Diana*. 30–85. Saks, V. A., Kapelko, V. I., Ruda, M. Y., & Strumia, E. (1992). *1 0287*. *5*, 239–248.

Shabrina, V. G. (2019). Pengaruh Revolusi Digital terhadap Pemasaran dan Perilaku Konsumen.

Jurnal Pewarta Indonesia, *1*(2), 131–141. https://doi.org/10.25008/jpi.v1i2.16

Yacub, R. (2020). Pengaruh Brand Awareness, Brand Image dan Brand Loyalty Terhadap Brand Equity Pada Pengguna Produk Nike di Kabupaten Tangerang. *Journal of Economic, Bussines and Accounting (COSTING)*, *4*(1), 70–74. https://doi.org/10.31539/costing.v4i