ANALYZING THE IMPACT OF MARKETING MIX AND HOSPITAL BRAND IMAGE ON PATIENT SATISFACTION AND LOYALTY: A STUDY AT XYZ MATERNITY HOSPITAL

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ABSTRACT

This study examines the impact of the marketing mix and hospital brand image on patient satisfaction and loyalty at XYZ Maternity Hospital. As healthcare services face increasing competition, especially among hospitals, marketing strategies such as the 7P marketing mix and brand image play a crucial role in enhancing patient satisfaction and building loyalty. The study uses a quantitative method with 205 postpartum patients as respondents. Data analysis using PLS-SEM reveals that both the marketing mix and hospital brand image have a significant positive effect on patient satisfaction, which in turn strongly influences patient loyalty. These findings underscore the importance of focusing on improving patient-centered services and maintaining a positive hospital image to foster long-term patient loyalty.

KEYWORDS	*Marketing Mix, Hospital Brand Image, Patient Satisfaction, Patient Loyalty, Healthcare Marketing*

INTRODUCTION

Based on Law of the Republic of Indonesia Number 36 of 2009 concerning Health, the goal of health development is to achieve the ability to live a healthy life for every resident to realize optimal health status. Hospitals play an important role in providing health services, including healing, disease prevention, training health workers, and medical research. Health services must meet the needs of patients, and nurses have a great responsibility in caring for patients and monitoring their health conditions during hospitalization.

People who are increasingly selective in choosing health services lead to competition between hospitals. Marketing approaches, such as the marketing mix which includes product, price, place, promotion, people, process, and physical evidence, are used to attract consumers. The marketing mix aims to increase the value of patient experience and satisfaction by focusing on customer needs. A good marketing strategy will create customer satisfaction and loyalty.

General and specialized hospitals in Indonesia are distinguished by the type of services they provide. Specialized hospitals, such as the Mother and Child Hospital (RSIA), provide services for mothers, babies, and children, including care during pregnancy and childbirth. RSIA XYZ in Pekanbaru is an example of a hospital that focuses on maternal and child care, with services covering various aspects of reproductive health and child development.

Patient satisfaction is very important in building loyalty to the hospital. High-quality services that meet health service standards will attract patients to return to use the hospital's services. In the face of global competition, hospitals need to consider marketing strategies that emphasize customer needs, wants and demands, and build a positive image to increase patient loyalty.

Previous research on the effect of marketing mix and brand image on customer loyalty shows significant variations in results. Simanjuntak et al. (2020) found that price, product, process, and brand image have a significant effect on ready-mixed mortar customer loyalty, with price as the most dominant factor. Paradilla et al. (2021) identified that brand image and marketing mix directly affect patient loyalty at Stella Maris Hospital, but not through satisfaction. Alwinie et al. (2024) stated that the marketing mix affects customer satisfaction and loyalty in beauty clinics. Mondir et al. (2023) show that product, place, promotion, and people affect Shopee customer satisfaction, while product, promotion, and physical evidence affect loyalty without the mediating role of satisfaction.

Wijaya & Stutejo (2017) found that the marketing mix significantly affects customer satisfaction in restaurants, while brand image has no significant effect on satisfaction but affects loyalty. Other studies also provide similar findings with variations in marketing mix dimensions and their impact on satisfaction and loyalty in various sectors, such as hospitals, banks, laboratories, and cafes. In general, many studies show that marketing mix and brand image have a positive and significant influence on customer satisfaction and loyalty, either directly or through mediating variables such as trust and satisfaction.

Previous research shows that patient satisfaction has a significant effect on loyalty. Factors such as marketing mix and hospital image play an important role in shaping patient loyalty. Based on the explanation above, research was conducted on the Effect of Marketing Mix and Hospital Brand Image on Patient Loyalty with Mediation of Patient Satisfaction in Post Partum Patients at XYZ Hospital.

Hypothesis Development

From the explanation of the theoretical background and the discussion of the definitions of the variables used in this study, research hypotheses can be compiled and proposed. This hypothesis is a temporary statement, that there is an influence between the variables in the research conceptual framework. The relationship or

influence between these variables will be proven through empirical testing with certain statistical methods. (Sekaran & Bougie, 2020). The hypotheses in this study are arranged in the following order:

Marketing Mix Link to Patient Satisfaction

The marketing mix is a combination of seven elements. These seven elements are interrelated and influence each other, hence the need for efforts to generate marketing policies that lead to effective service and customer loyalty. In the marketing mix, there are mutually supporting variables, which the company will later combine to get the desired response from the target market. With such tools, a company can influence the demand for its products. So, the more the company understands the demand from customers, the more satisfied the customer will become (Simangunsong et al., 2017). (Simangunsong et al., 2018).

Previous research findings show a significant effect of *marketing mix* on *patient satisfaction* from (Simanjuntak et al., 2020), (Paradilla et al., 2021), (Alwinie et al., 2024), (Mondir et al., 2023) and (Wijaya & Stutejo, 2017). Based on these considerations, the following hypothesis can be proposed

H1: *Marketing Mix* has a positive influence on *Patient Satisfaction*

The link between Hospital Brand Image and Patient Satisfaction

A hospital's brand image can be seen as the collection of beliefs, ideas and impressions that a patient has towards a particular hospital. A hospital's brand image is not absolute; it is relative to the brand image of competing hospitals. Patients usually form a brand image of a hospital from their own medical examination and treatment experiences. (Vimla & Taneja, 2020).

Company image is a collection of beliefs, ideas, and impressions that a person has of an object. From this explanation, it can be concluded that the company's image is the customer's view of the impression given by the company. (Amini & Wiranatakusuma, 2020)

Previous research findings show a significant effect of *hospital brand image* on *patient satisfaction* from (Simanjuntak et al., 2020), (Paradilla et al., 2021), (Wijaya & Stutejo, 2017), (Prakoesw et al., 2022), (Vimla & Taneja, 2021), (Thanabordeekij & Syers, 2020) and (Amelia et al., 2024). Based on these considerations, the following hypothesis can be proposed

H2: *Hospital Brand Image* has a positive influence on *Patient Satisfaction*

Patient Satisfaction's Link to Patient Loyalty

The relationship between the marketing mix and customer satisfaction is not always the same because it is influenced by several factors, one of which is the product itself. In industries where products have low involvement, satisfaction is often the main factor in shaping customer loyalty. Meanwhile, in high-involvement products, other factors are more dominant in shaping their customer loyalty. Nonetheless, customer satisfaction remains one of the elements in shaping customer loyalty despite its influence. Therefore, when a customer is satisfied with a high involvement product, the customer will not always be loyal due to other dominant factors in shaping customer loyalty. (Simangunsong et al., 2018).

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Previous research findings show a significant effect of *patient satisfaction* on *patient loyalty* from (Prakoesw et al., 2022), (Oktaria et al., 2023), (Fadhilah & Katmini, 2023), (Budiman & Achmadi, 2023), (Raharjo & Digdowiseiso, 2022), (Thanabordeekij & Syers, 2020), (Hayuningtyas, 2020) and (Elpawati et al., 2023). Based on these considerations, the following hypothesis can be proposed
H3: *Patient Satisfaction* has a positive influence on *Patient Loyalty.*

RESEARCH METHOD

The object of this research focuses on examining the positive effects of the independent variables, namely Marketing Mix (7P) and Hospital Brand Image on the dependent variable, namely Patient Loyalty which is mediated by Patient Satisfaction. This study aims to provide comprehensive answers to research questions by examining the relationship between these variables in depth.

The unit of analysis in this study is the individual, which means that data is obtained from respondents who have received services from XYZ Mother and Child Hospital (RSIA) in Riau Province. The main focus was on post partum services for mothers during pregnancy, labor, and postpartum. RSIA XYZ was chosen as a case study because it is accredited, has complete facilities, and competes in providing quality services.

This research falls into the quantitative category using surveys as a data collection method. Data was obtained from respondents through questionnaires distributed online. This research is cross-sectional, which means that data is collected only once in a certain period, namely January-December 2023.

The research variables were measured using a five-point Likert scale, ranging from strongly disagree to strongly agree. There are three types of latent variables measured: dependent variables, independent variables, and intervening variables. The indicators of these variables are explained conceptually and operationally to facilitate measurement.

The study population was all postpartum patients of RSIA XYZ in Riau Province in 2023. The sample was taken using non-probability sampling method, specifically purposive sampling, based on certain criteria. The minimum sample size was determined using power analysis, with a minimum result of 119 respondents but in this study 205 respondents were used for analysis.

Primary data were obtained directly from respondents through questionnaires, while secondary data were obtained from literature, books, and other documents. Data analysis was carried out using the variance-based PLS-SEM (Partial Least Square - Structural Equation Modeling) method to test the relationship between variables in the research model.

The PLS-SEM model analysis was conducted in two stages: outer model evaluation to test the reliability and validity of indicators, and inner model evaluation to test the quality of the model and the influence between latent variables. Hypothesis testing is done through bootstrapping, by looking at the significance of the relationship between variables and the coefficient value. Path analysis was also conducted to assess the mediation ability of variables in the research model. IPMA

(Importance-Performance Map Analysis) analysis was used to provide input to hospital management regarding performance improvement priorities.

RESULT AND DISCUSSION

Data Analysis Results

Outer Model

The outer model is concerned with the relationship between latent variables and their indicators. It involves estimating factor loadings that measure the extent to which an indicator reflects the underlying latent variable.
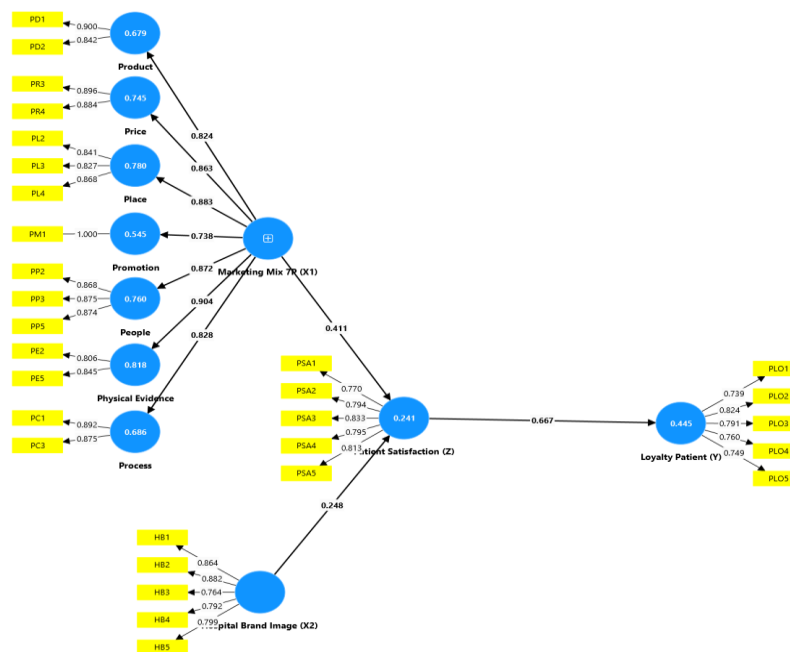

Figure 1. Outer Model - Lower Order Construct
Source: Primary data processed (2024)

Table 1. Validity & Reliability LOC (lower order construct)

Dimensions	Item	Loading	CR	AVE
		>0.70	0.60-0.90	>0.50
Process	PC1	0.756	0.721	0.781
	PC3	0.707		
Product	PD1	0.788	0.708	0.760
	PD2	0.637		
Physical Evidence	PE2	0.708	0.538	0.682
	PE5	0.783		
Place	PL2	0.722	0.801	0.715
	PL3	0.760		
	PL4	0.758		
Promotion	PM1	1.000	1.000	1.000
People	PP2	0.733	0.844	0.760

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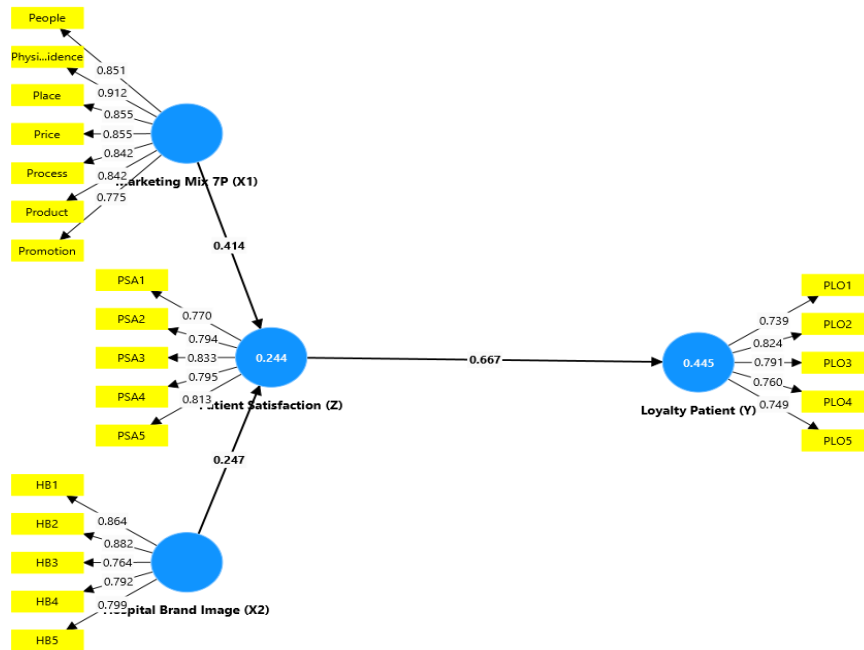|	PP3	0.753		
	PP5	0.792		
Price	PR3	0.787	0.739	0.792
	PR4	0.748		

Figure 2. Outer Model - Higher Order Construct
Source: Primary data processed (2024)

Table 2. Validity & Reliability HOC (Higher Order Construct)

Construct	Dimension	Outer loading	Composite reliability	Average variance extracted (AVE)
Marketing Mix 7P (X1)	People	0.851	0.937	0.719
	Physical Evidence	0.912		
	Place	0.855		
	Price	0.855		
	Process	0.842		
	Product	0.842		
	Promotion	0.775		

Calculation for CR:
$CR=(0.851+0.912+0.858+0.855+0.845+0.835+0.775)2/\{(0.851+0.912+0.858+0.855+0.845+0.835+0.775)2+(1-851)+(1-.9122)+(1-.8582))+(1-.8552))+(1-.8452))+(1-0.8352))+(1-0.7752)\}$
$CR=35.178/(35.178+0.022+0.008+0.020+0.021+0.024+0.027+0.051)$
$CR=35.178/35.351$
$CR=0.937$

Calculation for AVE:
CA=(0.8182+0.8612+0.6782)/3
CA=1.870/3
CA=0.719

Outer Loading

Outer loading, in the context of structural equation analysis (SEM), refers to a coefficient that measures the extent to which an indicator (measured variable) reflects or measures the underlying latent variable. In other terms, outer loading measures the strength and direction of the relationship between latent variables and their indicators in the measurement model. In PLS-SEM, indicators can be said to be reliable if the outerloading value is more than 0.7 (Hair et al., 2019).

Table 3. Outer Loading Results of Actual Research

Variables	Dimension/Indicator Code	Trust
Marketing Mix (X1)	People	0.851
	Physical_Evidence	0.912
	Place	0.855
	Price	0.855
	Process	0.842
	Product	0.842
	Promotion	0.775
Hospital brand image (X2)	HBI1	0.864
	HBI2	0.882
	HBI3	0.764
	HBI4	0.792
	HBI5	0.799
Patient loyalty (Y)	PLO1	0.739
	PLO2	0.824
	PLO3	0.791
	PLO4	0.760
	PLO5	0.749
Patient satisfaction (Z)	PSA1	0.770
	PSA2	0.794
	PSA3	0.833
	PSA4	0.795
	PSA5	0.813

Source: Primary data processed (2024)

From the results of the table above, it can be seen that the outer model value on 22 indicators, namely the marketing mix variable, is known to have 7 dimensions consisting of 15 statement indicators. The hospital brand image variable is known

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to have 5 statement indicators, the patient loyalty variable is known to have 5 statement indicators, and the patient satisfaction variable is known to have 5 statement indicators. Each indicator has met the requirements set, which is above 0.7 so that it can be declared valid. However, based on the results of the lower order on the marketing mix variable, there are indicators that are dropped, namely PD2, PD3, PD4, PR1, PR2, PR5, PL1, PL5, PP1, PP4, PE1, PE3, PE4, PM2, PM3, PM4, PM5, PC2, PC4, PC5.

Construct Reliability

Construct Reliability (CR) is a metric used in structural equation analysis (SEM) to measure the reliability of a latent construct or latent variable. CR provides an indication of the extent to which the indicators or items used to measure a construct make a consistent and reliable contribution in measuring the construct. The composite reliability value must exceed 0.7.

Table 4. Reliability Testing

	Cronbach's alpha	Composite reliability	Rule of Thumb	Model Evaluation
Marketing Mix (X1)	0.935	0.936		Reliable
Hospital brand image (X2)	0.879	0.892	>0,7	Reliable
Loyalty patient (Y)	0.832	0.835		Reliable
Patient satisfaction (Z)	0.860	0.862		Reliable

Source: Primary data processed (2024)

Based on table 4. above, it can be seen that each variable shows the Cronbach's Alpha and Composite Reliability values greater than the predetermined criterion value of 0.70 so that it can be stated that all variables above are reliable or reliable.

Construct Validity

Discriminant validity testing uses the average variance extracted (AVE) value.

Table 5. Discriminant Validity Testing

	Average variance extracted (AVE)
Marketing Mix (X1)	0.719
Hospital brand image (X2)	0.674
Loyalty patient (Y)	0.598
Patient satisfaction (Z)	0.642

Source: Primary data processed (2024)

From table 5. above, it can be seen that the Average Variance Extracted (AVE) value for each variable has met the validity criteria. The AVE values for marketing mix variables, hospital brand image, patient loyalty and patient satisfaction are

0.719, 0.674, 0.598 and 0.642 respectively. All of these values are higher than the predetermined limit, which is 0.5. Therefore, it can be concluded that all variables have good convergent validity values.

Discriminant Validity
The results of the Fornell-Lacker discriminant validity test are below the following table:

Table 6. Fornell-Larcker Criterion between Variables

	Hospital brand image (X2)	Patient loyalty (Y)	Marketing Mix 7p (X1)	Patient satisfaction (Z)
Hospital brand image (X2)	0.821			
Patient loyalty (Y)	0.460	0.773		
Marketing Mix 7p (X1)	0.054	0.355	0.848	
Patient satisfaction (Z)	0.269	0.667	0.428	0.801

Source: Primary data processed (2024)

Based on the Fornell and Larcker criteria in Table 6. above, it can be concluded that all latent variables have good discriminant validity. This is because the square root value of Average Variance Extracted (AVE) in each construct has a higher correlation than the correlation value of other constructs. For example, the AVE square root value of the marketing mix variable of 0.848 has a higher value than the correlation value between other constructs. In addition, the next criterion in the discriminant validity test is through the Heterotrait-Monotrait Ratio (HTMT) value, where the HTMT value limit must be less than 0.9. For details of the Heterotrait-Monotrait discriminant validity test results can be seen in the table.

Table 7. Discriminant Validity Heterotrait - Monotrait Ratio (HTMT)

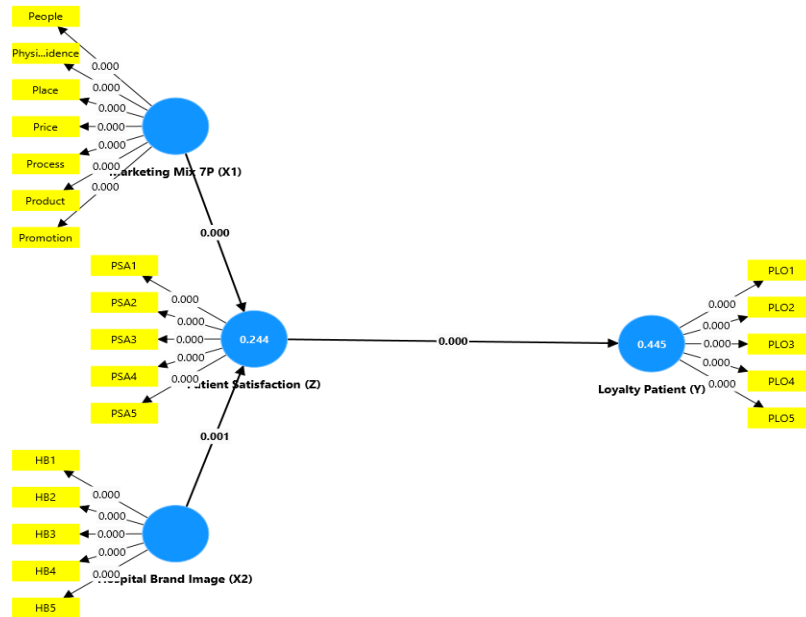|	Hospital brand image (X2)	Loyalty patient (Y)	Marketing Mix 7p (X1)	Patient satisfaction (Z)
Hospital brand image (X2)				
Loyalty patient (Y)	0.533			
Marketing Mix 7p (X1)	0.083	0.403		
Patient satisfaction (Z)	0.304	0.781	0.474	

Source: Primary data processed (2024)

From the table above, it can be seen that discriminant validity has been achieved, where the value of each variable is below 0.9 but in general all HTMT approaches detect discriminant validity problems so that they can be declared valid.

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Inner Model

In testing the research hypothesis using the inner weight table, the research hypothesis can be accepted if the t-statistic value is greater than or equal to the t table value at the 5% error rate (α), which is 1.64. The following is the path coefficient value (original sample estimate) and the t-statistic value in the inner model. Also, below is a picture of the structural model.

Source: Primary data processed (2024)
Figure 3. Structural Model Inner Model

Multicollinearity Testing

Researchers conducted tests with the standard value of the Variance Inflation Factor (VIF) having a VIF value of less than 5. If the value is more than 5, multicollinearity is detected.

Table 8. Inner VIF

	Hospital brand image (X2)	Loyalty patient (Y)	Marketing Mix 7p (X1)	Patient satisfaction (Z)
Hospital brand image (X2)				1.003
Patient loyalty (Y)				
Marketing Mix 7p (X1)				1.003
Patient satisfaction (Z)		1.000		

Source: Primary data processed (2024)

Based on the table above, it can be seen that the regression model does not experience multicollinearity disorders. This can be seen in the VIF value of each variable indicator less than 5. So it can be concluded that there is no multicollinearity between the independent variables in this study.

Determinant Coefficient (R-Squared)

That each variable shows the R-Square value. The following table shows the existence of the R value.

Table 9. R-Square Value

Variables	R-square	Adjusted R-square
Loyalty patient (Y)	0.445	0.442
Patient satisfaction (Z)	0.244	0.236

Source: Primary data processed (2024)

From the table above, the patient loyalty variable has an R-Square value of 0.445, which means that the marketing mix, hospital brand image and patient satisfaction affect patient loyalty by 44.5% and the remaining 55.5% is influenced by other variables outside the study. While the patient satisfaction variable has an R-Square value of 0.244, which means that the marketing mix and hospital brand image affect patient satisfaction by 24.4% and the remaining 75.6% is influenced by other variables outside the study.

Effect Size (f-Squared)

F Square is an additional measure that provides information about the predictivity of the model on the dependent variable in the context of SEM. Ghozali, (2019) explains the interpretation of the f square value, namely 0.02 small; 0.15 moderate and 0.35 large.

Table 10. F-Squared Value

Variables	Hospital brand image (X2)	Patient loyalty (Y)	Marketing Mix 7p (X1)	Patient satisfaction (Z)
Hospital brand image (X2)		0.194		0.080
Patient loyalty (Y)				
Marketing Mix 7p (X1)				0.226
Patient satisfaction (Z)		0.800		

Source: Primary data processed (2024)

In the table above, it is found that the effect of marketing mix variables, hospital brand image, patient loyalty and patient satisfaction has a significant effect size with a value of 0.800, 0.080 and 0.226 less than 0.35, all of which are categorized as having a medium effect size, but the effect of marketing mix on

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patient loyalty has a significant effect size with a value of 0.800 more than 0.35, so it is categorized as having a large effect size.

Predictive Relevance (Q-Squared)

Q Square is used to measure the reliability of the model in predicting the dependent variable through the model prediction reliability test. A positive Q Square value indicates that the model is better than the null model (a model without latent variables). If the Q Square value is negative, the model is considered poor in predicting the dependent variable.Q-squared between 0 and 0.25, the predictive ability is considered small or low. The model makes a small contribution in explaining the variation in the dependent variable. Q-squared between 0.25 and 0.5, the predictive ability is considered medium or moderate. The model makes a fairly good contribution in explaining variations in the dependent variable. Q-squared more than 0.5, the predictive ability is considered large. The model makes a significant contribution in explaining variations in the dependent variable, and has strong predictive ability.
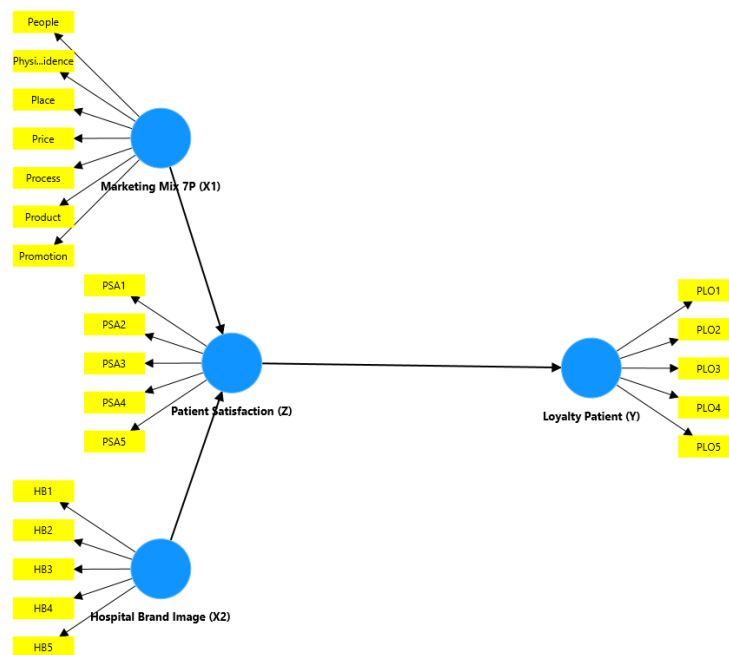

Figure 4. Q Squared Results
Source: Primary data processed (2024)

In the advanced Q-squared test, the PLS Predict method is used in the SmartPLS calculation menu, and is considered more accurate than blindfolding. The predictive ability of PLS Predict is considered more sensitive to changes in input data parameters. Furthermore, in PLS Predict, the error of the PLS model can also be compared with the error of the linear model (LM), if the error in PLS is smaller, it is said to have predictive power. In the table below there is a Q2 value and Q2 _Predict value as a comparison.

Table 11. Q Squared Results

Variables	Q²	Q²predict	Results
Loyalty patient (Y)	0.309	0.225	Moderate predictive relevance
Patient satisfaction (Z)	0.152	0.211	Small predictive relevance

Source: Primary data processed (2024)

According to table 11, the patient loyalty variable has a Q2 value of 0.299, this Q-squared value is less than 0.5, so it is said to have moderate predictive relevancy. patient satisfaction variable has a Q2 value of 0.211, this Q-squared value is less than 0.212, so it is said to have small predictive relevancy.

From the table above, it is confirmed through the Q2 _Predict value that the patient loyalty and patient satisfaction variables have a Q2 _Predict value that is greater than the Q2 value and is close to large predictive relevance. This shows that this model is able to predict the same output when there are changes or variations in the input data. Therefore, it can be concluded that this research model using two independent variables and two mediating variables is said to be sufficient to be applied in further research. This model can also be further developed with the same model but using a larger sample size and samples selected with stricter criteria in order to obtain more optimal predictive ability.

Hypothesis Test Results and Coefficients

Path coefficient hypothesis testing results

Table 12. Direct Effect Analysis

Hypothesis		Original sample (O)	T Statistics	P Value	Results
H1	Marketing Mix 7p (X1) -> Patient satisfaction (Z)	0.414	5.575	0.000	Supported
H2	Hospital brand image (X2) -> Patient satisfaction (Z)	0.247	3.279	0.001	Supported
H3	Patient satisfaction (Z) -> Loyalty patient (Y)	0.667	10.859	0.000	Supported

Source: Primary data processed (2024)

Based on the direct effect hypothesis testing above, it can be explained as follows:

Hypothesis H1, according to the table above, shows that marketing mix has a positive influence on patient satisfaction with a t-statistic value of 5.575. This value exceeds the predetermined t-table value of 1.645, and the p value is 0.000 <0.05, indicating a significant effect. The original sample value in this hypothesis is 0.414, indicating a positive direction in accordance with the hypothesis.

Hypothesis H2, according to the table above, shows that hospital brand image has a positive influence on patient satisfaction with a t-statistic value of 3.279. This value exceeds the predetermined t-table value of 1.645, and the p value is 0.001

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<0.05, indicating a significant effect. The original sample value in this hypothesis is 0.247, indicating a positive direction in accordance with the hypothesis

Hypothesis H3, according to the table above, shows that patient satisfaction has a positive influence on patient loyalty with a t-statistic value of 10.859. This value exceeds the predetermined t-table value of 1.645, and the p value is 0.000 <0.05, indicating a significant effect. The original sample value in this hypothesis is 0.667, indicating a positive direction in accordance with the hypothesis.

Importance-performance analysis

In PLS-SEM it is also recommended to conduct a more in-depth analysis to provide managerial implications regarding what matters should be prioritized and considered by management (Ringle & Sarsted, 2016; Hair et al., 2019). An advanced analysis tool provided in the SmartPLS□ calculation is the Importance Performance Map Analysis (IPMA) menu. This method is a calculation used to obtain two-dimensional input, namely variables and indicators that are important (importance) and those that already have performance or performance and their effect on the dependent variable or those selected as target constructs in a research model. With these two dimensions, it can be distinguished which ones are considered important by respondents and which ones are considered not or not important, therefore this data can prevent managers from mistakes caused by assumptions alone.

IPMA analysis is carried out using a combination of descriptive analysis (mean performance) with inferential analysis (total effect). The step taken is to compile an importance table of the total effect value and then combine it with the performance value. From the average value of the two tables, vertical and horizontal lines can be made that can divide the image into 4 quadrants in a map or mapping display (Ringle & Sarsted, 2016). The importance value is located on the X axis in the IPMA image based on the total effects value, while the performance value is on the Y axis. Through IPMA analysis in the form of mapping, it can be seen that the position of variables and indicators has shown good performance and needs to be maintained and which still need to be improved. The results of the IPMA calculation can be divided into IPMA constructs and IPMA indicators in more detail, as described below.

Table 13. Importance and Performance Value of Constructs

Variables	Construct Importance	Construct Performances
Marketing mix	0.276	64.209
Hospital brand image	0.164	67.771
Patient satisfaction	0.667	56.848
Mean	0.369	62.943

Source: PLS-SEM data processing results (2024)

From Table 13 above, it can be seen that the average value (mean) for the importance and performance of the patient loyalty construct. The mean for importance is 0.369 and the mean for performance is 62.943. From this data, 2 lines

can be drawn so that 4 quadrants can be grouped in the mapping graph as in the graph below. Through this IPMA analysis, it can be seen what variables have shown good performance and need to be maintained and what factors still need to be improved. By knowing the position of the variables in each quadrant below, suggestions can be given on what should be prioritized by RSIA management so that it can allocate its resources.
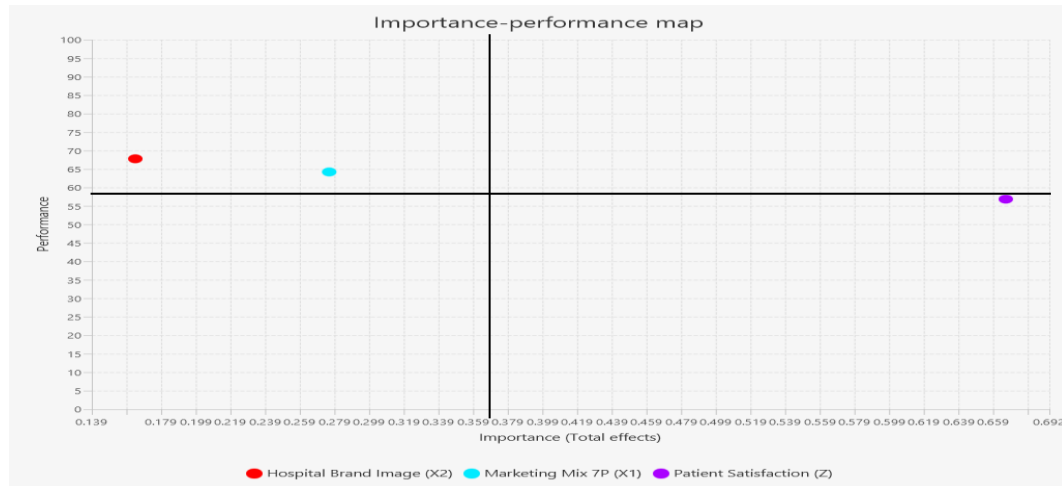

Figure 5. Construct IPMA Results
Source: PLS-SEM data processing results (2024)

From the IPMA output graph above, it can be seen that for the target construct of the research model, namely Patient loyalty, in the lower right quadrant there is a patient satisfaction variable, which means that in the eyes of patients this variable is considered important but has performance below the average (low performance). Therefore, management needs to immediately prioritize improving or increasing patient-centered services (patient centredness), among others, by paying attention to what factors can increase satisfaction. This important finding needs to be followed up in more detail because patients who are less satisfied with their services or interactions with medical personnel can be detrimental to the hospital.

More in-depth analysis can be done at the IPMA Indicator level. The table shows the mean values for the importance and performance of the Patient loyalty construct for each indicator. The average indicator for importance is 0.094 and the average for performance is 63.385, the value below the average of this indicator can be considered low while above the average is considered high. From this data, 2 lines can be drawn so that in the mapping graph, 4 quadrants can be grouped as in the graph below.

Table 14. Importance and Performance Indicator Values

Variables	Indicator	Indicator Importance	Indicator Performances
Marketing mix	People	0.048	71.888

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	Physical_Evidence	0.050	64.982
	Place	0.042	60.931
	Price	0.046	63.761
	Process	0.047	68.124
	Product	0.052	57.377
	Promotion	0.043	62.439
Hospital brand image	HBI1	0.046	70.000
	HBI2	0.045	59.756
	HBI3	0.034	74.472
	HBI4	0.036	77.317
	HBI5	0.038	61.220
Patient satisfaction	PSA1	0.154	60.976
	PSA2	0.176	46.585
	PSA3	0.167	54.878
	PSA4	0.158	67.967
	PSA5	0.177	54.878
Mean		0.094	63.385

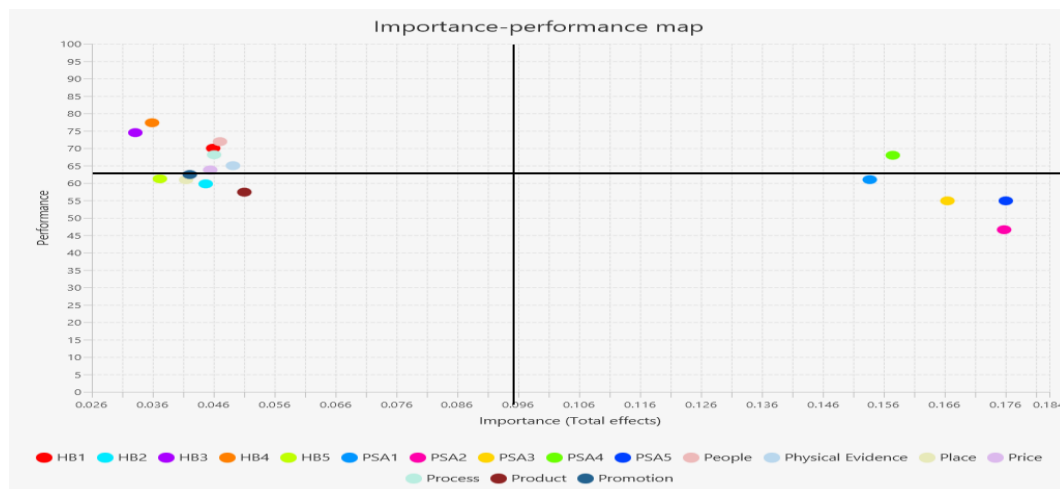Source: PLS-SEM data processing results (2024)

Figure 6. IPMA Indicator Results
Source: PLS-SEM data processing results (2024)

In the lower right quadrant in Figure 6 above, the position of indicators PS1, PS3, PS4, PS5 can be found, which in this quadrant means that they are considered important by respondents but have performance below the average. Therefore, indicators PS1, PS3, PS4, PS5 which contain respondents' responses that RSIA XYZ has sophisticated medical equipment and modern treatment facilities are not adequate. Therefore, this needs to be prioritized by RSIA management because it is considered important in the eyes of patients but has not shown adequate performance. Medical equipment and sophisticated equipment in this RSIA are important in the eyes of patients in that they can affect their assessment of the

obstetric services provided. In the future, RSIA management needs to prioritize and strive for modern medical equipment that can increase patient satisfaction.

PLS-POS Analysis

The first advance analytic performed is PLS-POS where this analysis is classified as latent class analysis which aims to identify the existence of classes or segments in the collected respondent data. The results of the comparison of R2 values can be seen in Table 14 below.

Table 14. R2 Value of PLS-POS Analysis Results

Variables	Original sample R-squares	Segment1	Segment2
Loyalty patient (Y)	0.445	0.359	0.942
Patient satisfaction (Z)	0.244	0.390	0.980

Source: PLS-SEM processed results (2023)

In Table 14. above, it can be seen that R2 in the Loyalty patient variable there is an increase in the R2 value in both segments 1 and 2. The R2 value for Loyalty patient in segment 1 is 0.359 and segment 2 is 0.942, both of these values can be categorized as strong explanatory power or substantial because it is above 0.75. This value is greater when compared to the original sample using the total sample with R2 of 0.244. However, different results were also found in the R2 value of the Patient satisfaction variable. Thus it can be said that this model has a stronger explanatory prediction or explanatory prediction ability when using a segment 1 or 2 sample.

Discussion

The focus of this research is on post partum patients provided by health care facilities, namely RSIA XYZ. Respondents are patients who have a history of labor or delivery at RSIA XYZ. In the proposed research model there are 4 variables with 3 hypotheses that have been tested. As the dependent variable in this model is patient loyalty while patient satisfaction as a mediating variable that connects 2 independent variables.

The results of this study indicate that the independent variables as marketing mix and hospital brand image as well as the mediating variable patient satisfaction have all been shown to have a significant and positive influence both directly and indirectly on patient loyalty. The strongest influence comes from patient satisfaction. Furthermore, patient satisfaction is proven to have a large and significant and positive impact on patient loyalty.

The findings of this study are in line with similar research on postpartum services in hospitals conducted by Yeo et al. (2021) where patient satisfaction has a significant influence on patient loyalty. The results of this study are also in line with previous studies conducted in different countries and different types of hospitals (Ricca & Antonio, 2021; Liu et al., 2021; Tan et al., 2019; Fatima et al, 2018), where a positive evaluation of patient satisfaction in hospitals was found. It was found that a positive evaluation of patient satisfaction in the hospital will encourage their intention to be loyal to the hospital.

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With these findings, managerial implications can be drawn up, namely the importance of RSIA XYZ management studying and measuring the level of patient satisfaction, especially from the aspect of his experience during treatment at RSIA XYZ. This is as input so that it can develop an effective service program and according to patient expectations. Patient expectations or expectations of quality health services also change with the times (Berry, 2019) so that they need to be adjusted by management in order to continue to have excellence in service. This study has a different approach by emphasizing aspects of satisfaction not only from the fulfillment or fulfillment of expectations or expectations but also from the aspect of satisfaction with the patient's experience when receiving services at RSIA XYZ. In the context of the health care industry, this will appear as a patient's intention to make the hospital a choice in the future, for example through revisit intetion or intent to recommend.

The findings of this study indicate that patient satisfaction has the strongest influence on patient loyalty, this is in accordance with the results of previous studies such as (Prakoesw et al., 2022), (Oktaria et al., 2023), (Fadhilah & Katmini, 2023), (Budiman & Achmadi, 2023), (Raharjo & Digdowiseiso, 2022), (Thanabordeekij & Syers, 2020), (Hayuningtyas, 2020) and (Elpawati et al., 2023) which says Patient satisfaction has a positive influence on Patient Loyalty. The study found that of all the factors studied, patient satisfaction has the most significant and strongest influence on patient loyalty. This means that when patients are satisfied with the services they receive at the hospital, they tend to become more loyal. This loyalty is reflected in various actions, such as the desire to return to that hospital in the future, recommending the hospital to others, and showing loyalty to the services provided by the hospital.

The marketing mix hypothesis and hospital brand image have a positive and significant effect on patient satisfaction. Previous research findings show a significant effect of marketing mix on patient satisfaction from (Simanjuntak et al., 2020), (Paradilla et al., 2021), (Alwinie et al., 2024), (Mondir et al., 2023) and (Wijaya & Stutejo, 2017).

The findings of previous research show that there is no significant effect of hospital brand image on patient satisfaction, this means that it does not support previous research from (Simanjuntak et al., 2020), (Paradilla et al., 2021), (Wijaya & Stutejo, 2017), (Prakoesw et al., 2022), (Vimla & Taneja, 2021), (Thanabordeekij & Syers, 2020) and (Amelia et al., 2024). Thus, in the business development of RSIA XYZ, these matters must be of concern to the management of RSIA XYZ. In addition to these findings, this study also makes a new contribution by showing that marketing efforts made through social media managed by RSIA XYZ need to be considered and evaluated.

CONCLUSION

This study focuses on the effect of marketing mix, hospital brand image, and patient satisfaction on patient loyalty at XYZ Hospital. Three hypotheses were empirically tested using survey data from respondents who received treatment at XYZ Hospital. Data analysis using PLS-SEM shows that marketing mix and hospital brand image have a positive and significant influence on patient satisfaction, and

patient satisfaction has a positive and significant influence on patient loyalty. This research model shows moderate predictive accuracy for patient loyalty, with patient satisfaction as a predictor that has a large effect. This study confirms the importance of patient satisfaction as a determinant of loyalty, in accordance with the concept developed by Kao et al. (2007). The findings suggest that RSIA XYZ management should prioritize improving memorable services, maintaining the hospital's reputation, paying attention to the emotional aspects of service, and optimizing digital marketing to increase patient loyalty. This study has limitations in generalizing the results due to a sample limited to one RSIA and data collection methods using online questionnaires. Further research is recommended to involve more RSIAs and use more diverse data collection methods.

REFERENCES

Alwinie, A. A., Nurhayati, P., & Sartono, B. (2024). The Role Of 7p Marketing Mix Toward Consumer Satisfaction And Loyalty Of Xyz Beauty Clinic. *Journal Of Consumer Sciences*, *9*(1), 40–62. Https://Doi.Org/10.29244/Jcs.9.1.40-62

Amelia, A. E., Nurnajamuddin, M., Semmaila, B., & Hasan, S. (2024). The Influence Of Marketing Mix, Service Quality , And Image On Trust And Satisfaction Of Inpatients In Makassar City Hospitals. *Rgsa – Revista De Gestão Social E Ambiental*, *18*(8), 1–18.

Amini, D. K., & Wiranatakusuma, D. B. (2020). The Influence Of Service Quality, Price, Corporate Image, And Location Towards Customer Satisfaction On Autocare Universitas Muhammadiyah Yogyakarta. *Journal Of Economics Research And Social Sciences*, *4*(1). Https://Doi.Org/10.18196/Jerss.040117

Budiman, C., & Achmadi, H. (2023). The Effect Of Marketing Mix On Patient Satisfaction And Their Impact On Patient Loyalty In Hospital Inpatients. *Jurnal Manajemen Kesehatan Indonesia*, *11*(1), 1–9. Https://Doi.Org/10.14710/Jmki.11.1.2023.1-9

Elpawati, Wiranthi, P. E., & Rahmawati, P. (2023). The Effect Of 9p And Brand Image On Loyalty Using The Structural Equation Modelling (Sem) Method Of Pls And Satisfaction Becomes An Intervening Variable. *Agribusiness Journal*, *15*(2), 24–28.

Fadhilah, W. K., & Katmini, K. (2023). Analysis Of Marketing Mix Relationships On Patient Satisfaction And Loyalty In The Laboratory Unit Of X Hospital In 2022. *Asian Journal Of Health And Applied Sciences*, *2*(1), 20–26. Https://Doi.Org/10.53402/Ajhas.V2i1.180

Hayuningtyas, P. (2020). The Impact Of Marketing Mix On Cunsomer Satisfaction And Customer Loyalty On Aqua Products. *Ekspektra : Jurnal Bisnis Dan Manajemen*, *4*(2), 83–103.

Oktaria, I. A., Rini, E. S., & Ginting, P. (2023). Effect Of Service Marketing Mix And Service Quality Through Customer Satisfaction On Customer Loyalty In Bank Btpn Zainul Arifin Medan. *International Journal Of Economic, Business, Accounting, Agriculture Management And Sharia Administration (Ijebas)*, *3*(4), 1095–1103. Https://Doi.Org/10.54443/Ijebas.V3i4.982

Paradilla, M., Maidin, A., Irwandy, Rivai, F., Sidin, I., & Syamsuddin. (2021). The

Analyzing the Impact of Marketing Mix and Hospital Brand Image on Patient satisfaction and Loyalty: A Study at XYZ Maternity Hospital

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Influence Of Brand Image, Marketing Mix And Satisfaction Towards Loyalty Of General Patients At Stella Maris Hospital, Makassar. *Journal Of Cardiovascular Disease Research (Journal Of Cardiovascular Disease Research)*, *12*(3), 77–85.

Prakoesw, C. R. S., Hidayah, N., & Dewi, A. (2022). A Scoping Review Of Research On Brand Image, Marketing Mix, Patient Hospital Satisfaction, And Loyalty In Indonesia. *Res Militaris*, *12*(2), 964–983.

Raharjo, P., & Digdowiseiso, K. (2022). The Influence Of Brand Image And Marketing Mix On Customer Loyalty Through Customer Satisfaction As An Intervening Variable At Kafe Titik Akhir Jakarta. *Budapest International Research And Critics Institute-Journal*, *5*(2019), 4754–4769.

Sekaran, U., & Bougie, R. (2020). *Research Methods For Business A Skill-Building Approach : Seventh Edition*. United Kingdom:John Wiley & Sons Ltd.

Simangunsong, B., Sitompul, D., & Sadalia, I. (2018). The Effect Of Marketing Mix On Loyalty Through Customer Satisfaction In Pt. Merck Tbk Cabang Medan. *Kne Social Sciences*, *3*(10), 486–496. Https://Doi.Org/10.18502/Kss.V3i10.3397

Simanjuntak, M., Sumarwan, U., & Situmorang, A. D. (2020). The Effect Of Marketing Mix And Brand Image On Customer Loyalty Of Remixed Mortar. *Independent Journal Of Management & Production*, *11*(2), 450. Https://Doi.Org/10.14807/Ijmp.V11i2.963

Thanabordeekij, P., & Syers, K. (2020). The Effect Of Marketing Mix Factors And Brand Image Toward Customer Satisfaction And Customer Loyalty Of Liquefied Petroleum Gas For House Use In Thailand. *Journal Of Asean Plus Studies*, *1*(1), 35–43.

Vimla, & Taneja, U. (2020). Navigating From Brand Image To Patient Loyalty: Mediating Effect Of Service Quality And Patient Satisfaction. *Journal Of Health Management*, *22*(3), 430–445. Https://Doi.Org/10.1177/0972063420937940

Vimla, V., & Taneja, U. (2021). Brand Image To Loyalty Through Perceived Service Quality And Patient Satisfaction: A Conceptual Framework. *Health Services Management Research*, *34*(4), 250–257. Https://Doi.Org/10.1177/0951484820962303

Wijaya, K., & Stutejo, A. R. D. (2017). Pengaruh Marketing Mix Dan Brand Image Terhadap Customer Satisfaction Dan Customer Loyalty Di Restoran X Surabaya. *Hospitality Dan Manajemen Jasa*, *1*(1), 342–355.