

Connecting Perceived Brand Quality to Loyalty: The Satisfaction Acts as Mediator of Smartphone Brand

Sothea Hill, Sothan Yoeung*^{ID}

Faculty of Business Management and Tourism, National Meanchey University, Serei Saophoan, Cambodia

Email: hillsothea@gmail.com, *sothan_yoeung@usea.edu.kh

How to cite this paper: Hill, S., & Yoeung, S. (2024). Connecting Perceived Brand Quality to Loyalty: The Satisfaction Acts as Mediator of Smartphone Brand. *Open Journal of Business and Management*, 12, 4036-4054. <https://doi.org/10.4236/ojbm.2024.126202>

Received: October 9, 2024

Accepted: November 4, 2024

Published: November 7, 2024

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Abstract

The study explores the factors influencing perceived brand quality in emerging markets, specifically focusing on smartphone consumers in Siem Reap, Cambodia. The objective is to identify the key elements contributing to perceived brand quality and their impact on brand trust, satisfaction, and loyalty, as well as the effects of brand trust on brand satisfaction and loyalty. Additionally, the study aims to examine the mediator of the relationship between perceived brand quality and loyalty among smartphone users. A sample size of 380 was initially collected from 1350 students through a purpose-designed survey, with 366 participants agreeing to participate in the study. Data analysis was conducted using SPSS v.26 to compute mean, standard deviation, factor loading, reliability, and convergent validity. At the same time, Amos v.21 was utilized to analyze the Conform Factor Analysis and Structural Equation Modeling. The results suggest that perceived brand quality positively impacts brand trust and satisfaction but not brand loyalty. The study also confirms that brand trust positively influences brand satisfaction and loyalty and that brand satisfaction similarly affects loyalty. Furthermore, the research highlights the mediating role of brand satisfaction between perceived brand quality and loyalty. Overall, the study underscores the importance of brand quality in cultivating strong customer loyalty, particularly in the competitive smartphone market.

Keywords

Perceived Brand Quality, Brand Trust, Brand Satisfaction, Brand Loyalty, Mediator

1. Introduction

Today, one of the main challenges for marketers is creating customer loyalty to smartphone brands, which can greatly benefit the company by generating referrals

and sustaining profitability. In today's competitive market, cultivating brand loyalty has become crucial for success (Iqbal et al., 2023). Customer loyalty to a smartphone brand offers advantages such as increased profitability and longevity of products and companies, enabling them to compete effectively (Lu, 2024). Therefore, branding is a valuable asset for businesses, creating a positive image for consumers and distinguishing products from competitors (Ercis et al., 2012). At the same time, a brand defines the types of products and services a business offers (Hidayanti et al., 2018). The reputation of a brand has a significant impact on both financial and non-financial performance, underscoring the importance of effective brand management (Sinta, 2023). Loyalty to a brand can manifest as both thoughts and actions, with customers demonstrating loyalty through habitual purchasing and reluctance to switch to other brands, even when offered attractive alternatives (Dewi & Yasa, 2019). Marketers must focus on creating positive brand memories and ensuring customer satisfaction to foster loyalty (Othman et al., 2017). Factors influencing loyalty include perceived brand quality (Al-Hawary, 2013), brand trust, and brand satisfaction (Mukhtar et al., 2024), with customers evaluating the quality of a product based on their previous experiences (Zhao et al., 2024; Wikiauthor & Kuswati, 2024). Brand trust plays a crucial role in enhancing consumer loyalty, as it is built on positive emotional connections between the consumer and the brand (Nam et al., 2011). Additionally, customer satisfaction is a key driver of repeat purchases and brand loyalty (Tedjokusumo & Murhadi, 2024). Brand loyalty has been a significant area of interest for market researchers, especially as marketers shift their focus from acquiring new customers to retaining existing ones (Zhao et al., 2024). As a result, brand loyalty has become central to brand-customer relationships, prompting brand managers to explore the connections between perceived brand quality, trust, satisfaction, and loyalty in the market (Darsono & Junaedi, 2006).

2. Literature Review and Hypothesis Development

This study reviews empirical literature and conceptual frameworks, specifically focusing on direct and indirect perceived brand quality, trust, satisfaction, and loyalty. These variables were carefully chosen following an extensive review of the marketing literature, as they are highly relevant to the current discourse in the field.

2.1. Conceptual Framework

Perceived quality refers to the consistently high quality and reliable performance of well-crafted products with minimal defects (da-Silva et al., 2019). Perceived brand quality is the consumer's evaluation of a product's quality (Vinh & Phuong, 2017). Enhancing perceived quality can improve brand trust, satisfaction, and loyalty, making it crucial for managers to narrow the gap between expected and observed perceived quality (Sinta et al., 2023). Brand trust is consumers' confidence in a product's ability to deliver promised value. This belief ultimately leads to customer satisfaction and loyalty (Fathorrahman et al., 2020). Brand satisfaction is a

key factor in long-term business success, involving the post-purchase evaluation of a product or service to meet or exceed consumer expectations. This led to customer loyalty (Oliver, 1997). Brand loyalty reflects consumers' positive attitudes, repeat purchases, and resistance to switching brands (Mustofa & Nuvriasari, 2024). This needs mediated variables such as satisfaction to mediate the relationship between perceived brand and loyalty (Sinta et al., 2023).

2.2. Perceived Brand Quality to Brand Trust, Satisfaction, and Loyalty

The perceived quality of a product or brand is the consumer's overall assessment of its quality, adherence to standards, and performance (Ercis et al., 2012). This perception is based on dependability, reliability, superiority, and consistency (Ariffin et al., 2016; Yoeung et al., 2023). It influences the perceived brand quality and can lead to customer trust (Dewi & Yasa, 2019), satisfaction (Ali et al., 2018), and loyalty (Al-Hawary, 2013). Strong perceptions of quality are linked to emotional connections with the brand, increasing consumer satisfaction and loyalty (Kini et al., 2024). Numerous studies have confirmed the positive impact of perceived brand quality on various aspects of consumer behavior, such as brand trust, satisfaction (Tung & Suthinoparatankul, 2019), and loyalty (Mangestuti & Kussudyarsana, 2024; Lu, 2024; Al-Hawary, 2013). These findings not only support the hypothesis that perceived quality has a significant and positive effect on consumer perceptions and behaviors but also highlight the potential benefits for marketers who can effectively manage and enhance their brand's perceived quality (Bańbuła, 2024; Ali et al., 2021). Based on these findings, the following hypotheses will be tested:

Hypothesis 1: Perceived brand quality will positively affect brand trust.

Hypothesis 2: Perceived brand quality will positively affect brand satisfaction.

Hypothesis 3: Perceived brand quality will positively affect brand loyalty.

2.3. Brand Trust to Brand Satisfaction and Loyalty

Branding is essential for building trust and confidence, especially in the absence of face-to-face interaction. It represents the quality and reliability of a company and its products (Sahin et al., 2011). Trust is the consumer's belief in the company's commitment to delivering quality products or services (Zhao et al., 2024). At the same time, the value of the relationship is the consumer's assessment of the benefits versus the costs (Baker, 2003). Brand trust is the consumer's perception of the connection between themselves and the company's brand, based on the belief that the brand is reliable and accountable for the consumer's interests (Heidari et al., 2023). A strong brand fosters trust and encourages repeat purchases by consumers (Matzler et al., 2008). Trust in a brand is often established through positive experiences with the brand's products, leading to consumer satisfaction and a positive perception (Djamaludin & Fahira, 2023). Brand trust is closely linked to consumer commitment and is crucial for building brand loyalty (Wang et al., 2024).

Previous studies have shown a significant positive correlation between brand trust and customer satisfaction (Stribbell & Duangekanong, 2022). Brand trust significantly influences consumer satisfaction and brand loyalty (Al-Masud et al., 2024; Dananjoyo & Udin, 2023; Marakanon & Panjakajornsak, 2017). Based on these findings, the following hypotheses will be tested:

Hypothesis 4: Brand trust will positively affect brand satisfaction.

Hypothesis 5: Brand trust will positively affect brand loyalty.

2.4. Brand Satisfaction to Brand Loyalty

Satisfaction is the consumer's positive response and assessment of a product or service, indicating a fulfilling consumption experience (Oliver, 1997; Sahin et al., 2013). This satisfaction from previous experiences can influence future consumer behavior, forming recurring patterns (Ercis et al., 2012). It reflects the consumer's positive evaluation of their experience with a specific product and is a key driver of brand loyalty (Achmadi et al., 2023). Furthermore, it has been observed that satisfaction contributes to long-term relationships (Barbosa et al., 2023). Brand satisfaction is built on the premise that the product's performance exceeds consumer expectations (Pandowo & Mamuaya, 2023). Previous studies have shown that brand satisfaction has a positive impact on brand loyalty (Wang et al., 2024; Fathorrahman et al., 2020; Othman et al., 2017; Moreira et al., 2017). Therefore, it can be concluded that satisfaction plays a significant role in shaping consumer attitudes and behaviors. Based on these findings, the following hypothesis will be tested:

Hypothesis 6: Brand satisfaction will positively affect brand loyalty.

2.5. Mediating Effect of Brand Satisfaction

The theory of consumer behavior connects perceived brand quality, brand satisfaction (Uzir et al., 2021), and brand loyalty (Al-Masud et al., 2024; Al-Hawary, 2013). Studies suggest that when consumers perceive a brand to be of high quality, they are more likely to be satisfied with it, which leads to stronger brand loyalty (Ali et al., 2021). In businesses focused on branding, whether a customer chooses a specific brand depends on the brand's perceived quality (Al-Hawary, 2013). Overall, the perceived quality of a brand is often considered a predictor of brand satisfaction and indirectly influences brand loyalty (Karami, 2022; Fauziah & Irwanto, 2020). Based on these findings, the following hypothesis will be tested:

Hypothesis 7: Brand satisfaction will mediate the relationship between perceived brand quality and brand loyalty.

Figure 1 shows the conceptual framework for this study based on the literature review and hypothesis development.

3. Research Methods

3.1. Type of Research

This study is a quantitative study of the field using the causal relationship model study method.

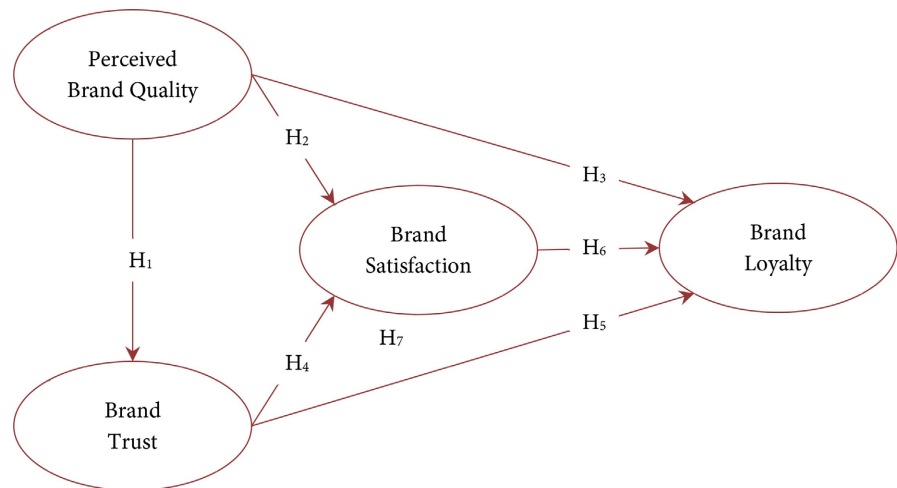


Figure 1. Conceptual framework.

3.2. Population and Sample Size

The research took place in Siem Reap province, focusing on the students of a private university called “University of South-East Asia,” which had 1350 students for the academic year 2022-2023. Students opt for “University of South-East Asia” over the other five universities in Siem Reap due to its high quality, recognized by the Accreditation Committee of Cambodia, popularity, strong support from students and parents, and high enrollment numbers.

Researchers typically use the Rule of thumb to determine the sample size for statistical analysis using Structural Equation Modeling. According to this rule, the sample size for statistical analysis through a causal relationship model should be at least 200 people (Kline, 2023). In this study, the researchers opted for a sample size of 380 to ensure they would not fall below the minimum sample size due to data unavailability or participant withdrawal. However, during data collection, 14 individuals declined to answer some questions, resulting in a final sample size of 366, 96.32% of the original sample size. Despite this reduction, the researchers believe the sample size is still sufficient for data analysis.

3.3. Sampling Procedure

The researcher employed the simple random sampling technique to select the sample, selecting 380 random numbers from a pool of 1350 university students provided by the Academic Office. To help with the sample selection process, the website <https://www.calculatorsoup.com/calculators/statistics/random-number-generator.php> was utilized, ensuring that no duplicates were chosen and that the numbers fell within the range of 1 to 1350, as depicted in **Figure 2**.

3.4. Research Instrument

The data collection instrument comprises two parts: the first covers general information about the sample, such as age, gender, education level, field of study, etc. The second part contains questions about the four construct variables with 21

Figure 2. Numbering results of random sampling.

indicators. The first, “Perceived Brand Quality,” is assessed using four indicators: “My current branded smartphone is very high quality.” The second, “Brand Trust,” is evaluated using six indicators: “Based on my experience, I trust the products of this branded smartphone.” The third, “Brand Satisfaction,” is measured through six indicators: “I am satisfied with my decision to choose this branded smartphone.” Finally, “Brand Loyalty” is assessed using a 5-indicator scale, for instance, “I would not willingly switch my preference from the branded smartphone.” All indicators in the research instrument were rated on a 7-point Likert scale, ranging from “1” (strongly disagree) to “7” (strongly agree).

After ensuring the accuracy of the material and making adjustments using Face Validity, the researchers conducted a pilot survey with 30 non-target students to collect data for evaluating the questionnaire’s reliability (Yoeung, 2021). The Cronbach’s Alpha coefficients obtained from the initial study were examined to assess the questionnaire’s Internal Consistency Reliability. The questionnaire’s reliability level was determined based on (Hinton et al., 2014), who categorized the confidence level into four levels: the highest confidence level ($\alpha \geq 0.9$), high confidence level ($0.7 \leq \alpha < 0.9$), average confidence level ($0.5 \leq \alpha < 0.7$), and low confidence level ($\alpha < 0.5$). In this study, a Cronbach’s Alpha coefficient greater than 0.7 indicated that each pilot survey questionnaire of the observed variables had a consistent meaning when measuring them, signifying higher reliability (Taherdoost, 2016). The reliability assessment for the questionnaire revealed that all the observed variables had a Cronbach’s Alpha coefficient exceeding 0.7, demonstrating high reliability for each observed variable (Refer to **Table 1**).

Table 1. Testing reliability statistics of pilot (n = 30).

Observed Variables	Number of Indicators	Cronbach’s α	Cronbach’s α Based on Standardized Indicators
Perceived Brand Quality	4	0.868	0.872
Brand Trust	6	0.920	0.920
Brand Satisfaction	6	0.911	0.911
Brand Loyalty	5	0.891	0.891

3.5. Data Collection

The researchers collected data from the students studying at the University over three months, from January 1 to March 31, 2023. The data was obtained through a self-administered questionnaire survey. Before data collection, the researcher obtained permission from the University management by submitting a formal request letter. The participating students were also briefed about the research objectives and the questionnaire, with assurances that their privacy and work would not be affected and that all information collected would be kept confidential. Furthermore, the research results were presented only in an aggregated form, without disclosing individual responses.

3.6. Data Analysis

Data analysis involves using descriptive statistics, such as mean values, standard deviations, frequencies, and percentages, to present sample information. Additionally, inference statistics are used to validate the reliability and validity of questionnaires, including methods such as Exploratory Factor Analysis (EFA), Cronbach's alpha (α), Composite Reliability (CR), Average Variance Extracted (AVE), and Pearson's Correlation (r) through IBM SPSS Statistics v.26 software. To examine the impact of independent variables on dependent variables, researchers employ Structural Equation Modeling (SEM). Before analyzing the causal relationship model, the construct validity of each variable is confirmed through Confirmatory Factor Analysis (CFA). IBM SPSS Amos v.21 software conducts component and model analysis on the causal relation equations and their effects.

4. Research Results and Discussions

4.1. Respondents Profiles

The survey participants' attributes encompass gender, age, education level, field of study, preferred phone brand, and the criteria for selecting a phone brand. The findings revealed that most respondents are female, comprising 52.19%. Additionally, 30.87% of participants fall within the 18 - 23 age range, and 48.91% are pursuing a Bachelor's Degree. Finance and banking emerged as the most common fields of study, representing 26.23% of respondents. The iPhone is the most popular branded smartphone, constituting 34.15% of usage. Furthermore, 51.09% of respondents indicated they selected their smartphone brand. They demonstrated that participants 18 - 23 years old and studying for a Bachelor's Degree in finance and banking tend to use the iPhone brand more than others. For further details, please refer to **Table 2**.

4.2. Measurement Scales

Table 3 presents the results of the EFA, Cronbach's alpha, CR, and AVE for all variables analyzed. All factor loadings in the study exceed 0.70, meeting the recommended threshold. This suggests that factor analysis is suitable for the data.

Table 2. Respondents' profiles (n = 366).

	Frequency	%
<i>Gender:</i>		
Male	175	47.81
Female	191	52.19
<i>Age:</i>		
18 - 23 ys	113	30.87
24 - 29 ys	108	29.51
30 - 35 ys	73	19.95
36 - 40 ys	52	14.21
>40 ys	20	5.46
<i>Educational Level:</i>		
Associate Degree	81	22.13
Bachelor Degree	179	48.91
Master degree	106	28.96
<i>Field of Study:</i>		
Finance & Banking	96	26.23
Accounting & Auditing	79	21.58
Management	58	15.85
Marketing	15	4.10
Tourism and Hospitality Management	10	2.73
Law	20	5.46
Public Administration	17	4.64
Information Technology	34	9.29
TESOL	17	4.64
Kmher Literature	20	5.46
<i>Preferred Phone Brand:</i>		
iPhone	125	34.15
Samsung	90	24.59
Oppo	76	20.77
Vivo	45	12.3
Hawaii	30	8.2
<i>How to Select Phones:</i>		
Own-self	187	51.09
Promotion & Advertising	79	21.58
Family	51	13.93
Friends	40	10.93
Others	9	2.46

The KMO values, which indicate the proportion of variance in the variables caused by underlying factors, are all above 0.50, indicating adequate sample responses. Bartlett's sphericity test is significant at a level below 0.01, further supporting the appropriateness of factor analysis for the data.

Additionally, the α and CR values, which verify internal consistency and reliability, exceed the recommended threshold of 0.70. Therefore, the questionnaire-based data collection in the study is deemed reliable. Convergent validity is confirmed by AVE values exceeding 0.50 for all constructed variables. Lastly, discriminant validity is established by comparing the square root of AVE with r , which demonstrates that the square roots of the AVE values are more significant, see **Table 4**. This indicates that the study's data is appropriate for assessing discriminant validity.

The next step involves conducting first-order confirmatory factor analysis (CFA) using AMOS vs.21 to assess the measurement scales of research instruments before testing the hypotheses through SEM. The measurement model's capacity to predict regression coefficients of causal relationships is investigated by examining the significance of the loading for each indicator of the scales. The results, presented in **Table 5**, show that the overall goodness-of-fit assessment for the CFA of perceived brand quality meets the cutoff criteria (Hatcher & O'Rourke, 2013). All standardized coefficients (β) for perceived brand quality range from 0.687 to 0.823, indicating that the four indicator variables can be utilized to evaluate the constructed variables of perceived brand quality, as accepted by Hair et al. (2019).

Table 3. The results of validity and reliability test (n = 366).

Indicators	Mean	S.D.	Perceived Brand Quality	Brand Trust	Brand Satisfaction	Brand Loyalty
PBQ3	5.057	1.044	0.857			
PBQ4	4.986	1.048	0.846			
PBQ2	4.869	1.142	0.806			
PBQ1	5.126	1.120	0.787			
BT4	5.022	1.062		0.808		
BT1	5.044	1.114		0.801		
BT5	5.033	1.144		0.794		
BT2	4.975	1.157		0.784		
BT3	4.981	1.141		0.779		
BT6	5.046	1.108		0.758		
BS3	5.044	1.095			0.800	
BS2	5.115	0.950			0.794	
BS1	4.913	1.082			0.791	
BS4	5.104	1.113			0.777	

Continued

BS6	5.101	1.119		0.757	
BS5	5.087	1.179		0.744	
BL5	4.964	1.055			0.820
BL3	4.986	1.111			0.811
BL1	5.156	1.083			0.776
BL4	4.880	1.121			0.766
BL2	4.986	1.099			0.762
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.812	0.902	0.894	0.858
Bartlett's Test of Sphericity: Approx. χ^2 (df)		578.610(6)	961.388(15)	902.522(15)	684.357(10)
<i>p</i> -Value		<0.01	<0.01	<0.01	<0.01
Cronbach's Alpha		0.842	0.877	0.869	0.846
Composite Reliability		0.894	0.907	0.902	0.935
EVA		0.680	0.620	0.604	0.787

Similarly, the overall goodness-of-fit assessments for the CFAs of brand trust, satisfaction, and loyalty also meet the cutoff criteria. The standardized coefficients (β) for brand trust range from 0.696 to 0.767, brand satisfaction from 0.676 to 0.759, and brand loyalty from 0.688 to 0.774. These values suggest that the respective indicator variables can be used to evaluate the constructed variables of brand trust, satisfaction, and loyalty, as accepted by Hair et al. (2019).

Table 4. The results of correlations and discriminant validity (n = 366).

	Mean	S.D.	1	2	3	4
1) Perceived Brand Quality	5.010	0.896	0.824			
2) Brand Trust	5.017	0.883	0.755**	0.788		
3) Brand Satisfaction	5.061	0.846	0.791**	0.805**	0.777	
4) Brand Loyalty	4.995	0.861	0.767**	0.789**	0.808**	0.887

Note: The square root of Average Variance Extracted (AVE) appeared as bold numbers along the diagonal. ** $p < 0.01$.

4.3. Hypotheses Testing with SEM

To test hypotheses, researchers use Structural Equation Modeling (SEM) with the likelihood estimation method. The data is examined during the model testing process to see how well it fits into the structural model, ensuring that the hypothesized model aligns with the collected data and the relevant theory or conceptual framework (Bagozzi & Yi, 2012). This approach involves using latent variables in SEM (Anderson & Gerbing, 1988), and the goodness of fit is typically assessed using the chi-square measure (Hatcher & O'Rourke, 2013).

The results of the study, presented in **Table 6** and **Figure 3**, indicate that the model fit statistics are satisfactory. The normed χ^2 ($377.382, p < 0.001$)/df(183) = $2.062 < 3$ falls within an acceptable range, suggesting a good fit for the structural model. Additionally, the Goodness-of-Fit Index (GFI) is $0.913 > 0.90$, close to the ideal value of 1, which further supports the good fit of the model. The normed-fit index (NFI) is $0.921 > 0.90$, and the Comparative Fit Index (CFI) is $0.957 > 0.90$, both falling within the acceptable range. The root mean square residual (RMR) is $0.040 < 0.05$, also within the acceptable range. Furthermore, the Root Mean Square Error of Approximation (RMSEA) is 0.054 , below the accepted threshold of 0.08 (Hatcher & O'Rourke, 2013).

In the study, the first to third hypotheses explored the impact of perceived brand quality on brand trust, satisfaction, and loyalty. The findings revealed that perceived brand quality had a significant positive effect on brand trust and satisfaction ($\beta_{H1} = 0.883, t = 14.225, p < 0.01$; $\beta_{H2} = 0.507, t = 4.996, p < 0.01$), indicating that an increase in perceived brand quality led to a substantial increase in brand trust and satisfaction. However, perceived brand quality did not significantly impact brand loyalty ($\beta_{H3} = 0.225, t = 1.556, p = 0.120 > 0.05$). Therefore, H1 and H2 were confirmed, while H3 was rejected in the study.

Moving on, the fourth and fifth hypotheses analyzed the influence of brand trust on brand satisfaction and brand loyalty. The results indicated a significant positive effect of brand trust on brand satisfaction ($\beta_{H4} = 0.478, t = 4.761, p < 0.01$) and a significant positive effect on brand loyalty ($\beta_{H5} = 0.279, t = 2.100, p = 0.036 < 0.05$). This suggests that an increase in brand trust led to notable increases in both brand satisfaction and brand loyalty, confirming H4 and H5 in the study.

Furthermore, the sixth hypothesis delved into the impact of brand satisfaction on brand loyalty. The study found that brand satisfaction significantly positively influenced brand loyalty ($\beta_{H6} = 0.473, t = 2.379, p = 0.017 < 0.05$), indicating that an increase in brand satisfaction resulted in a substantial increase in brand loyalty, confirming H6 in the study.

Table 5. The results of confirm factors analysis (n = 366).

Construct Variables	Indicators	1	2	3	4
1. Perceived Brand Quality	→ PBQ3	0.823**			
	→ PBQ4	0.800**			
	→ PBQ2	0.716**			
	→ PBQ1	0.687**			
2. Brand Trust	→ BT4		0.767**		
	→ BT1		0.758**		
	→ BT5		0.745**		
	→ BT2		0.735**		
	→ BT3		0.724**		
	→ BT6		0.696**		

Continued

	→	BS3	0.759**		
	→	BS2	0.750**		
3. Brand Satisfaction	→	BS1	0.744**		
	→	BS4	0.726**		
	→	BS6	0.692**		
	→	BS5	0.676**		
	→	BL5	0.774**		
4. Brand Loyalty	→	BL3	0.756**		
	→	BL1	0.707**		
	→	BL4	0.697**		
	→	BL2	0.688**		
$\chi^2/df \leq 3$		0.849	1.173	1.642	1.884
$p > 0.05$		0.428	0.307	0.097	0.093
GFI > 0.90		0.998	0.990	0.987	0.989
NFI > 0.90		0.997	0.989	0.984	0.986
CFI > 0.90		1.000	0.998	0.994	0.993
RMR < 0.05		0.012	0.022	0.027	0.024
RMSEA ≤ 0.08		<0.001	0.022	0.042	0.049

Note: ** $p < 0.01$.

Table 6. The results of structure equation model of construct variables (n = 366).

Path Coefficients Relationships	Standardized			
	Coefficients (β)	S.E.	t-value	Sig. (p)
H1: Perceived Brand Quality → Brand Trust	0.883**	0.062	14.225	<0.01
H2: Perceived Brand Quality → Brand Satisfaction	0.507**	0.098	4.996	<0.01
H3: Perceived Brand Quality → Brand Loyalty	0.225	0.138	1.556	0.120
H4: Brand Trust → Brand Satisfaction	0.478**	0.097	4.761	<0.01
H5: Brand Trust → Brand Loyalty	0.279*	0.127	2.100	0.036
H6: Brand Satisfaction → Brand Loyalty	0.473*	0.196	2.379	0.017
<i>Mediating Effect</i>			<i>z-test</i>	
H7: Perceived Brand Quality → Brand Satisfaction → Brand Loyalty	0.233*	0.105	2.211	0.027
Goodness-of-Fit Index: χ^2 (377.382, $p < 0.001$)/df(183) = 2.062, GFI = 0.913, NFI = 0.921, CFI = 0.957, RMR = 0.040, RMSEA = 0.054				

Note: β significant at t-value > 1.96 with ** $p < 0.01$ and * $p < 0.05$.

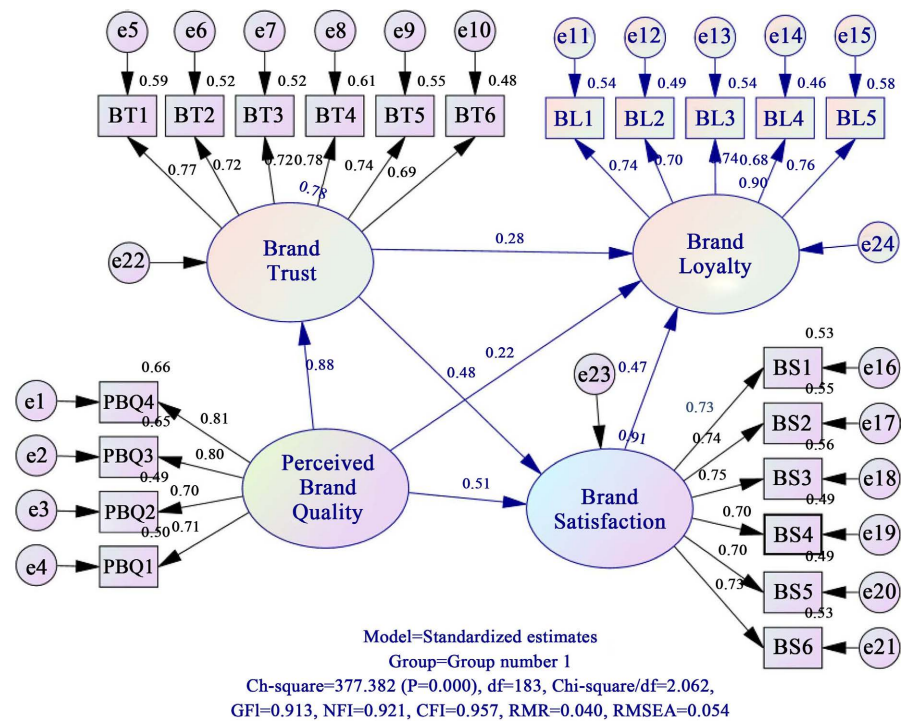


Figure 3. The results of structure equation model.

Finally, the study revealed that brand satisfaction acted as a mediator between perceived brand quality and brand loyalty. Perceived brand quality had a significantly positive direct effect on brand satisfaction ($\gamma = 0.492$), and brand satisfaction had a significantly positive direct effect on brand loyalty ($\gamma = 0.467$). The results of the Goodman test ($z\text{-test} = 2.211, p = 0.027 < 0.05$) and the indirect effect ($\gamma_{H7} = 2.211 > 0.08$) indicated that brand satisfaction played a mediating role in facilitating the relationship between perceived brand quality and brand loyalty, confirming H7 in the study.

4.4. Discussions

The research revealed that perceived brand quality significantly impacts trust and satisfaction, though not loyalty. The findings indicated that perceived brand quality is the primary driver of brand trust and satisfaction. There are notably strong positive correlations between perceived brand quality and trust and satisfaction, but not with brand loyalty. These results indicate that customers' perception of smartphone quality contributes to building trust in the brand, ultimately benefiting the company by satisfying customers. The study's findings align with previous research and underscore the importance of developing strong brand value to not only enhance product performance but also to build trust and satisfaction among discerning customers (Ali et al., 2018; Bilal & Achmad, 2023).

Additionally, the results of this study found that brand trust has a significant positive effect on brand satisfaction and loyalty. The result showed that customers trusted the smartphone's brand, which made them satisfied with using the

branding, which led to loyalty. This result is in line with the previous study that showed that brand trust has a positive and significant effect on consumer satisfaction (Cuong, 2020; Suhan et al., 2022; Dananjoyo & Udin, 2023). If trust influences satisfaction, consumers tend to have confidence in a product brand first, then start buying and trying it so that satisfaction result arises (Hanaysha & Hilman, 2015; Fathorrahman et al., 2020) and loyalty (Al-Masud et al., 2024).

Furthermore, brand satisfaction has a significant positive effect on brand loyalty. The study results found that brand satisfaction is linked to brand loyalty. The findings of this study are consistent with those of a study conducted by Djamaludin and Fahira (2023) and Syarifah and Ali (2020), which suggested that satisfaction positively impacts customer loyalty. Therefore, a significant positive relationship exists between brand satisfaction and loyalty (Al-Masud et al., 2024). So, brand satisfaction is important in creating brand loyalty.

Perceived brand quality and loyalty are not directly correlated; instead, brand satisfaction acts as a mediator between them. The research reveals that brand satisfaction significantly influences brand loyalty, aligning with the study of Ahmed et al. (2022) the study found that consumer satisfaction mediates perceived service quality and customer loyalty. Moreover, recent research by (Sinta et al., 2023) suggests that satisfaction serves as a mediator between perceived quality and loyalty. This can be attributed to the industry providing perceived brand quality that resonates with consumers and meets their needs. When consumers perceive a brand's quality, it can lead to satisfaction with the brand, ultimately fostering brand loyalty and a loyal customer base (Lei & Jolibert, 2012; da-Silva et al., 2019). Satisfaction plays a pivotal role in linking perceived brand quality and consumer loyalty, as the direct impact of brand quality perception on consumer loyalty is insignificant (Vinh & Phuong, 2017; Sinta et al., 2023).

5. Conclusion and Future Research

5.1. Conclusion

The research investigated the influence of perceived brand quality on brand trust, satisfaction, and loyalty, the effects of brand trust on satisfaction, and the mediator role of the brand satisfaction relationship between perceived brand quality and brand loyalty. The results indicated that perceived brand quality positively affects brand trust and satisfaction but not brand loyalty. Additionally, the study confirmed that brand trust positively impacts both satisfaction and loyalty, and satisfaction also influences loyalty. The research also highlighted the mediating role of satisfaction between perceived brand quality and loyalty. Overall, the study emphasized the importance of branding to build strong customer relationships, especially in the competitive smartphone market. It suggested that companies prioritize product features and continuous improvement innovation to enhance perceived quality, customer satisfaction, and loyalty, ultimately leading to market expansion and competitive advantage.

5.2. Limitations and Future Research

The existing research has made a valuable contribution to the field, but it is important to acknowledge its limitations. Firstly, the study's focus on smartphone brands may not apply to other sectors, so future research should explore different product and service categories. Secondly, the current study only examines the influence of perceived brand quality on brand trust, satisfaction, and loyalty, as well as the relationship between trust, satisfaction, and loyalty in smartphones. Future studies should consider other factors that may impact these relationships. Lastly, this study is based on a specific geographic context, limiting its generalizability. Therefore, future research should include a broader range of geographic contexts to provide a more comprehensive understanding. These limitations offer valuable insights for guiding future research endeavors.

Conflicts of Interest

The authors declare no competing interests.

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