



A Study of the Relationship between Service Quality, Brand Image, and Customer Satisfaction and its Influence on Customer Loyalty of Iphone Users in Yogyakarta

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Every company in the modern era must be able to determine and define its own set of demands. In the highly competitive market recently, competing companies continue to offer better quality service and a better brand image to satisfy customers and win their loyalty. Those factors triggering customer loyalty have been widely researched, but there are still inconsistencies in the results of previous research. This paper aims to examine factors that drive customer loyalty of iPhone users in Yogyakarta, such as service quality, brand image, and customer satisfaction. This study exerts a quantitative approach using a five-point Likert of online questionnaires. This survey was conducted in Yogyakarta in October 2023. Respondents are iPhone users in Yogyakarta, with a total of 100

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respondents. The SmartPLS version 3.2.9 analysis tool was used to process the data of this study using PLS-SEM, including hypothesis testing. All hypotheses regarding this study's variable relationship that leads to customer loyalty are supported. Hence, customer loyalty of iPhone users has three main triggering factors: service quality, brand image, and customer satisfaction. Furthermore, the results show that customer satisfaction has the biggest impact in forming customer loyalty. The results of this study provide a practical implication for Apple to focus on developing strategies that can increase customer perceptions of service quality, brand image, and customer satisfaction to increase customer loyalty among iPhone users.

Keywords: Service quality; brand image; customer satisfaction; customer loyalty.

1. INTRODUCTION

Market competition in the modern global world requires companies to offer better quality service and brand image to win customers' loyalty [1]. It happens because there are many brands available to customers. Thus, competition between companies is increasing to win the hearts of customers. Loyal customers can be a precious asset for a company. Therefore, companies must maintain loyal customers because they can save more costs by retaining old customers rather than looking for new ones [2]. In this case, the main driver of a company's marketing activities often has a perspective on developing, maintaining, or increasing customer loyalty to products/services [3].

Initially, brands were widely used to differentiate the same type of goods from other businesses or manufacturers. However, from a customer's perspective, a brand can also be a powerful identity for a product and can even reveal a person's social status. According to several specialists, including [4], brand image has become an interesting issue in the marketing literature. As stated by George and Charles [5], customers' rational and emotional views of a particular brand are known as its brand image. Customer perception of a brand is critical because it significantly impacts on purchasing decisions. Additionally, brand image is a powerful marketing tool and is very important in helping businesses stand out from the competition [6]. A sharp brand image has supported customers in realizing brand needs and differentiating the brand from its competitors. Therefore, it has increased the likelihood that customers will purchase the brand [7].

One of the main aspects that managers need to pay attention to today is customer satisfaction. The company's ability to please customers by fulfilling customer requests and desires better than competitors has become a competitive

advantage [8]. Customer satisfaction has also become an essential measure of a company's success and significantly influences behaviour, repurchases, and word-of-mouth (WOM) [9]. In a highly competitive corporate climate, customer satisfaction can be seen as the key to success [10].

Customer satisfaction has a number of benefits, including strengthening the bond between a business and its clients. Additionally, it will drive business sustainability, foster client loyalty, and generate profitable WOM. Although situational factors and marketing campaigns can persuade customers to switch, loyalty is a firm determination to repurchase or support preferred goods or services in the future [11]. The existence of a company and its potential to develop in the future is directly related to the value of client loyalty.

One of the strategies for retaining customers is to build customer satisfaction and loyalty, which can be achieved through a favourable brand image and high-quality service. Every business wants to improve customer satisfaction and service quality. Businesses that provide high-quality services can win new and existing clients through loyalty. Loyal customers enable businesses to gain a larger market share and lower operational costs [12]. Ananthanarayanan et al. [13] defines service quality as the result of comparing clients' perceived and expected quality levels with service providers to assess overall client quality. In other words, service quality offers excellence to meet customer needs or expectations.

Smartphones have become essential for everyone in the current era, especially the Indonesian people. Every year, the number of smartphone users in Indonesia increases. Based on Counterpoint research in 2022, the market share for refurbished iPhones in Indonesia has the highest ranking, controlling 49% of the

market share compared to other smartphone brands [14]. It shows the large number of iPhone enthusiasts and users in Indonesia. The iPhone is a smartphone produced by the Apple company that runs the iOS operating system, a unique OS license owned by Apple. This popularity can be caused by several variables influencing customer loyalty, such as unique quality, brand image, and others.

Apart from having better technology, the iPhone is supported by a number of attractive additional services (Eg. iTunes and iCloud). Besides, the iPhone prioritizes increasingly sophisticated and sharp camera quality. iPhone is also said to have a brain that is twice as fast as other smartphones, making its CPU more potent than other smartphones. Additionally, the graphics quality is twice that of the A5 CPU. With a thickness of only 7.6 mm, the Apple iPhone is also one of the smallest smartphones.

Several studies have attempted to examine the antecedents of customer loyalty [1,7,15,16]. However, few researchers still study this issue in Indonesia, especially for electronic products such as smartphones. Furthermore, the results of previous research are still inconsistent, especially in the relationship between service quality variables and customer loyalty. Therefore, this research aims to examine factors driving customer loyalty, such as brand image, service quality, and customer satisfaction. The author is curious to see how far users perceive the brand and what level of care is offered to ensure that customers are satisfied and remain loyal to the product. Researching customer loyalty toward a product or brand is important to find effective strategies to maintain customer retention for profitable business continuity. Through this research, the author attempts to identify the relationship between brand image, service quality, and customer satisfaction on customer loyalty by conducting case studies on iPhone users, especially in Yogyakarta, Indonesia. Thus, this research looks for vital factors that trigger customer loyalty to positively contribute to developing Apple's strategy to retain its customers through brand image, service quality, and customer satisfaction.

2. LITERATURE REVIEW

2.1 Service Quality

Once consumption and manufacturing occur simultaneously, service quality is a process that

the client subjectively perceives. Subrata et al. [17] defines service quality as the ability to provide services tailored to client's needs and desires. In general, efforts to satisfy customer requests and preferences, as well as the accuracy of delivery to meet customer expectations, are the essence of service quality.

A company's ability to provide high-quality services is critical in determining its success. The SERVQUAL (Service Quality) model, created by Anathanarayanan et al. [13], is one of the service quality strategies often cited in marketing research. However, many researchers have conducted a review of service quality measurements. According to Joseph and Steven [18], applying SERVPERF service quality performance to measure service quality creates better reliability, validity, and predictive power results than using SERVQUAL. This opinion is reinforced by Anathanarayanan et al. [13], stating that SERVPERF is more reliable than the SERVQUAL scale in measuring service quality in that SERVPERF can provide better diagnostic information.

Research conducted by Sheng-Wen et al. [7], Paul et al. [19] stated that the relationship between service quality is an antecedent of brand image and positively influence on brand image. It means that the better the quality of service the company provides, the better the brand image and reputation will be in the customers' minds. Based on the description above, the following hypothesis can be proposed:

H1: Service Quality has a significant positive effect on Brand Image.

Eugene and Jamie [9] conducted another study that supports the relationship between customer satisfaction and service quality. Ilias and Panagiotis [20], Putro RNCA [21] show that service quality has a positive effect and predicts customer satisfaction. Service quality can be used as a competitive weapon that differentiates a company from its competitors in a more positive way by enabling service organizations to delight customers by consistently providing quality services and increasing customer satisfaction with the company. Thus, the following hypothesis can be proposed:

H2: Service Quality has a significant positive effect on Customer Satisfaction.

According to research conducted by Shahzad et al. [15], Heri and Jalaludin [22], who examined

the relationship between service quality and customer loyalty, it is stated that service quality is a precursor to customer loyalty and influences customer loyalty positively. It means that customer loyalty will increase proportionally to the quality of the service provided. Ananthanarayanan et al. [13] also said that there is a relationship between customer loyalty and service excellence. According to his research, customer loyalty to a product or service is greatly influenced by the quality of the service provided. Thus, a hypothesis can be formulated as follows:

H3: Service Quality has a significant positive effect on Customer Loyalty.

2.2 Brand Image

Customers' impressions of a product's brand, or brand image, are formed by information obtained from their experiences using the product. According to Hyeyoon and Soyeon [6], brand image has emerged as an exciting topic of discussion in marketing literature. Additionally, brand image has become a key differentiator for businesses and a powerful marketing tool [6]. According to Philip and Kevin [11], brand image is a customer's reaction to a brand based on its positive and negative aspects that they can still remember. Customer perceptions of a brand are developed based on their product experience.

A brand's image can form customers' positive views and trust in a product or service, increasing brand loyalty. Brand loyalty can help a company project a positive and acceptable image that aligns with customer preferences for the goods and services it offers. An image can be preserved because it is an image that captures the essence of something, such as a person's main image or impression. A strong brand is a brand that stands out from the crowd and is superior to its competitors in a particular area. Customer satisfaction will increase along with customers perceive the company's brand image. On the other hand, poorer customer satisfaction is also caused by customers' negative impressions of the brand image.

Many previous studies have established a relationship between brand image and customer satisfaction. Brand image is a predictor of customer satisfaction and has a positive effect on customer satisfaction, according to Shahzad et al. [15], Paul et al. [19]. It means that the better the quality of service the company provides to customers, the better the brand image will be

created in the customers' minds. It will increase customer satisfaction. Thus, the following hypothesis can be formulated:

H4: Brand Image has a significant positive effect on Customer Satisfaction.

Brand image is a factor in forming customer loyalty [15]. According to Indra and Sri [23], brand image influences customer loyalty in a significant way. The relationship between brand image and customer loyalty was also researched by Sheng-Wen et al. [7,15,23,24] and concluded that a favorable brand image will lead to loyalty at the company. Additionally, [25] research supports it, showing that loyalty has a significant impact on brand image and customer loyalty, which significantly impacts on service quality. It means that customer loyalty will increase in proportion to the strength of a company's brand image. According to research by Kun-Hsi [26], there is a relatively significant positive correlation between brand image and customer loyalty, which shows that customers who have a good perception of a company will be more loyal. Thus, the following hypothesis can be formulated:

H5: Brand Image has a significant positive effect on Customer Loyalty.

2.3 Customer Satisfaction

One of the most critical factors in business is customer satisfaction, which can become a factor in realizing client loyalty. A company's competitive advantage is its ability to exceed client expectations, serve customers more satisfactorily than its competitors, and provide superior products and services [8]. According to Yi-Hsin et al. [27], customer satisfaction measures how well a product or service meets or exceeds customer expectations. Customer satisfaction also refers to how customers feel or perceive a good or service after using it. As a link between various stages of the customer purchasing process, customer satisfaction is the primary outcome of marketing initiatives [10]. The company's competitive advantage is satisfying clients better than its competitors by exceeding client needs and providing better service than its competitors [8].

A number of research investigations have validated the correlation between loyalty and customer satisfaction [15,20,28,29]. One important factor related to client loyalty is

customer satisfaction [15]. Higher customer satisfaction will result in higher customer loyalty [29]. Previous research states that customer satisfaction positively affects on customer loyalty [15,16,28,29]. The research results of [16] show that brand satisfaction influences customer loyalty regarding repeat purchases. Furthermore, [29] found a strong positive relationship between customer satisfaction and loyalty. This research's findings indicate that there is sufficient empirical data to imply that customer satisfaction significantly increases customer loyalty and trust. Thus, a hypothesis can be formulated as follows:

H6: Customer Satisfaction has a significant positive effect on Customer Loyalty.

2.4 Customer Loyalty

The concept of customer loyalty has been widely discussed in the literature with different definitions. Customer loyalty is defined as the strength of the relationship between a client's relative attitude and repurchase in a trade [4]. According to Rahmat [30], customer loyalty can also be defined as a solid and ongoing commitment to regularly purchase preferred goods or services in the future, which leads to repeated purchases of the same goods or services. In other words, customer loyalty is like a guarantee of repeat purchases. It has, of course, provided sustainable benefits for the business.

3. METHODOLOGY

3.1 Measurement

This study uses a causal relationship study on variables raised as hypotheses. The research uses a quantitative approach by distributing online questionnaires to obtain primary data. The research questionnaire consists of 2 parts: respondent characteristics and questions to measure variables. The variable measurement scale uses a 5-point Likert scale, which consists of an assessment scale consisting of strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). All measurement items were adapted from.

3.2 Sampling and Data Collection

This research uses primary data through the distribution of online questionnaires and secondary data collected from various current sources and previous research references. This

research uses a sample of iPhone users who are residents of Yogyakarta, Indonesia. The Leshow formula was used to determine the sample calculation. So, it was found that the number of samples sought was $n = 96.04$. Thus, sample results are rounded to the nearest hundred. Based on the sample calculation above, the sample that will be used for research is 100 respondents. The validity and reliability of the questionnaire used to collect data were checked before data collection was carried out. Finally, a sample of 100 respondents was collected for the study.

3.3 Data Analysis Techniques

Data analysis in this research includes descriptive analysis and statistical analysis using PLS-SEM. Descriptive analysis to describe research respondents' answers to obtain conclusions about answer patterns. Meanwhile, in the Structural Equation Modeling (SEM) testing system, the data will be processed using the SmartPLS program for testing. The use of the SEM analysis method was chosen because it can explain variable relationships at once and allows for path analysis. Richard [31] stated that to process SEM-PLS data, two levels must be completed. The first stage uses a measurement model evaluation (outer model). Then, the data is processed using a structural model evaluation (inner model), which tests the hypothesis and explains the existence of a relationship between latent variables. The measurement model testing was carried out to test the validity and reliability of the data. Convergent validity is carried out by looking at loading values greater than 0.7 and AVE values above 0.5 [31]. Next, discriminant validity was measured by looking at the cross-loading and Fornell-Larcker values. Finally, indicator reliability can be seen from the Cronbach alpha and composite reliability values, which are more than 0.70 [31].

In structural test evaluation, the path coefficients test is used to see the direction of the hypothesis. A Determination coefficient test (R^2) was used to measure the influence of the independent variable on the dependent variable. The Q-Square test is to see predictive relevance, with the Q-square value having to be more than 0. The predictive relevance test determines how well the observation value is produced through blindfolding. Finally, hypothesis testing (resampling bootstrapping) is decided from the t value, which must be greater than 1.96 (t statistics >1.96).

4. RESULTS AND DISCUSSION

4.1 Respondent Profile

Analysis of respondent profiles is based on gender, age, monthly income, and motivation for using an iPhone. The demographic analysis results of respondents can be seen in the following respondent profile data table (Table 1).

Based on Table 1, it is shown that male respondents (75%) dominated this study. Furthermore, 94% of respondents in this study were aged less than 25 years (< 25 years) and had an income of < 5 million IDR (69%). Based on respondents' motivation for using an iPhone, completeness of features (59%) was the biggest motivation in this study.

4.2 Measurement Model Evaluation (Outer Model)

The evaluation of research models includes convergent validity, discriminant validity, and measurement reliability. The results of convergent validity and reliability measurements are summarized as follows (Table 2).

Based on Table 2, the results show that the measurements in this study are convergently valid and reliable. It is known that each item produces a factor loading value greater than 0.70 and an AVE value greater than 0.50. Thus, these indicators are considered valid as measurements of latent variables in this way. Moreover, the

Cronbach Alpha and Composite Reliability value are greater than 0.70 for all research variables. Based on these results, it can be concluded that all variables have a high level of reliability, which shows that each variable has met composite reliability and Cronbach alpha.

The validity of the measurement model is also checked to display the strength of the relationship between construct indicators and indicators of other constructs, showing discriminant validity. Discriminant validity was tested using the Fornell-Larcker criteria and Cross Loading values. The results of the Fornell-Larcker estimation data are in the following table (Table 3).

Table 3 shows that the Fornell-Larcker criteria are met well. It is indicated by each AVE square root value on the diagonal line having a better value than the value below for each variable. For example, in the CS variable, the value of 0.890 is higher than 0.738. Therefore, all variables are considered discriminantly valid based on the Fornell-Larcker test.

Furthermore, the Cross-Loading test was carried out to test the discriminant validity of the measurement. According to Joseph [32], to assess discriminant validity using cross-loading, an evaluation can be carried out for each construction value, from which the certainty of the calculated value will be greater than for other constructions. The following table presents the Cross-Loading estimation results (Table 4).

Table 1. Respondents' demographic characteristics

Category	Frequency	%
Gender		
Male	75	75
Female	25	25
Age		
< 25 years	94	94
26 – 35 years	6	6
36 – 45 years	0	0
>46 years	0	0
Income per Month		
< 5 Million IDR	69	69
5 – 10 Million IDR	20	20
> 10 Million IDR	11	11
Respondent Motivation		
Identical to the upper middle class	4	4
Camera performance is good	37	37
Completeness of features	59	59

Source: Primary data (2023)

Table 2. Convergent validity and data reliability

Variables	Item	Loadings	CA	CR	AVE
Brand Image	BI1	0.852	.927	0.942	0.732
	BI2	0.873			
	BI3	0.863			
	BI4	0.832			
	BI5	0.910			
	BI6	0.801			
Service Quality	SQ1	0.799	.912	0.931	0.693
	SQ2	0.848			
	SQ3	0.815			
	SQ4	0.847			
	SQ5	0.853			
	SQ6	0.831			
Customer Satisfaction	CS1	0.876	.947	0.958	0.792
	CS2	0.869			
	CS3	0.888			
	CS4	0.902			
	CS5	0.905			
	CS6	0.899			
Customer Loyalty	CL1	0.899	.921	0.941	0.762
	CL2	0.859			
	CL3	0.897			
	CL4	0.897			
	CL5	0.807			

Source: Primary data (2023)

Table 3. Validitas diskriminan: fornell-larcker

Variabel	BI	CL	CS	SQ
BI	0.856			
CL	0.833	0.873		
CS	0.852	0.844	0.890	
SQ	0.743	0.742	0.738	0.832

Source: Primary data (2023)

*Notes: Brand Image (BI); Customer Loyalty (CL); Customer Satisfaction (CS); Service Quality (SQ)

Table 4 shows that the cross-loading value of each item is more than 0.70, and the value of each item is highest when connected to other latent variables. It shows that each variable in the research has explained the latent variables accurately and established the discriminant validity of each item.

4.3 Structural Model Evaluation (Inner Model)

The evaluation of the inner model is carried out after outer model testing. An inner or structural model test was carried out to determine the correlation between constructs, significant values, and R-square of the research model. First, the structural model evaluation was done by looking at each dependent latent variable R-square and Q-Square, as shown in the following table (Table 5).

Table 5 shows that the R-Square and Q-Square values are well explained. All the R-square values are above 0.50, which indicates that all dependent variables can be explained more than 50% by the independent variables. For example, the Brand Image variable (0.552) shows that independent variables can explain 55.2% of the variation, and the remaining 44.8% can be explained by factors not included in this research. Moreover, the Q-Square predictive relevance value for structural models evaluates how well the parameter estimates and conservation values produced by the model match. It is shown that the Q-square value of the dependent variable is greater than zero. Therefore, this value can mean that the research has good observational value or predictive relevance.

The final test is a hypothesis test to explain the relationship between the variables in the research. Direct hypothesis testing assumes that there is a reasonably considerable influence between exogenous variables and

endogenous variables if the statistical T value > 1.960 and P value less than .05 (significance threshold = 5%) is met. A detailed explanation of hypothesis testing is shown in Table 6 and Fig. 1.

Table 4. Validitas diskriminan: cross-loading

Item	BI	CL	CS	SQ
BI1	0.852	0.679	0.747	0.537
BI2	0.873	0.680	0.756	0.604
BI3	0.863	0.781	0.736	0.710
BI4	0.832	0.691	0.677	0.634
BI5	0.910	0.742	0.788	0.668
BI6	0.801	0.697	0.664	0.654
CL1	0.761	0.899	0.761	0.558
CL2	0.744	0.859	0.694	0.566
CL3	0.757	0.897	0.743	0.680
CL4	0.751	0.897	0.806	0.736
CL5	0.616	0.807	0.670	0.696
CS1	0.720	0.707	0.876	0.573
CS2	0.718	0.703	0.869	0.643
CS3	0.777	0.790	0.888	0.654
CS4	0.767	0.755	0.902	0.692
CS5	0.784	0.791	0.905	0.687
CS6	0.776	0.752	0.899	0.685
SQ1	0.518	0.477	0.484	0.799
SQ2	0.534	0.550	0.523	0.848
SQ3	0.535	0.579	0.528	0.815
SQ4	0.621	0.699	0.694	0.847
SQ5	0.691	0.606	0.660	0.853
SQ6	0.748	0.731	0.724	0.831

Source: Primary data (2023)

*Notes: Brand Image (BI); Customer Loyalty (CL); Customer Satisfaction (CS); Service Quality (SQ)

Table 5. R-square dan Q-square

Variable	R-Square	R-Square Adjusted	Q-Square (=1-SSE/SSO)
Brand Image	0.552	0.548	0.375
Customer Loyalty	0.773	0.766	0.573
Customer Satisfaction	0.750	0.745	0.573

Source: Primary data (2023)

Table 6. Hypothesis testing

Hypothesis		β	T Statistic	P Value	Conclusion
SQ → BI	H1	0.743	7.378	0.000	Supported
SQ → CS	H2	0.235	2.365	0.018	Supported
SQ → CL	H3	0.176	2.236	0.026	Supported
BI → CS	H4	0.677	5.799	0.000	Supported
BI → CL	H5	0.343	2.905	0.004	Supported
CS → CL	H6	0.422	3.281	0.001	Supported

Source: Primary data (2023)

*Notes: Brand Image (BI); Customer Loyalty (CL); Customer Satisfaction (CS); Service Quality (SQ).

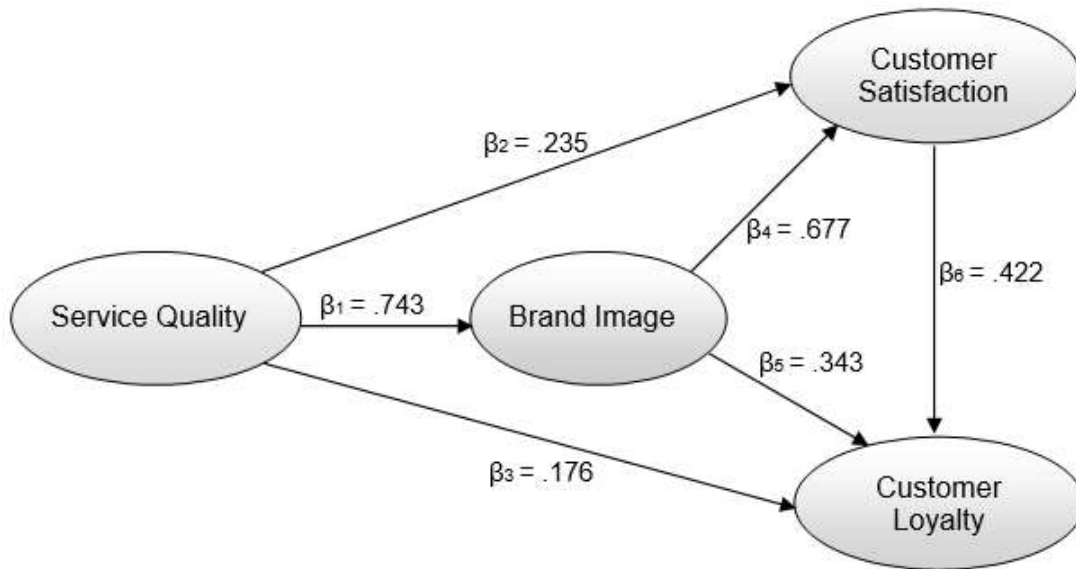


Fig. 1. Summary of the model results

β indicates the direction of the hypothesis (path coefficient).

The research framework was adopted from Sao Mai DAM & Tri Cuong DAM (2021).

The hypothesis test results in Fig. 1 show that all variable relationships have positive path coefficients (β). In addition, the criteria for a P value of less than .05 and a T statistic of more than 1.96 were all met. It indicates that all hypotheses are supported. These results were then summarized into a research framework, as shown in Fig. 1. The research framework used was adopted from Sao [1]. The following is a more detailed explanation regarding the results of the hypothesis test.

4.3.1 The influence of service quality on brand image

The evaluation results of the first hypothesis show that service quality has a positive and significant effect on the brand image ($\beta = .743$, P value = .00). Thus, H1 is supported. These findings indicate that good service quality will influence customers' views of brand image. This research aligns with research by Kun-Hsi [26] in the context of a company's social mission that good service quality will provide a good customer impression and shopping experience. Furthermore, this will increase good customer perceptions of the brand image. Meanwhile, [33] stated that service quality is a catalyst for improving customer behaviour towards brands, especially in forming a brand image among customers. Therefore, service quality is critical to improve when a company wants to create an attractive brand image.

4.3.2 The influence of service quality on customer satisfaction

The results show that service quality has a positive and significant effect on customer satisfaction ($\beta = .235$, P value = .018). These results indicate that H2 is accepted. The results of this research are align with previous research [1] on supermarkets in Vietnam, which stated that service quality is a predictor of customer satisfaction. It is because improving service quality will have an impact on customers' experience of supermarket service quality. A good shopping experience will make customers satisfied. In the context of studies in the banking industry, to increase customer satisfaction, good service quality also needs to be improved [34]. Customer satisfaction is a goal and marketing advice for businesses prioritizing their customers. For this reason, companies need to evaluate and improve the quality of their services to meet customers' shopping experience expectations and satisfy them.

4.3.3 The influence of service quality on customer loyalty

The results show that service quality has a positive and significant effect on customer loyalty. ($\beta = .176$, P value = .026), so H3 is accepted. The quality of good service customers receive will impact the possibility of customers being loyal. This finding is in contrast to the findings of Mbaye and Anne [34] in the context of

the banking industry, that service quality does not have a direct positive impact on customer loyalty decisions. However, the research results of Sao [1] show a positive relationship between service quality and customer loyalty. Companies must pay attention to the quality of their services to build customer trust, a strong brand image, and satisfy customers, which can make customers loyal [22]. Thus, improving service quality has many advantages, one of which has excellent potential in customer loyalty decisions.

4.3.4 Influence of brand image on customer satisfaction

The results show that brand image has a positive and significant effect on customer satisfaction ($\beta = .677$, P value = .00) and H4 is accepted. A good brand image in the eyes of customers will make customers satisfied with the brand's products. This finding is in line with [35] findings in the case study of the start-up brand Pomie Bakery, that brand image has a direct relationship to customer satisfaction. Customers feel satisfied when the product marketing process and the reality of the product obtained are appropriate. Brand image has become a powerful marketing instrument and is an essential factor in determining customer satisfaction [36]. Therefore, companies that want to provide positive customer satisfaction need to pay attention to customer perceptions of brand image and keep these perceptions positive. If related in the context of this research, the brand image of the iPhone can provide satisfaction for the buyer.

4.3.5 The influence of brand image on customer loyalty

The results show that brand image has a positive and significant effect on customer loyalty ($\beta = .343$, P value .004), so H5 is accepted. When a brand has a strong positive image, customers will have strong confidence that the brand will meet their expectations, and they will decide to be loyal. These results are align with research by David et al. [36] in the context of a study of telecommunications services in Mongolia, showing that customers consider the brand image of telecommunications services necessary. Customers tend to use telecommunications services with a strong brand image to minimize uncertainty regarding the use of services that may occur. According to Kun-Hsi [26], the company helps its brand image to reflect high values. In other words, a company with a

strong positive brand image will provide good quality products to its customers. It then satisfied customers and make them choose to be loyal to a brand.

4.3.6 The influence of customer satisfaction on customer loyalty

The results show that customer satisfaction has a positive effect on customer loyalty ($\beta = .422$, P value = .001). Thus, H6 is accepted. These results indicate that customers tend to be more loyal to brands that can provide satisfaction regarding shopping experience, such as service quality. Based on the direct relationship between variables and customer loyalty, the relationship between customer satisfaction and customer loyalty has the highest T statistical value (T value = 3.281). It indicates that customer satisfaction is considered the most important factor in retaining customers. These results are align with research by Undrakhbuyan and Tsend-Ayush [37] that customer satisfaction has a strong effect on the realization of customer loyalty. In this case, customer loyalty will be realized when satisfied customers are interested in making repeat purchases of products that meet their expectations. According to Achmad et al. [35], customer satisfaction is an essential factor in business success, even though this satisfaction is flexible and temporary. Temporary customer satisfaction challenges for companies in designing strategies to always satisfy consumers. According to Mbaye and Anne [34], if companies want to increase customer loyalty, customer satisfaction must always be increased. Thus, if related to the context of this research, customer satisfaction in an iPhone purchase transaction determines the occurrence of repeat transactions as a form of loyalty.

5. CONCLUSION

The essence of this research is to examine factors that drive customer loyalty among iPhone users in Yogyakarta by determining the influence of service quality, brand image and customer satisfaction on the realization of customer loyalty. The research results show that all hypotheses are accepted. Customer loyalty is supported by good service quality, positive brand image, and customer satisfaction with the shopping experience. Thus, an important factor in retaining consumers starts from consumers who feel satisfied with the services and products of brands with a positive image. As research by Sao [1], service quality has an essential impact on brand

image and customer satisfaction to create customer loyalty.

Theoretically, this research adds to the literature by providing an understanding of the important factors that trigger customer loyalty to electronic products, such as the iPhone. Companies need to improve service quality, brand image and customer satisfaction to gain customer loyalty. Furthermore, the managerial implications of this research suggest that Apple should focus on strategies that increase customer perceptions of service quality, brand image, and customer satisfaction to increase customer loyalty. One way that companies can implement this is by improving store facilities, committing to customers, interacting with staff and customers, and being ready to solve problems complained about by customers. If customer experience regarding service quality increases, customers have a positive tendency to feel satisfied, increasing their loyalty to the company. Moreover, companies must be more aggressive in advertising promotion, WOM, and public relations, which impact customer recognition of the brand image. Finally, customer loyalty can be maintained for effective and efficient business continuity.

This research still has limitations, such as the number of respondents needing to be able to describe conditions extensively. In addition, online data collection greatly focuses on the accuracy of respondents' responses. Therefore, we hope that future research will involve more respondents to describe the actual conditions better. Additionally, to anticipate the possibility of respondents' answers being less accurate, researchers can combine quantitative and qualitative research approaches, such as involving data collection through interviews to determine non-verbal responses from respondents. Moreover, future research can add other elements that might increase customer loyalty beyond the factors examined in this research. Through this, it is hoped that marketing managers will have more choices in managing factors that trigger customer loyalty to retain customers.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX

The measurement items used in the questionnaire were adapted from Sao Mai DAM & Tri Cuong DAM (2021) (Table 7).

Table 7. Item scale of the measurement

Variables	Item Scale
Service Quality	SQ1 Apple Store provides a clean place & attractive interior design.
	SQ2 Apple store employees provide good service.
	SQ3 Apple store employees handle transactions accurately.
	SQ4 Apple store employees serve customer orders and complaints quickly.
	SQ5 Apple store employees are always friendly in providing service.
	SQ6 Consumers feel safe when buying at Apple stores.
Brand Image	BI1 The Apple/iPhone brand is a quality brand.
	BI2 The Apple/iPhone brand is easy to remember.
	BI3 The Apple/iPhone brand is trustworthy.
	BI4 The Apple/iPhone brand has real advantages when compared to other brands.
	BI5 The Apple/iPhone brand has a good reputation.
	BI6 iPhone smartphones have a different appearance from other brands.
Customer Satisfaction	CS1 Compared to other brand smartphones, I am happy with this brand.
	CS2 The overall feeling I received from the iPhone's performance was very satisfying.
	CS3 My purchasing choice of iPhone smartphone was the right choice.
	CS4 iPhone/Apple products always try to provide the best for their customers.
	CS5 I feel that the Apple store has met my expectations in terms of the services offered.
	CS6 I feel that the features of the iPhone smartphone are very superior and useful, so I feel satisfied.
Customer Loyalty	CL1 I will come back to buy an iPhone/Apple smartphone in the future.
	CL2 I would rather buy at an Apple Store than anywhere else.
	CL3 I will recommend the iPhone smartphone to family, friends and relations.
	CL4 I will express positive things about the iPhone smartphone to others.
	CL5 I am not interested in switching to another brand of smartphone even though it offers a more competitive price

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