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The Influence of Brand Image and Service Quality towards Customer Loyalty in Pharmacy Retail Stores

Natalia C. Putri, Adryan Fristiohady*, Ruslin, Wahyuni, and Nur I. Akib
Faculty of Pharmacy, Halu Oleo University, Kendari, Southeast Sulawesi, Indonesia

Abstract
The pharmaceutical business in Indonesia, including in Kendari City, has shown a positive growth trend in recent years. Pharmacies compete by applying different marketing strategies, with some adopting a conventional model and others utilizing a modern retail approach, such as self-service pharmacies. Pharmacy X, a modern self-service pharmacy, is perceived to have a strong brand image and standardized services. This study evaluates the influence of brand image and perceived service quality on customer loyalty in a modern pharmacy setting. Data were collected via a Google Form questionnaire from 100 customers who had visited twice during the period of October to November 2024. The data were analyzed using descriptive statistics and Structural Equation Modelling (SEM) with SmartPLS. Results revealed that brand image significantly affects customer loyalty, while service quality does not show a significant impact. Brand image contributed to customer loyalty with an influence value of 33.3% based on the R-squared value, indicating a moderate effect, and a Q-squared value of 0.275, reflecting moderate predictive accuracy. Brand image is critical in enhancing customer loyalty at Pharmacy X, while service quality may require further improvement or reassessment in its current implementation.

Keywords: rand image, customer loyalty, pharmacy business, pharmacy retail stores, service quality.

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*Corresponding author:
adryanfristiohady@uho.ac.id

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Pengaruh *Brand Image* dan Kualitas Pelayanan terhadap Loyalitas Konsumen di Apotek Modern

Abstrak
Perkembangan bisnis farmasi di Indonesia, termasuk di Kota Kendari, menunjukkan tren positif. Apotek bersaing menggunakan strategi pemasaran yang beragam, dari model konvensional hingga konsep ritel modern seperti apotek swalayan. Apotek X merupakan contoh apotek modern yang dinilai memiliki citra merek kuat dan layanan terstandarisasi. Penelitian ini bertujuan menilai pengaruh citra merek dan kualitas layanan terhadap loyalitas pelanggan pada apotek swalayan. Data dikumpulkan melalui kuesioner *Google Form* dari 100 pelanggan yang telah dua kali berkunjung pada periode Oktober hingga November 2024, lalu dianalisis menggunakan statistik deskriptif dan *Structural Equation Modelling* (SEM) melalui SmartPLS. Hasil analisis menunjukkan bahwa citra merek berpengaruh signifikan terhadap loyalitas pelanggan, sedangkan kualitas layanan tidak. Pengaruh citra merek terhadap loyalitas tercatat sebesar 33,3% berdasarkan nilai R-squared, yang dikategorikan sebagai pengaruh sedang. Nilai Q-squared sebesar 0,275 juga menunjukkan tingkat akurasi prediksi sedang. Citra merek terbukti memiliki pengaruh positif terhadap peningkatan loyalitas pelanggan Apotek X, tetapi tidak dengan kualitas pelayanan.

Kata Kunci: bisnis apotek, bisnis ritel apotek, citra merek, kualitas pelayanan, loyalitas pelanggan.

1. Introduction

The development of the pharmacy business in Indonesia has shown an increasingly positive trend in recent years. The Indonesian Ministry of Health released data on the Indonesian health profile in 2023, stating that pharmacies in Indonesia had experienced significant growth, with the number reaching over 31,995.[1] As the capital city of Southeast Sulawesi Province, the development of the Number of pharmacies in Kendari City is, of course, also growing significantly. Based on the results of brainstorming with the Head of the Pharmaceutical Section of the Kendari City Health Office, by mid-2024, the number of pharmacies in Kendari City had reached 217. These pharmacies include those owned by companies, both public and private, as well as by individual businesses.

As the pharmacy business evolves, the level of business competition intensifies. Each pharmacy competes through its respective marketing mix strategies to attract consumers.[2] Some pharmacies still opt for the conventional pharmacy model, while others implement a modern retail business strategy through the availability of pharmaceutical supermarkets.[3] This marketing strategy indirectly becomes a brand image for the pharmacy.[2] Brand image is a crucial factor that can significantly influence customer decisions.[4] A good brand image will also create a good perception, increasing consumer confidence and a loyal attitude.[3]

The quality of service also influences pharmacy consumer loyalty. The quality in question includes several aspects. There are aspects of responsiveness and speed in service, friendliness, and appearance of employees, as well as the quality of products and services offered.[5] For a pharmacy, service quality can be a valuable differentiator compared to other pharmacies, leading consumers to return.[6,7]

The connection between brand image and service quality has a significant influence on customer loyalty in the retail sector. One of them revealed that a good assessment of a positive brand image and quality of good service will cause the value of service satisfaction to be fulfilled.[4] Thus, consumers will be more loyal when a business has a good brand image and quality service. Not only do they make purchases repeatedly, but loyal consumers will also tend to recommend to their closest people.[7] Directly, this behavior will increase turnover in retail businesses, including pharmacy retail businesses.[8]

The rapid development and progress in the pharmacy business are increasingly competitive and are considered to impact turnover, including pharmacy X, which is classified as a modern concept pharmacy. As one of the pharmacies with a contemporary scale and attractive pharmaceutical self-service services, pharmacy X is considered to have a good brand image, and the services provided are standardized. Moreover, in Kendari City, there are still few pharmacies that follow this concept. In previous research, several studies have been conducted to highlight the relationship between brand image, service quality, and customer loyalty. For example, a study by Adebesi and Lawal (2017) found that service quality has a significant influence on customer loyalty in pharmaceutical companies.[9] Furthermore, Nikolova et al. (2017) investigated customer loyalty factors in pharmacies in Bulgaria, emphasizing the crucial role of service quality in strengthening customer trust and loyalty.[10] From the perspective of brand image, Nanang and Pasharibu (2021) studied the context of sport club gyms, showing that brand image, location, and facilities contribute to customer loyalty.[11] Another study by Ismuroji et al. (2023) emphasized that brand image and customer satisfaction contribute to loyalty, with brand love as a mediating variable.[12] However, none of the studies examined both factors simultaneously, brand image and service quality, as the main determinant of customer loyalty, particularly in the pharmacy sector, in Kendari City. With this background, this study assessed the effect of pharmacy brand image and service quality on customer loyalty in pharmacies, especially in modern pharmacies with pharmaceutical supermarkets.

This research assessment collected data from questionnaires sent to customers of pharmacy X who had visited at least twice. Descriptive statistical analysis is conducted,13 and Structural Equation Modeling (SEM) is performed using SmartPLS 4 software.[14,15,16] This research aims to enhance the understanding of pharmacy management in promotional and service aspects, contributing to the advancement of knowledge in pharmacy marketing management.

2. Materials and Method

2.1. Type of Research

The form of this research was explanatory. Explanatory research is a type of research that aims to explain the relationship between two variables. Explanatory models can explain information by describing the causal relationship between two variables, utilizing the possibilities that have been formulated. The approach chosen was quantitative.[17] Primary data was obtained by filling out a Google Form questionnaire. The questionnaire was completed directly by visitors to Pharmacy X. This research was conducted from October to November 2024, spanning a period of two months.

2.2. Population and Sample

The sample population selected was all visitors to Pharmacy X, one of the pharmacies with a modern retail pharmacy business concept. The number of visits in 2023, which totaled 15,891 people, served as the basis for calculating the sample size. A sample of one hundred individuals was selected using the Slovin formula with a 10% tolerance limit.[18] This finding aligns with Roscoe's guidelines for sample size, which suggest that sample sizes of 30 or fewer and no more than 500 are appropriate for most research endeavors.[19, 20]

Slovin's formula: $n = \frac{N}{1+N\,(e)^2}$

Description:
n = Number of samples.
N = Population size.
e = Error rate in sampling.

$$n = \frac{15{,}891}{1 + 15{,}891.(0{,}1)^2} = 99.35 \approx 100 \text{ respondents}$$

2.3. Research Instruments and Data Collection

A Google Form questionnaire was used as the main research instrument. The questionnaire was evaluated using a Likert scale ranging from 1 to 5, where 1 signifies strong disagreement, and 5 represents strong agreement.[17,21] Data collection included collecting responses from visitors to pharmacy X who had received services, using a Google Form with three variable sections with 42 questions. The complete list of indicators is available in Supplementary Material 1.

2.4. Research Model and Framework

We developed the hypothesis as follows, as shown in Figure 1:
H1: Brand image has a positive and significant effect on consumer loyalty at Pharmacy X.
H2: Service quality also has a positive and significant impact on consumer loyalty at Pharmacy X.

2.5. Data Processing and Analysis

The questionnaire was processed and analyzed using descriptive statistical analysis[22] and PL-SEM assisted by SmartPLS software. PLS-SEM was employed because it is suitable for testing complex relationships between latent variables, accommodates small to medium sample sizes, and does not require strict data normality assumptions.[14,16]

3. Result

3.1. Data Instrument (Validity and Reliability Test)

The questionnaire, an instrument for data collection, must undergo validity and reliability testing to ensure its accuracy. This assessment evaluates the feasibility of the questionnaire as a data collection tool.[13] The validity test evaluates the effectiveness of a questionnaire used in a study. This test indicates whether the methods and instruments can accurately assess the concept according to the intended purpose of the evaluation. To validate a questionnaire, compare the calculated R-count with the R-table. A statement in the questionnaire is considered valid if the R-count is greater than or equal to the R-table value.[19] This study conducted a validity test with 30 respondents, separate from the research sample population, using a significance level of 0.05% in a two-tailed test.[22] The validity test results indicate that all variable items have an R-count value more significant than the R-table value of 0.361 and a significance value of less than 0.05. This confirms that all items in the questionnaire used in this study are valid and accurately represent what the questionnaire aims to measure.

Like the validity test, it is essential to conduct a reliability test to demonstrate the stability and consistency of an instrument used for calculating variables.[19] The consistency of responses given in a questionnaire can serve as an indicator of its reliability. A questionnaire is considered reliable in research if respondents consistently provide the same answers to the statements over time. In this study, we conducted

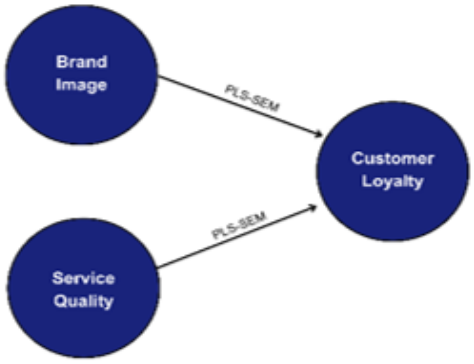

Figure 1. The Conceptual Framework

the reliability test using Cronbach's Alpha. A variable is considered reliable if the Cronbach's Alpha Coefficient is greater than 0.60.[10, 23] The reliability test results for each variable in this study indicate that all variables have a Cronbach's Alpha value greater than 0.60 (α > 0.60). This suggests that all variables are reliable, can be trusted as practical data collection tools, and accurately represent the original information.

3.2. Descriptive Analysis of Respondents

Pharmacy X is one of the pharmacy branches with a standardized management system. As one of the pharmacies implementing a modern pharmaceutical retail business, this pharmacy is known by the public in Kendari City. In other words, when mentioning Pharmacy X, there should be a separate brand image among the public. Using the Slovin formula, we determined that 100 consumers were selected as respondents. Below is the demographic data of these consumers, including their age, education, and employment profiles. These three profiles are used as demographic data.

Based on Figure 2, the age of majority of Pharmacy X consumers is at the age of 31-40 years which has a total of 43 people (43%); second place is 21-30 years old as many as 28 people (28%), 41-50 years old, namely 19 people (19%), 51-60 years old only nine people (9%) and ages over 60 years old one person (1%). The majority of the consumers who visit are of the productive age.

The education profile of respondents, who are primarily Pharmacy X consumers, indicates a majority (69%) hold a college graduate education level, with 51% having graduated from college, 3% from a master's degree program, and 15% from a diploma program. While the remaining 31% are at high school education levels, totalling 26 people, and junior high school, five people.

Based on job characteristic data, the majority of Pharmacy X customer respondents are employees, with approximately 56% consisting of 31 civil servants (31%), 24 private employees (24%), and employees of State-Owned Enterprises, as well as one individual (1%). The rest are entrepreneurs, 27 people (27%), and homemakers, 17 people (17%).

3.3. Descriptive Analysis of Research Variables

Descriptive statistical analysis was conducted using the proportion of participants' responses to the study statements. The mean value of each indicator was calculated to characterize the participants' overall impressions. A total of 100 participants shared their opinions by completing questionnaires about the research factors, which will be described in detail and categorized using descriptive statistics. According to Umar H (2011), the mean score value is calculated by interpreting the values in relation to the scale's width. The minimum score is 1, and the maximum score is 5; thus, the scale width is 0.8. Then the intervals can be determined as follows: 1.00 – 1.80 (very low/very bad), 1.80 – 2.60 (low/bad), 2.61 – 3.40 (fair/medium), 3.41 – 4.20 (high/good), and 4.21 – 5.00 (very high/excellent).

The data in Figure 3 and Table 1 show the assessment of brand image, service quality, and customer loyalty variables. Figure 3 presents the average results for each indicator, while Table 1 provides the average values for each variable aspect. The brand image is measured through three aspects. Customers' assessment of the experience in meeting their needs can be defined as service quality.[24] The service quality assessment results indicated that participants rated all aspects of the service quality dimension highly.

Loyalty is a repeated behavior of consistently utilizing a particular product or service, resulting in repeated purchases of a brand or a group of similar brands,

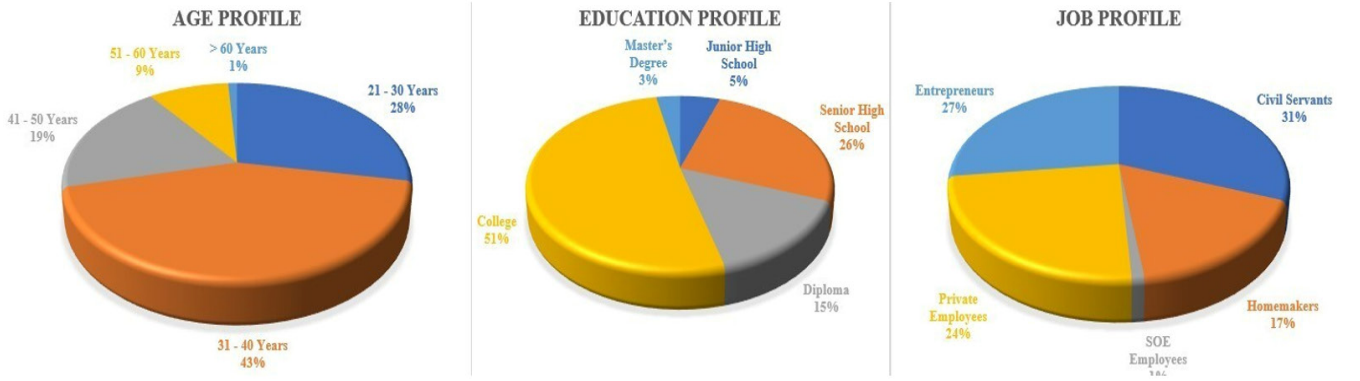

Figure 2. Sociodemographic Data of Respondents based on (a) Age Profile of Respondents; (b) Education Profile of Respondents; (c) Job Profile of Respondents

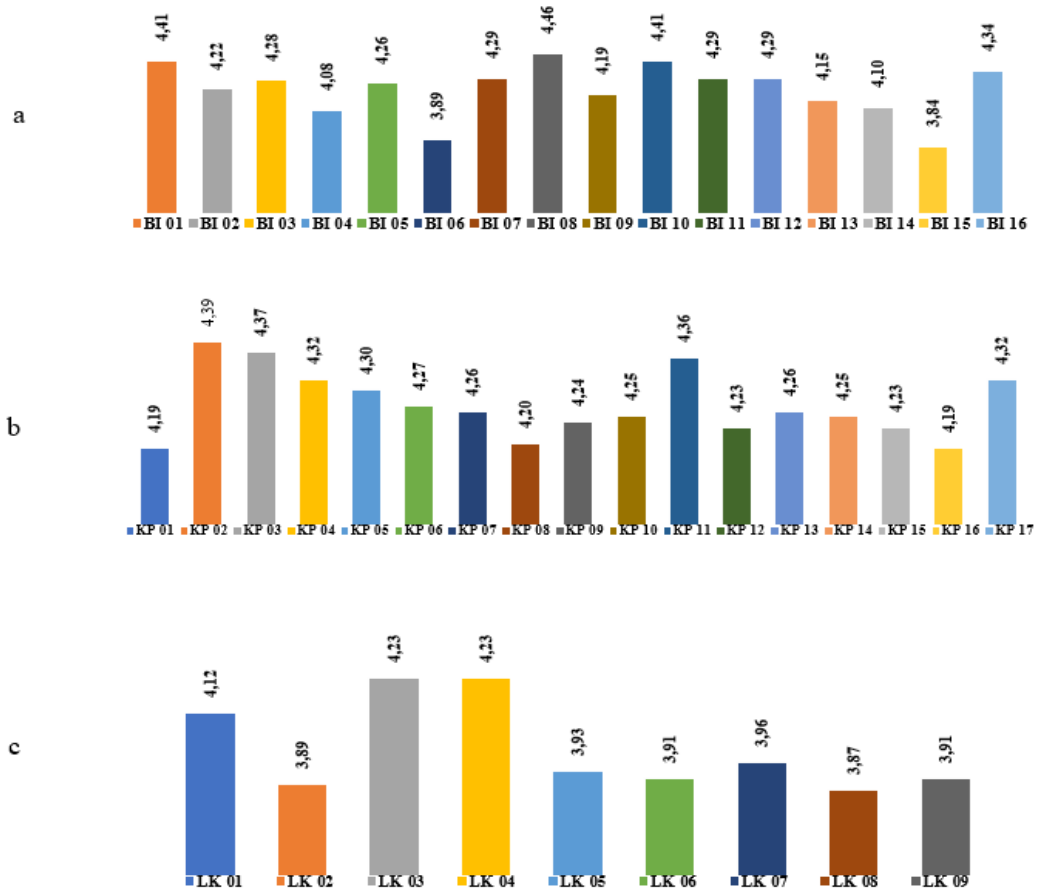

Figure 3. Diagram of average indicators from (a) Brand image variables, (b) Service quality variables, and (c) Consumer loyalty variables

despite external influences and marketing efforts from other brands that can lead to brand switching behavior.[7] The results of a descriptive assessment of customer loyalty at Pharmacy X are high.

3.4. Partial Least Squares (PLS)

Multivariate statistical analysis is applied to assess the effect obtained on each given variable simultaneously. This analysis aims to develop, explore, or predict a structural model. Additionally, in a PLS method, it is necessary to evaluate each measurement model, structural model, and the level of fit or quality contained within the model.[14]

3.4.1. Measurement Model Evaluation

Convergent Validity

Convergent validity is an assessment that shows a positive correlation between measurements on the same variable and other measurements. Each variable must meet valid criteria. This study uses a reflective measurement paradigm where variables such as brand image, quality of service provided, and customer loyalty are assessed reflectively. Evaluation of the reflective measurement model includes factor loadings of≥ 0.70, composite reliability and Cronbach's alpha of> 0.70, and an AVE of≥ 0.50.[14]

Based on Table 2, the brand image variable, measured using seven items, is considered valid, as indicated by an outer loading value of 0.726 to 0.846. This suggests that some of these items are effective in representing the brand image. This variable's reliability level is considered good, with a composite reliability (CR) of 0.919 and a Cronbach's alpha of 0.897, both of which exceed 0.70, indicating a significant value. The achievement of convergent validity is evident in an AVE value of 0.615, which exceeds the threshold of 0.50 according to the convergent validity criteria. Among the valid items, the Product Image aspect showed the strongest results for each measurement aspect, with BI-13 (LF 0.846), which describes the ease with which customers can consult with pharmacists through social media, such as WhatsApp services. For the User Image aspect, only BI-05 (LF 0.776) describes this pharmacy as meeting the community's needs. Regarding the Corporate Image aspect, the strongest indicator is described by BI-02 (LF 0.818), indicating that this pharmacy is in high demand within the community. The various images that have formed in

Table 1. Mean Dimensions on Variables

Variables	Dimensions	Average Dimension	Category
Brand Image	Corporate Image	4.25	Very good
	User Image	4.08	Good
	Product Image	4.24	Very good
Brand Image Variable Mean		4.19	Good
Service Quality	Tangible	4.32	Very good
	Reliability	4.26	Very good
	Responsiveness	4.28	Very good
	Assurance	4.25	Very good
	Emphaty	4.21	Very good
Service Quality Variable Mean		4.26	Very good
Consumer Loyalty	Trust	4.01	High
	Psychological Commitment	4.23	Very High
	Price Change	3.93	High
	Behavioral of Publicity	3.94	High
	Cooperation	3.89	High
Consumer Loyalty Variable Mean		4.00	High

the minds of every consumer related to a brand are referred to as brand images; these images influence the level of trust they have in a brand. In addition, the brand image reflects a brand's ability to fulfill various social or psychological needs that each consumer has; this increases their interest in making purchases while creating value for the brand.[2] Pharmacy X is a retail pharmacy with branches in several areas of Kendari City. With uniform service and appearance standards across all branches, this pharmacy has a corporate image and product image that is widely recognized by the community. Customers of this pharmacy have a positive perception of Pharmacy X, as evident in the research findings, which indicate that the pharmacy has a credible reputation, offers high-quality and comprehensive products, and provides easy communication with pharmacists through WhatsApp services for consultation on customer complaints and needs.

The service quality variable is measured using 16 valid items, with an outer loading value ranging from 0.723 to 0.903. This shows that these items can validly represent service quality. This variable's reliability level is considered good, with a composite reliability (CR) of 0.969 and a Cronbach's alpha of 0.966, which exceeds the minimum limit value of 0.70, indicating reliability. Convergent validity has also been achieved through the resulting AVE value of 0.663; this value has also exceeded the threshold of 0.50, meeting the appropriate validity criteria. When viewed from each measurement aspect, the Tangible element is most strongly described by SQ-04 (LF 0.903), with indicators in the form of the appearance of pharmacy staff who are clean, neatly organized, and friendly.

Regarding reliability, SQ-06 (LF 0.869) indicates pharmacy officers who provide detailed and clear explanations of drug information. Regarding responsiveness, SQ-09 (LF 0.894) describes pharmacy officers who respond well to all patient complaints and provide solutions. In the Assurance aspect, SQ-13 (LF 0.900) describes pharmacy officers who provide services through polite attitudes and make customers confident, making patients feel safe and comfortable. Finally, in the Empathy aspect, SQ-16 (LF 0.862) describes pharmacy staff who always help patients solve problems according to their complaints. From the indicators that describe the quality of this service, it can be concluded that X pharmacy officers consistently show a friendly attitude, clearly explain drug information, and provide effective solutions to patient problems, which in turn gives patients confidence in their healing. In the retail business, high-quality services can have a range of positive influences on consumer behavior. Therefore, customers will feel satisfied when the services they receive meet or exceed their expectations. Thus, satisfaction is an essential thing because satisfaction can encourage each customer to choose various products or services that are aligned with.[5]

The customer loyalty variable is measured by 6 (six) valid items, with outer loading values ranging from 0.758 to 0.892. This shows that these various items can validly represent customer loyalty. The reliability level

Table 2. Evaluation Statistics of the Reflective Measurement Model

Variables	Aspects	Indicator	Outer Loading	Cronbachs Alpha	Composite Reliability	AVE
Brand Image	Corporate Image	BI 02	0.818			
		BI 03	0.747			
	User Image	BI 05	0.776			
	Product Image	BI 07	0.726	0.897	0.919	0.618
		BI 09	0.758			
		BI 13	0.846			
		BI 14	0.824			
Service Quality	Tangible Aspects	SQ 01	0.857			
		SQ 02	0.759			
		SQ 03	0.896			
		SQ 04	0.903			
	Reliability aspect	SQ 05	0.830			
		SQ 06	0.869			
		SQ 07	0.858			
		SQ 08	0.733	0.966	0.969	0.663
	Responsiveness aspect	SQ 09	0.894			
		SQ 10	0.853			
		SQ 11	0.723			
	Assurance Aspect	SQ 12	0.843			
		SQ 13	0.900			
		SQ 14	0.810			
	Emphaty Aspect (Attention)	SQ 15	0.810			
		SQ 16	0.862			
Customer Loyalty	Trust Aspect	CL 01	0.772	0.898	0.922	0.664
		CL 02	0.847			
	Aspects of Price Change	CL 05	0.774			
	Behavioral Aspects of Publicity	CL 06	0.892			
		CL 07	0.837			
	Cooperation Aspect	CL 08	0.758			

of this variable is reported to be good, with a composite reliability (CR) value of 0.922 and a Cronbach's alpha of 0.898, both of which exceed the threshold of 0.70. Therefore, this variable is considered reliable. Convergent validity was also established with an AVE value of 0.664, which exceeds the minimum threshold of 0.50. Customer loyalty is measured based on four aspects: trust, price changes, publicity behavior, and cooperation. Trust is most strongly reflected in item CL-02 (LF 0.847), with the indicator "I don't want to move to buy medicine at another pharmacy." The price change aspect is reflected in item CL-05 (LF 0.774): "I am not worried about price changes when buying medicine at this pharmacy." The behavioral aspect of publicity is reflected in item CL-06 (LF 0.892), with the indicator "I often tell the experience of buying medicine at this pharmacy to family and friends." The cooperation aspect is reflected in item CL-08 (LF 0.758), which indicates, "I always give ideas or suggestions for services at this pharmacy." Loyalty is influenced by customer satisfaction. Satisfaction is the first step to forming loyalty, but its role diminishes as loyalty is formed from other factors. Additional factors, such as personal consistency and social ties, both at the individual and institutional levels, also play a role. When these factors are considered, loyalty is formed through a combination of better product perception, personal consistency, social ties, and the synergistic impact of these three elements.[7]

Discriminant Validity

After assessing the reliability and convergent validity of the variables using reflective validity, the next step is to evaluate discriminant validity. This analysis aims to determine how distinct a variable is compared to others in terms of its correlation strength with different variables and how effectively each indicator represents

a single variable. Discriminant validity is assessed by applying the Fornell-Larcker criteria, ensuring that the HTMT is less than 0.90, and analyzing cross-loadings.[16]

A dataset is considered to meet the Fornell-Larcker criteria if the Average Variance Extracted (AVE) square root for each variable exceeds the correlations between the variables.[16] The brand image variable has an AVE root of 0.786, more significant than the correlation between service quality (0.758) and consumer loyalty (0.569). Similarly, service quality has an AVE root of 0.814, surpassing the correlation with consumer loyalty (0.494). This indicates that the three measured variables demonstrate discriminant validity using the Fornell-Larcker technique.

The Heterotrait-Monotrait Ratio (HTMT) is often more sensitive in identifying discriminant validity issues than other methods, such as the Fornell-Larcker Criterion and Cross Loadings. The HTMT value is less than 0.90, indicating that the three measurement variables demonstrate optimal discriminant validity according to the HTMT method.

Along with the evaluation using the Fornell-Larcker and HTMT criteria, it is also essential to consider the cross-loading value. Cross-loading refers to the expectation that the outer loading value of a parameter on a specific variable should be greater than its loading values on other variables. The outer loading value for each parameter on its corresponding variable exceeds the cross-loading value for other variables. Therefore, all variables demonstrate sufficient discriminant validity.

3.4.2. Structural Model Evaluation

Evaluating the structural model in Smart PLS is crucial for assessing the latent variables in a PLS-SEM model. The aim is to confirm that the model accurately represents the data and that the relationships between latent variables are correctly understood. This evaluation is carried out through three main processes: assessing multicollinearity, testing hypotheses, and analyzing f^2 values.[14]

Multicollinearity Test

The Multicollinearity Test in Smart PLS aims to understand the extent of the relationship between independent variables (predictors) in the PLS-SEM model. If there is high multicollinearity, two or more independent variables have a very strong correlation, which can interfere with the parameter estimation process in the model. Smart PLS utilizes the Variance Inflation Factor (VIF) to detect multicollinearity. This factor assesses how other independent variables influence the variation of a specific independent variable within a model. VIF quantifies the degree of "inflation" in the variance of a variable that is attributed to its correlation with other variables.[14] A high VIF value indicates strong multicollinearity. The criteria for the VIF value are that if VIF ≤ 5, multicollinearity is considered not a problem, and the model is stable; if VIF > 5, it begins to indicate moderate multicollinearity, and the model may require improvement. Meanwhile, a VIF greater than 10 indicates very high multicollinearity, which needs to be taken seriously, such as by deleting or combining highly correlated variables.[14,15,16] The results of statistical testing using Smart PLS show that the VIF value for each brand image or service quality obtained in customer loyalty (loyalty) is 2.348. This value indicates that there is no excessive or overlapping relationship between the independent variables.

Hypothesis Test

In Smart PLS, hypothesis testing evaluates the proposed relationships in the PLS-SEM model. This process aims to determine whether the structural model's connections between constructs (latent variables) are statistically significant. This process involves testing path coefficients to observe whether the relationship between constructs is strong enough and significant. The relationship between variables can be assessed in hypothesis testing through the t-statistic, path coefficients, and p-value. At a significance level of 5% (alpha = 0.05), the critical value of the t-statistic is 1.96. If the t-statistic is greater than or equal to 1.96, the relationship between the constructs is considered significant at the 5% level. Additionally, a p-value of 0.05 or less indicates a statistically significant relationship. When the t-statistic is high and the p-value is low, the hypothesis is accepted, suggesting a substantial relationship exists between the tested constructs. Conversely, when the t-statistic is low and the p-value is high, the hypothesis is rejected, indicating no significant relationship exists between the constructs. Path coefficients serve as a tool for evaluating the direction of hypothesized relationships. These coefficients usually range from -1 to +1, although values occasionally extend beyond this range. A path coefficient close to +1 indicates a strong positive relationship, while negative values suggest the opposite.[14,15,16,25] In addition, it is important to pay attention to the estimated path coefficients and their 95% confidence intervals and the f^2 values that describe the direct effect of variables at the structural level. The f^2 value assesses the amount of contribution made or the influence of a construct on other constructs in the model. A large f^2 value indicates the effect is significant, while a small value indicates a weak effect. Generally, the f^2 value is categorized

as follows: $f^2 \geq 0.35$ indicates a large effect, $0.15 \leq f^2 < 0.35$ indicates a moderate effect, and $f^2 < 0.15$ indicates a small effect.[16]

According to the hypothesis testing results presented in Table 3, the following explanation:

- The first hypothesis (H1) is accepted. Brand image has a significant influence on consumer loyalty. The t-statistic value is 3.557, with a p-value of 0.000 and a path coefficient of 0.458, which supports this conclusion. This means that every effort to improve the brand image of Pharmacy X will increase consumer loyalty. Within the 95% confidence interval, the effect of brand image on customer loyalty ranges from 0.185 to 0.686. However, the contribution of brand image to customer loyalty at the structural level is relatively small, with an F-squared value of 0.134.

- The second hypothesis (H2) is rejected, indicating that the quality of service provided does not have a significant impact on customer loyalty. The t-statistic value of 1.119 is less than 1.96, the p-value of 0.263 is greater than 0.05, and the path coefficient is 0.147, which supports this conclusion. Although the quality of service at Pharmacy X is well standardized and efforts are made to improve it, this does not significantly impact customer loyalty.

3.4.3. Model fit and goodness of fit evaluation

Partial Least Squares (PLS) is a variance-based Structural Equation Modeling (SEM) method used primarily for testing theoretical models, especially in prediction studies. The evaluation process involves assessing model fit by measuring the Standardized Root Mean Square Residual (SRMR) value, as well as evaluating model quality (goodness of fit) by examining the R-squared (R^2), Q^2, and squared (Q^2) values.[14,15,16,25]

Evaluation of Model Fit

Evaluating model fit is essential for determining how well a constructed model describes the data it is intended to apply. In Smart PLS, SRMR is used to assess model fit. SRMR measures the difference between the relationship matrix generated from observational data and the relationship matrix predicted by the model. A reasonable SRMR value is considered to be ≤ 0.08; hence, a smaller SRMR value indicates a better fit of the model to the available data.16 The findings from the Smart PLS test show an SRMR value of 0.079, indicating that the model has an acceptable fit.

Model Goodness of Fit Evaluation

Evaluation of the model's goodness is used to measure how well a model explains the data and the relationship between its constructs. In Smart PLS, the evaluation criteria include R-squared (R^2), Coefficient of Determination, and Q-squared (Q^2), which indicate predictive relevance. The R^2 measures how well the independent variables explain the variations in the dependent variable. A higher R^2 value indicates a stronger ability of the model to describe the relationship between the constructs. The R^2 value can be interpreted as follows: 0.19 indicates a low impact, 0.33 represents a moderate effect, and 0.66 signifies a significant impact.[26] For instance, in this study, the R^2 value of 0.333 suggests that brand image influences customer loyalty by 33.3%, which falls into the moderate impact category. The remaining 66.7% is attributed to other factors not measured in this model. Q^2 assesses the model's ability to predict unobserved variables, including the impact of changes in independent (exogenous) and dependent (endogenous) variables on other variables. Additionally, Q^2 indicates the model's relevance for predicting new data, measures the model's ability to predict unobserved variables, including how well changes in independent (exogenous) and dependent (endogenous) variables can predict other variables, and also illustrates the model's relevance in predicting new data. The Q^2 value is as follows: 0.00 indicates low influence, 0.25 indicates moderate, and 0.50 indicates strong.[25] Based on the analysis results, the Q^2 value for customer loyalty is 0.275, indicating that the model can provide predictions at a moderate level.

4. Discussion

Brand image plays a crucial role in conveying a positive impression of a brand, as the positive value in the minds of consumers is believed to come from the

Table 3. Hypothesis Testing

	T statistics	Path Coefficient	p values	95% Confidence Interval Path Coefficient		f-square
				Lower Limit	Upper Limit	
H1. Brand Image -> Customer Loyalty	3.557	0.458	0.000	0.185	0.686	0.134
H2. Service Quality -> Consumer Loyalty	1.119	0.147	0.263	-0.074	0.443	0.014

perception of the brand's good reputation.28 A popular brand image should be able to make a distinctive feature amid business market competition, so that it can serve as a differentiator from others, even if it has a similar business.[27] The brand image assessment research results were analyzed in three key aspects. The corporate and product image aspects were rated as excellent. This assessment occurs because, as a long-established branch of the pharmaceutical retail business, the company's image is well known to the public, with its products and services being standardized and nearly identical across all branches. This differs from the user image assessment results, which only have a good scale assessment. One of the aspects included in the user image is the indicator "In my opinion, pharmacies offer medicines at affordable prices according to financial conditions." This indicator has a low average assessment because the prices of drugs sold at Pharmacy X differ slightly from those of other pharmacies. However, overall, the average assessment of the brand image variable is in a good category. Therefore, it can be concluded that Pharmacy X has a good brand image.

The standard of service means providing a sense of satisfaction to each consumer through various products or services that align with their expectations. When the service meets expectations, customer satisfaction is achieved. Service quality begins with identifying client demand and ends with customer satisfaction.[5] Service quality is assessed through five aspects, with excellent assessment results. After further examination, in the tangible aspect dimension, some indicators have the lowest mean score value, namely, the indicator "in my opinion, the pharmacy is easy to reach and strategically located," which is in the good category; this assessment may be because this pharmacy is not located on the main road that is passed by public vehicles. Furthermore, in the reliability aspect, there is an indicator that "in my opinion, pharmacy staff always provide receipts/purchase notes without being asked," which is also only in the good category. Some patients may still need a manual receipt as proof of the transaction. Still, this pharmacy is equipped with a mobile application feature, allowing users to input their patient's telephone number, after which evidence of the transaction will be sent to that Number. Some customers are not yet familiar with this system, so pharmacy socialization is still needed. The last aspect of empathy is an indicator, "in my opinion, pharmacy staff always help patients solve problems according to patient complaints," which is in the good category, unlike other indicators with perfect averages. It is considered that the officer does not help solve the results of customer interviews because pharmacy officers' free customers to look for their own drug needs in pharmaceutical supermarkets, using the self-service concept. Some customers are still confused by the layout of drugs, which often have displays that change within a specific period, so they need assistance in finding the drugs they need.[29] Overall, the service quality variable has an outstanding category. This shows that the services at Pharmacy X can still meet customer expectations and needs.

Loyalty is measured through five dimensions: aspects of trust, psychological commitment, price changes, public behavior, and cooperation. Only one aspect has a very high category assessment, while the other four aspects only have a high category assessment. The psychological commitment aspect has a descriptive assessment value of a very high average, indicating that Pharmacy X customers perceive the presence of pharmacists as providing a sense of comfort and trust in the pharmacy's ability to recommend their drug needs. The ease of consulting directly with practicing pharmacists also makes customers feel that their drug information needs are met and their problems are resolved quickly. The four dimensions of aspects with a high category scale assessment are trust, price changes, publicity behavior, and cooperation. Pharmacy X customers consciously prefer Pharmacy X over having to find or switch pharmacies, so they are less concerned about price changes. Customers are also willing to share their experience buying products and recommend pharmacies to family and friends, mainly since Pharmacy X serves referral prescriptions for patients of the Social Security Organizing Agency (BPJS) and has a practicing doctor. This referral prescription service is designed to encourage customers to remain loyal and avoid switching to other pharmacies. The variable mean score value indicates that participants accurately assessed the customer loyalty variable, suggesting that the overall level of customer loyalty can be categorized as large-scale. Several types of services above contribute to customers remaining loyal to Pharmacy X; this is because loyalty is a person's commitment to a particular product or service, as indicated by their continued purchase or use of it regularly in the future. Although there are factors, such as certain situations or promotions from competitors, that can prompt them to switch, loyal customers tend to remain with what they consider their favorite.[7]

The first hypothesis of this study was formed by considering that brand image has a significant influence on customer loyalty. If Pharmacy X's brand improves, customer loyalty will increase. This study's findings align with previous research, indicating that brand image has a significant impact on customer loyalty in the retail sector.[4] These findings suggest that brand image has a significant influence on pharmacy loyalty, making it essential to maintain and enhance

brand image to strengthen customer loyalty.[7] Although brand image has an impact, it is also essential to consider other factors. Its impact on customer loyalty is relatively weak, especially for Pharmacy X in the structure of this research model.

The quality of service does not necessarily influence each consumer's loyalty; therefore, the hypothesis generated from the studies conducted is unacceptable. The satisfaction they receive is one of the factors proven to increase loyalty, which is created by the quality of service provided. However, other factors can also contribute to the formation of a loyal consumer attitude. Personal consistency and social ties, both at an individual and institutional level, also play a role. When these factors are considered, loyalty may develop from perceptions of superior products or services, personal consistency, social connections, and the combined influence of these three elements.[7] At Pharmacy X, consumer loyalty is influenced by factors outside this study.

Literature shows that product pricing strongly affects pharmacy customer loyalty; even excellent service may not retain price-sensitive customers if competitors offer lower prices.[30,31] Similarly, pharmacies located in less accessible or non-strategic areas tend to see lower return visits, as location and accessibility significantly shape customer loyalty.[32,33] Personal habits and emotional attachments also play a role. Customers who feel comfortable or familiar with a pharmacy are likely to remain loyal even if others offer slightly better service. Moreover, the absence of service differentiation and impersonal, rigid approaches hinders the emotional bonds required for long-term loyalty.[34] The lack of loyalty programs further exacerbates this, missing opportunities to reward and reinforce customer commitment, which may lead to increased customer attrition.[35] Therefore, a holistic strategy integrating competitive pricing, strategic location, personalized service, and targeted loyalty programs is vital for building sustainable customer loyalty in the pharmacy sector.[30,33]

5. Conclusion

The findings of this study indicate that in one of the Pharmacy X, which operates as a modern retail pharmacy with a self-service concept, the brand image has a positive and significant impact on customer loyalty. However, service quality does not substantially impact loyalty among Pharmacy X customers. Although it has excellent quality, it does not impact customer loyalty. In contrast, brand image shows a different effect, where an increase in brand image value is directly proportional to the rise in customer loyalty. The impact of brand image on customer loyalty is reflected in an R-squared value of 33.3%, indicating a moderate influence. Additionally, the Q-squared value for customer loyalty is 0.275, suggesting that the predicted accuracy is mild. This research is expected to help pharmacies develop effective strategies to enhance customer loyalty, promoting the sustainability and growth of their business in the increasingly competitive pharmaceutical market.

Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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