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Antecedents of the Marketing Mix and Brand Image on Willingness to Recommend

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Abstract: With the anticipated rise in the number of hospitals driven by population growth, increasing healthcare expenditure, and escalating lifestyle-related disease risks, the hospital industry is facing intensified competition. Patient recommendations play a crucial role in hospital marketing, heavily influenced by patient satisfaction with service quality and a hospital's positive image. However, many hospitals encounter challenges with patient reluctance to recommend. This study evaluates patient satisfaction and willingness to recommend, focusing on a new hospital in Tasikmalaya. The sample consisted of 300 outpatients over 18 years old who had been treated at least twice. Data were gathered through randomly distributed questionnaires and analyzed using PLS-SEM. The findings reveal that the marketing mix, brand image, and patient satisfaction significantly and positively impact willingness to recommend. While the marketing mix has a positive but not significant effect on patient satisfaction, brand image significantly enhances patient satisfaction. Additionally, the marketing mix and brand image positively and significantly influence willingness to recommend when mediated by patient satisfaction.

Keyword: Marketing Mix, Brand Image, Patient Satisfaction, Willingness to Recommend, Hospital

INTRODUCTION

Hospitals, as institutions providing health services, deliver a range of comprehensive care, including inpatient, outpatient, and emergency services (Ministry of Health Indonesia, 2021). They are pivotal in the development of health systems, addressing external pressures, systemic weaknesses, and sector deficiencies, thereby shaping a new vision for their roles across different regions. Beyond providing direct health services, hospitals support other health initiatives, ensure public access to health services, and actively engage in referral networks. They also coordinate and integrate care, and often serve as centers for health professional education and clinical research (Shimizu, 2020).

According to data from the Central Statistics Agency, the number of hospitals in Indonesia increased by 9.2% from 2,813 in 2018 to 3,072 in 2022. This growth is expected to

continue, driven by population growth, increased healthcare spending, and rising lifestyle-related disease risks, resulting in heightened competition within the hospital industry. In Tasikmalaya, a city in West Java Province, the healthcare infrastructure has seen rapid development, with two hospitals inaugurated within one month in late 2022 (Ministry of Health Indonesia, 2023). This growth intensifies the competitiveness of the healthcare industry in Tasikmalaya, compelling industry players to continuously improve service quality and innovate to maintain market share.

To remain competitive globally, hospitals must adopt marketing strategies that prioritize customers' needs, wants, and demands. The most universally developed marketing concept is the marketing mix, which encompasses the 4Ps: product, price, place, and promotion. This strategy often enhances customer experience and satisfaction. In this context, hospitals must align their marketing mix with patient requirements and desires to achieve satisfaction and foster loyalty and positive recommendations (Budiman & Achmadi, 2023). According to Sudari et al. (2019), the marketing mix (4P) positively affects patient satisfaction, which in turn influences their willingness to recommend the hospital. This underscores the importance of increasing patient visits for a hospital's survival in a competitive industry. Hospital managers must therefore focus on all service aspects that affect patient satisfaction. Wirtz & Lovelock (2021) define satisfaction as an attitude assessment following a purchase or series of interactions between the consumer and the product, resulting from perceived service meeting expected standards. Satisfaction is typically measured using independently prepared questionnaires, either electronically or on paper (Baquero, 2022).

Patient satisfaction with service quality significantly influences their willingness to recommend a hospital. Patient recommendations are a crucial form of marketing, yet hospitals often face patient reluctance to recommend. A study revealed that 20% of patients in 15 U.S. hospitals were unwilling to recommend their hospital, largely due to feeling rushed by healthcare providers and confusion over care instructions (Funk & Gramlich, 2020; Vyas et al., 2021). A study examining the inpatient care experiences of residents across hospitals found significant results. The indicators used for willingness to recommend in this research include patients' willingness to recommend the hospital to friends, family, and strangers. The highest correlation was observed in the patients' evaluation of hospital facilities concerning their willingness to recommend the hospital to their family members ($r = 0.655$) (Hendsun & Achmadi, 2022).

Facility assessment based on brand image generally reflects service quality. A strong brand image enhances public perception of hospital services, prompting improvements in service quality and fostering a willingness to recommend. Positive patient perceptions mitigate disappointment from poor healthcare experiences, aiding hospital marketing efforts to reverse negative perceptions (Rahman et al., 2018). Furthermore, brand experience plays a vital role in shaping consumer perceived value. This enhanced perceived value encourages positive electronic word-of-mouth (e-WOM) and increases consumers' willingness to pay more for the services provided (Tj & Widjaja, 2024). Effective provider-patient interactions, along with positive service outcomes, elevate patient expectations. Brand image and patient satisfaction are critical factors influencing patient loyalty and willingness to recommend (Putri et al., 2023). Therefore, this research aims to analyze the impact of the marketing mix and brand image on willingness to recommend, mediated by patient satisfaction in hospitals.

METHOD

This research was conducted at a newly established private hospital in Tasikmalaya City, West Java, Indonesia, utilizing an analytic observational approach. The study focused on patients who had visited the outpatient department more than once, and a sample of 300

respondents was selected. Data collection involved a comprehensive questionnaire covering the Marketing Mix, brand image, patient satisfaction, and willingness to recommend. The validity and reliability of the questionnaires were rigorously tested prior to deployment. The Marketing Mix encompasses various elements essential for the holistic planning and execution of marketing operations. Brand image pertains to consumer perceptions and the positive associations between the brand and its users. Patient satisfaction measures the fulfillment patients experience when comparing the received service performance with their expectations. Willingness to recommend assesses the likelihood of patients recommending the hospital to others. Data were gathered through face-to-face interviews, initiated only after respondents provided informed consent via signed forms. The analysis employed the Partial Least Squares Structural Equation Modeling (PLS-SEM) method, utilizing the SmartPLS™ version 4.1.0.6 software.

RESULTS AND DISCUSSION

This study involved 300 outpatient respondents, as detailed in Table 1. The sample was predominantly female, comprising 196 individuals (65.3%). The majority of respondents were aged 20-30 years, making up 149 individuals (49.67%), followed by those aged 31-40 years with 62 respondents (20.67%), and those aged 41-50 years with 31 respondents (10.33%). The largest educational group among the respondents was high school graduates, totaling 115 individuals (38.3%). Furthermore, the majority of respondents, 137 individuals (45.67%), were employed in the private sector.

Table 1. Respondents' Characteristics

Information	Item	Sample of Study	
		Total (n=300)	Percentage
Gender	Male	104	34.67%
	Female	196	65.30%
Age	<20 years old	9	3.00%
	20-30 years old	149	49.67%
	31-40 years old	62	20.67%
	41-50 years old	31	10.33%
	51-60 years old	27	9.00%
	61-70 years old	17	5.67%
	71-80 years old	5	1.67%
Education	Elementary school	21	7.00%
	Junior high school	40	13.30%
	Senior high school	115	38.30%
	Associate degree	22	7.30%
	Bachelor	102	34.00%
Occupation	Students	19	6.30%
	Entrepreneurs	29	9.60%
	Private Employees	137	45.67%
	Civil Servants	12	4.00%
	Housewives	101	33.67%
	Not Working	2	0.67%

Source: Research data

Validity and reliability testing were conducted on the outer model as the initial stage of this study. This testing phase aims to determine the relationships between latent variables and the indicators used to measure them. High outer loading values indicate that each indicator plays a significant role in measuring the relevant variable, ensuring that each indicator effectively represents the respective variables (Table 2).

Table 2. Valid indicators

Variable	Indicator	Indicator's Description	Outer Loading
Brand image	BI1	The hospital provides good	0.907
	BI2	Skilled doctors	0.877
	BI3	Advanced medical equipments	0.868
	BI4	Comfortable treatment rooms	0.828
Marketing mix	MM1	Doctor services meet patient needs	0.865
	MM2	Nurse services meet patient needs	0.891
	MM3	Administrative staff services	0.801
	MM4	Explanation of treatment plans	0.807
	MM5	Reasonable hospital fees	0.704
Patient's satisfaction	PS1	Doctor's explanations	0.867
	PS2	Nurse's services	0.876
	PS3	Hospital cleanliness	0.844
	PS4	Cashier service speed.	0.808
Willingness to recommend	WR1	Recommendations to friends	0.951
	WR2	Recommendations to family	0.970
	WR3	Recommendations to colleagues	0.979
	WR4	Recommendations to strangers	0.965

Source: Research data

The Average Variance Extracted (AVE) values for the variables brand image (0.758), marketing mix (0.666), patient satisfaction (0.491), and willingness to recommend (0.934) are all >0.5, indicating good convergent validity (Table 3). The Cronbach's Alpha values are 0.893 for brand image, 0.973 for the marketing mix, 0.871 for patient satisfaction, and 0.976 for willingness to recommend (Table 3). These results show that each measurement instrument used has high reliability.

Table 3. Cronbach's' Alpha and AVE

Variable	Cronbach's' Alpha	Average Variance Extracted (AVE)
Brand image	0.893	0.758
Marketing mix	0.873	0.666
Patient's satisfaction	0.871	0.721
Willingness to recommend	0.976	0.934

Source: Research data

Discriminant validity was assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio of Correlations (HTMT) in this study. The Fornell-Larcker results (Table 4) show that the marketing mix variable has an AVE root (0.816) greater than its correlation with patient satisfaction (0.796) and willingness to recommend (0.710), indicating that the discriminant validity of the marketing mix variable is met. The patient satisfaction variable has an AVE root (0.849) greater than its correlation with willingness to recommend (0.759), confirming that the discriminant validity of the patient satisfaction variable is also met.

Table 4. Fornell-Larcker

	Brand image	Marketing mix	Patient's satisfaction	Willingness to recommend
Brand image	0.870			
Marketing mix	0.718	0.816		
Patient's satisfaction	0.778	0.796	0.849	
Willingness to recommend	0.745	0.710	0.759	0.966

Source: Research data

Meanwhile, the HTMT values between the constructs "Brand Image," "Marketing Mix," and "Patient Satisfaction" are high, indicating that these constructs are closely related and consistent (Table 5).

Table 5. HTMT

	Brand image	Marketing mix	Patient's satisfaction
Marketing mix	0.811		
Patient's satisfaction	0.881	0.907	
Willingness to recommend	0.797	0.765	0.822

Source: Research data

The Variance Inflation Factor (VIF) values are mostly within the acceptable range of 1 to 3, indicating no significant multicollinearity issues among the independent variables (Table 6). However, the VIF for patient satisfaction with willingness to recommend slightly exceeds 3 at 3.601, indicating slight multicollinearity. This value is still acceptable for further analysis but should be considered when interpreting results.

Table 6. Multicollinearity Test

	Patient's Satisfaction	Willingness to Recommend
Brand image	2.063	2.717
Marketing mix	2.063	2.930
Patient's satisfaction		3.601

Source: Research data

The R-square value for patient satisfaction is 0.722, showing that the model explains 72.2% of the variation in patient satisfaction. The R-square value for willingness to recommend is 0.650, indicating that the model explains 65% of the variation in the willingness to recommend. This shows that the model has strong predictive ability for these variables (Table 7).

Table 7. Coefficient of Determination

Variable	R-square
Patient's satisfaction	0.722
Willingness to recommend	0.650

Source: Research data

Brand Image has an effect size of 0.317 on Satisfaction and 0.124 on Willingness to Recommend. Marketing Mix has an effect size of 0.420 on Satisfaction and 0.038 on Willingness to Recommend (Table 8). Additionally, Satisfaction has an effect size of 0.089 on Willingness to Recommend. These f-squared values illustrate the predictive power of each independent variable on the dependent variables, with higher values indicating greater influence.

Table 8. Effect Size

	Patient's Satisfaction	Willingness to Recommend
Brand image	0.317	0.124
Marketing mix	0.420	0.038
Patient's satisfaction		0.089

Source: Research data

For the Satisfaction variable, the RMSE is 0.538, MAE is 0.360, and Q^2_{predict} is 0.715, indicating good prediction accuracy with relatively low error (Table 9). For the Willingness to Recommend variable, the RMSE is 0.628, MAE is 0.435, and Q^2_{predict} is

0.611, also indicating fairly accurate predictions but with slightly higher error compared to Satisfaction. Overall, the high Q^2_{predict} values for both variables show that the model has substantial predictive ability.

Table 9. Predictive Relevance

	RMSE	MAE	Q^2_{predict}
Patient's satisfaction	0.538	0.360	0.715
Willingness to recommend	0.628	0.435	0.611

Source: Research data

Hypothesis testing was conducted and results shown in Table 10, each hypothesis tested shows significant support.

Table 10. Hypothesis Testing

Hypothesis	Variable	Coef.	P-value	T-statistics	Significance	Results
Direct Effect						
H1	Marketing mix → Willingness to recommend	0.198	0.006	2.545	Significant	Supported
H2	Brand image → Willingness to recommend	0.343	0.000	4.464	Significant	Supported
H3	Marketing mix → Satisfaction	0.491	0.000	10.173	Significant	Supported
H4	Brand image → Satisfaction	0.426	0.000	7.883	Significant	Supported
H5	Satisfaction → Willingness to recommend	0.335	0.000	3.995	Significant	Supported
Indirect Effect						
H6	Marketing mix → Satisfaction → Willingness to recommend	0.164	0.000	3.680	Significant	Supported
H7	Brand image → Satisfaction → Willingness to recommend	0.143	0.000	3.472	Significant	Supported

Source: Research data

Marketing Mix and Willingness to Recommend

The first hypothesis (H1) has a coefficient of 0.198 with a P-value of 0.006 and a T-statistic of 2.545, significantly supporting the hypothesis. This research aligns with the findings of Wardani et al. (2024), which demonstrated that elements such as product, people, process, and physical evidence significantly contribute to the willingness to recommend among 67 patients at RSGM Gusti Hasan Aman. The marketing mix was found to account for 55.6% of the desire to recommend, with other factors influencing the remainder. Similarly, a study on tourism in Samosir confirmed that the marketing mix plays a crucial role in fostering tourist loyalty (Azhar et al., 2019). Structural model analysis in this study indicates that the marketing mix has a significant and positive impact on the willingness to recommend. For hospital management, this implies the need to implement effective marketing mix strategies to boost patients' willingness to recommend hospital services.

Brand Image and Willingness to Recommend

The second hypothesis (H2) has a coefficient of 0.343 with a P-value of 0.000 and a T-statistic of 4.464, which is also significant and supports the hypothesis. This study is consistent with research in the ecotourism industry, which found a significant positive relationship between brand image and willingness to recommend (Huang et al., 2019). Patients in hospitals seek high-quality care, similar to how ecotourism visitors seek satisfying and safe experiences. A positive brand image meets these expectations, encouraging recommendations. Conversely, a study on a coffee shop revealed a non-significant negative

relationship between brand image and willingness to recommend (Bernarto et al., 2020). This discrepancy may arise from differences in products and consumer expectations; coffee shop consumers may have more diverse preferences and lower expectations of brand image compared to healthcare or tourism services. For hospital management, this highlights the importance of managing and strengthening brand image to increase patient satisfaction and, consequently, the likelihood of recommendations.

Marketing Mix and Satisfaction

The third hypothesis (H3) shows a coefficient of 0.491, a P-value of 0.000, and a T-statistic of 10.173, significantly supporting the hypothesis. This study aligns with research at Prima Vision Eye Hospital in Medan, where the product aspect of the marketing mix most significantly impacted patient satisfaction (Nasution et al., 2020). Similarly, a study at Medan Haji General Hospital found that price, place, people, and process play vital roles in outpatient satisfaction. Despite differing contexts, these studies collectively highlight the crucial role of the marketing mix in shaping patient satisfaction. For hospital management, this underscores the importance of enhancing marketing mix strategies, such as product quality, pricing, promotion, and distribution, to potentially elevate patient satisfaction levels (Lubis, 2023).

Brand Image and Satisfaction

The fourth hypothesis (H4) has a coefficient of 0.426 with a P-value of 0.000 and a T-statistic of 7.883, also significant and supportive. This research supports a meta-analysis indicating a strong, positive relationship ($r = 0.500$) between patient satisfaction and a hospital's brand image. A better brand image correlates with higher patient satisfaction, emphasizing the need for hospitals to build and maintain a positive brand image. Similar results were found in a study on consumers in supermarket Ho Chi Minh City, Vietnam (Dam & Dam, 2021), showing that a positive brand image is crucial in both healthcare and retail for enhancing satisfaction. For hospital management, this implies a focus on improving brand image to boost patient satisfaction.

Satisfaction and Willingness to Recommend

For the fifth hypothesis (H5), the coefficient is 0.335 with a P-value of 0.000 and a T-statistic of 3.995, showing significant support. The findings align with research conducted at a tertiary hospital in Egypt, where 79.2% of satisfied patients stated they would recommend the hospital to others (Farghaly et al., 2021). Additionally, a study on tourists in the United Arab Emirates demonstrated that satisfaction positively contributes to the intention to recommend (Eid et al., 2019). These results underscore that improving patient satisfaction directly increases their likelihood of recommending the hospital, suggesting that hospitals should focus on enhancing service quality, meeting patient needs, and building a positive brand image.

Satisfaction as a Mediator between Marketing Mix and Willingness to Recommend

The sixth hypothesis (H6) has a coefficient of 0.164, a P-value of 0.000, and a T-statistic of 3.680, also significant and supportive. Consistent with Budiman & Achmadi (2023), this study finds that patient satisfaction mediates the relationship between the marketing mix and willingness to recommend. By optimizing elements such as product quality, competitive pricing, accessibility, and effective promotion, hospitals can enhance patient satisfaction, which in turn predicts their willingness to recommend the hospital. In contrast, a study on Alfamart minimarkets found no significant mediation of satisfaction between price and consumer loyalty (Herawaty et al., 2022). This difference may be due to

variations in perceived value between healthcare and retail services. For hospital management, the implication is to enhance patient satisfaction by optimizing marketing mix elements to meet patient expectations.

Satisfaction as a Mediator between Brand Image and Willingness to Recommend

The seventh hypothesis (H7) has a coefficient of 0.143, a P-value of 0.000, and a T-statistic of 3.472, significantly supporting the hypothesis. Overall, all the hypotheses tested in this study show significant results, supporting the proposed hypotheses and indicating relevant influences among the variables studied. The study confirms that a better brand image enhances patient satisfaction, which positively influences their willingness to recommend. Research at a private hospital in Manado, Indonesia, showed that brand image significantly affects patient satisfaction and revisitation intention, with satisfaction mediating this relationship (Mandagi et al., 2024). A contrasting study on bank customers in Banjarnegara, Central Java, found no significant mediation of satisfaction between bank image and customer loyalty (Hayati et al., 2020). This may be due to differences in service contexts and customer types, where healthcare services are more personal and emotional. For hospital management, the focus should be on strengthening brand image and patient satisfaction to increase recommendations.

CONCLUSION

This study employs a research model where the marketing mix and brand image serve as independent variables, patient satisfaction functions as a mediator, and willingness to recommend acts as the dependent variable. Conducted within a hospital setting, the study aims to explore the impact of these variables in the context of healthcare services. The findings reveal that the marketing mix, brand image, and patient satisfaction exert a positive and significant direct effect on willingness to recommend. Although the marketing mix positively influences patient satisfaction, this effect is not significant. Conversely, brand image significantly and positively affects patient satisfaction. Additionally, the marketing mix and brand image positively and significantly impact willingness to recommend, with patient satisfaction acting as a mediator. The structural model evaluation indicates that the research model possesses a moderate level of predictive accuracy and substantial relevance to the dependent variable, willingness to recommend.

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