

## Predicting Patient Satisfaction in Dental Healthcare: The Influence of Service Quality, Price, and Location

Yohanes Tri Cahyadi<sup>✉1</sup>, Tin Agustina Karnawati, Teguh Widodo

<sup>1,2,3</sup> Master of Management, Postgraduate Program at Asia Institute of Technology and Business Malang, Indonesia

### Abstract:

Healthcare service quality plays a vital role in addressing competition among healthcare providers. For dental clinics, maintaining sustainability requires managerial strategies oriented toward enhancing patient satisfaction. This study aims to examine the effects of service quality, price, and location on patient satisfaction at ANT Dental Care. The population comprised all patients who had received treatment at ANT Dental Care. Using a purposive sampling technique, questionnaires were distributed to 193 active patients during the research period. The data were analyzed quantitatively using multiple linear regression, including validity and reliability testing, classical assumption testing (normality, multicollinearity, and heteroscedasticity), and hypothesis testing through the coefficient of determination ( $R^2$ ), t-test (partial), and F-test (simultaneous).

The results reveal that service quality, price, and location each have a positive and significant effect on patient satisfaction. Furthermore, simultaneously, service quality, price, and location significantly influence patient satisfaction at ANT Dental Care, as indicated by the F-test significance value below 0.05.

Keywords: Jakarta Composite Index (JCI), Cryptocurrency, Gold, Exchange Rate

Copyright (c) 2026 Yohanes Tri Cahyadi

<sup>✉</sup> Corresponding author:

Email Address: [yohanes.tc@gmail.com](mailto:yohanes.tc@gmail.com)



## INTRODUCTION

Health is a fundamental human need encompassing multiple dimensions of well-being, including oral health. Oral health significantly contributes to quality of life because it directly affects an individual's ability to eat, speak, and interact socially (World Health Organization [WHO], 2022). In many developing countries, including Indonesia, public awareness of dental care has increased alongside economic growth, urbanization, and broader access to health information. As a consequence, private dental healthcare providers have rapidly expanded, intensifying competition and forcing clinics to differentiate themselves through service excellence and patient-oriented management strategies.

Within healthcare services, patient satisfaction has become a primary indicator of organizational performance. Patient satisfaction reflects the overall evaluation of healthcare experiences rather than merely clinical treatment outcomes (Parasuraman et al., 1988). The patient-centered care approach emphasizes that satisfaction is formed through cumulative service encounters involving interpersonal interaction, service efficiency, cost perception,

and environmental comfort. Therefore, healthcare organizations must consider not only medical competence but also non-clinical factors that shape patient experiences.

The SERVQUAL framework identifies five dimensions determining perceived service quality: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). Empirical studies consistently confirm that service quality strongly influences patient satisfaction across healthcare settings (Kristina, 2020; Hidayat & Nuraini, 2023; Sebastian et al., 2024). However, healthcare satisfaction is multidimensional and not solely determined by service delivery. Perceived value theory suggests that satisfaction emerges when the perceived benefits of a service are comparable to the costs incurred (Kotler & Keller, 2016). Accordingly, price perception plays an important role in shaping satisfaction, especially in dental care where treatment is often considered discretionary by patients (Chen & Lee, 2023).

Accessibility also influences healthcare utilization and satisfaction. The location of healthcare facilities determines convenience, travel effort, and psychological comfort during treatment (Rodriguez et al., 2024). Studies in urban healthcare services demonstrate that proximity and ease of access significantly predict patient satisfaction (Li & Wang, 2023). Thus, service quality, price perception, and location collectively form a holistic healthcare experience.

Despite extensive research on healthcare satisfaction, previous studies tend to emphasize clinical quality as the dominant determinant. Some studies found service quality to be the main predictor (Kristina, 2020), others highlighted price sensitivity (Setyawati & Hanny, 2020), while several emphasized accessibility factors (Putri & Santoso, 2022). These inconsistent findings indicate a contextual relationship among determinants of satisfaction, particularly in primary dental healthcare settings.

In the digital era, patient perceptions are increasingly expressed through online platforms. Electronic word-of-mouth and digital reviews provide real-time representations of patient experiences and often align with formal institutional assessments. This convergence suggests that patient satisfaction should be examined using a comprehensive perspective that integrates clinical service performance and experiential factors such as affordability and accessibility.

Therefore, this study investigates the simultaneous influence of service quality, price, and location on patient satisfaction in a dental clinic setting. These variables represent three primary dimensions of healthcare experience: service interaction, economic value, and accessibility. By examining these determinants concurrently, the study aims to provide a more integrative understanding of patient satisfaction formation and offer strategic implications for healthcare service management in competitive urban environments.

Service quality is a major determinant of patient satisfaction in healthcare services. According to the SERVQUAL model, perceived service quality reflects patients' evaluation of tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). Prior studies consistently demonstrate that higher service quality leads to greater patient satisfaction (Kristina, 2020; Ekawarna et al., 2021).

**H1:** Service quality has a positive and significant effect on patient satisfaction.

Price reflects perceived value, defined as the trade-off between benefits received and costs incurred (Zeithaml, 1988; Kotler & Keller, 2016). In healthcare services, fair and affordable

pricing increases satisfaction because patients perceive the service as worth the cost (Natalia et al., 2024).

**H2:** Price has a positive and significant effect on patient satisfaction.

Location relates to accessibility and convenience in obtaining services. A strategic and easily accessible location improves comfort and reduces time and effort, thereby enhancing satisfaction (Lovelock & Wirtz, 2011; Akmal et al., 2022).

**H3:** Location has a positive and significant effect on patient satisfaction.

Service quality, price, and location jointly form the overall service experience that shapes satisfaction in healthcare services (Kotler & Keller, 2016).

**H4:** Service quality, price, and location simultaneously have a positive and significant effect on patient satisfaction.

## RESEARCH DESIGN AND METHODOLOGY

This study employed a quantitative research approach to examine the causal relationships among service quality, price, location, and patient satisfaction. A quantitative design was selected because it enables objective measurement and statistical testing of hypotheses regarding relationships between variables (Creswell & Creswell, 2017). The study followed an explanatory research design aimed at identifying and explaining the influence of independent variables on a dependent variable within a real service setting.

The research was conducted onsite at a dental healthcare provider during the period of November 2025 to January 2026. The population consisted of all patients who received dental treatment at the clinic within the last year. The sampling technique used was purposive sampling, selecting respondents who had direct experience with the service. The inclusion criteria included adult patients who had received treatment at least once and parents or guardians accompanying pediatric patients. A total of 193 respondents participated in the study, which provided sufficient statistical power for regression analysis.

Data were collected using structured questionnaires administered immediately after service completion to ensure responses reflected actual service experiences. The instrument consisted of two sections: respondent demographics and perception statements. All measurement items were evaluated using a five-point Likert scale ranging from strongly disagree to strongly agree.

Service quality was measured using the SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). Price was assessed based on affordability, price fairness, and cost transparency (Kotler & Keller, 2016; Zeithaml, 1988). Location was measured through accessibility, environmental comfort, and proximity to service users. Patient satisfaction was evaluated through perceived treatment outcomes, service experience, revisit intention, and willingness to recommend.

The data analysis employed multiple linear regression to determine both partial and simultaneous effects of the independent variables on patient satisfaction. Prior to hypothesis testing, instrument validity was examined using Pearson correlation and reliability using Cronbach's alpha coefficient. Classical assumption tests were conducted, including normality, multicollinearity, and heteroscedasticity testing to ensure the suitability of the regression model.

Hypothesis testing was performed using the coefficient of determination ( $R^2$ ), t-test for partial effects, and F-test for simultaneous effects at a 5% significance level. All statistical analyses were conducted using statistical software to ensure accuracy and reliability of results.

## RESULTS AND DISCUSSION

### Respondent Characteristics

**Table 1. Respondent Profile (n = 193)**

Variable	Category	Frequency	Percentage
Gender	Male	62	32.12%
	Female	131	67.88%
Age	<18	17	8.81%
	18-25	34	17.62%
	26-35	73	37.82%
	36-45	41	21.24%
	46-55	20	10.36%
	>55	8	4.15%

Most respondents were female (67.88%) and aged 26–35 years (37.82%), indicating that the clinic is predominantly utilized by young adult family decision-makers.

### Descriptive Statistics of Variables

**Table 2. Descriptive Statistics**

Variable	Mean	Category
Service Quality (X1)	3.38	Moderate
Price (X2)	3.36	Moderate
Location (X3)	3.29	Moderate
Patient Satisfaction (Y)	3.72	Good

Service quality, price, and location were perceived moderately, while patient satisfaction was rated good, indicating that overall experience remained positive despite moderate perception of individual service attributes.

### Validity and Reliability

**Table 3. Reliability Test**

Variable	Cronbach's Alpha	Interpretation
Service Quality	0.900	Excellent
Price	0.740	Reliable
Location	0.774	Reliable
Patient Satisfaction	0.744	Reliable

All measurement items were valid ( $r > 0.141$ ,  $p < 0.05$ ) and reliable ( $\alpha > 0.60$ ).

Table 4. Regression Coefficients

Variable	B	Beta	t	Sig.
Constant	3.779	-	4.794	0.000
Service Quality	0.162	0.534	10.396	0.000
Price	0.267	0.297	5.784	0.000
Location	0.266	0.306	6.103	0.000

Regression equation:

$$Y = 3.779 + 0.162X_1 + 0.267X_2 + 0.266X_3$$

All independent variables positively and significantly influence patient satisfaction.

Table 5. Hypothesis Testing (t-test)

Hypothesis	Result
H1: Service quality → satisfaction	Supported
H2: Price → satisfaction	Supported
H3: Location → satisfaction	Supported

Service quality, price, and location simultaneously affect patient satisfaction.

### Overall

**finding:**

Service quality, price, and location significantly and positively affect patient satisfaction, both partially and simultaneously, with service quality as the strongest predictor.

### Service Quality and Patient Satisfaction

The findings show that service quality has the strongest positive and significant effect on patient satisfaction ( $t = 10.396$ ,  $p < 0.05$ ). This confirms the SERVQUAL framework (Parasuraman et al., 1988), which explains satisfaction as the result of the gap between expectations and perceived performance. In dental care, patients are generally unable to evaluate technical treatment outcomes objectively; therefore, they rely more on functional quality such as communication, responsiveness, empathy, and professionalism.

This result is also consistent with Grönroos' functional quality concept and Expectancy Disconfirmation Theory (Oliver, 1980), where satisfaction emerges when service performance meets or exceeds expectations. The strong effect indicates that interpersonal interaction and service experience play a more decisive role than purely clinical outcomes. Similar evidence reported in previous healthcare studies suggests that assurance and empathy dimensions are dominant predictors of satisfaction. Thus, improving service interaction remains the primary strategy for enhancing patient satisfaction in dental healthcare.

### Price and Patient Satisfaction

Predicting Patient Satisfaction in Dental Healthcare: The Influence of Service Quality .....

DOI : 10.37531/ecotal.v7i1.3603

Price also shows a positive and significant influence on satisfaction ( $t = 5.784$ ,  $p < 0.05$ ), although weaker than service quality. This supports perceived value theory (Zeithaml, 1988), which states that satisfaction depends on the trade-off between benefits received and costs incurred. Patients evaluate not only affordability but also fairness and transparency of fees.

In healthcare services, price often acts as a signal of quality (Monroe, 2003). A reasonable and transparent price strengthens trust and increases perceived value, while unfair pricing reduces satisfaction even when service quality is good. The findings therefore indicate that patients assess dental services through a “value for money” perspective rather than purely low-price orientation. Consequently, pricing strategies should focus on fairness and clarity rather than price reduction alone.

### **Location and Patient Satisfaction**

Location significantly affects satisfaction ( $t = 6.103$ ,  $p < 0.05$ ), indicating the importance of accessibility and convenience. According to service marketing theory (Zeithaml et al., 2013), place in services includes accessibility and servicescape conditions. Dental treatment requires physical presence and repeated visits, making convenience a critical factor in patient evaluation.

This result aligns with spatial interaction and servicescape theories (Bitner, 1992), where ease of access, parking availability, and environmental comfort influence emotional responses and satisfaction. Patients tend to prefer providers requiring less time and effort to reach, especially for routine or emergency treatment. Therefore, accessibility functions as a practical determinant of satisfaction beyond clinical performance.

### **Simultaneous Effects of Service Quality, Price, and Location**

The simultaneous test ( $F = 70.140$ ,  $p < 0.05$ ) confirms that service quality, price, and location collectively determine patient satisfaction. Satisfaction in healthcare is multidimensional and formed through the overall service experience rather than a single attribute. High service quality increases positive perception, fair pricing strengthens value evaluation, and convenient location reduces effort, together creating a holistic experience.

The coefficient of determination ( $R^2 = 0.527$ ) indicates that more than half of satisfaction variation is explained by these three variables. This supports consumer behavior theory that satisfaction results from cumulative evaluation of multiple service attributes. Practically, improving only one aspect is insufficient; balanced management of service performance, pricing fairness, and accessibility is necessary to achieve sustainable patient satisfaction.

## **CONCLUSION**

This study examined the influence of service quality, price, and location on patient satisfaction at a dental healthcare provider using a quantitative explanatory approach. The empirical findings demonstrate that all three variables significantly contribute to the formation of patient satisfaction, both individually and simultaneously.

First, service quality was found to have the strongest positive and significant effect on patient satisfaction. This indicates that patients primarily evaluate dental healthcare services through their direct service experience, including communication, responsiveness, professionalism, and interpersonal interaction. The result confirms that functional service

performance is the dominant determinant of satisfaction in healthcare services where patients have limited ability to assess technical treatment outcomes.

Second, price also showed a positive and significant effect on patient satisfaction. Patients do not merely assess affordability but evaluate the fairness and appropriateness of cost relative to the benefits received. This finding emphasizes that perceived value and price transparency play an important role in shaping satisfaction in private dental healthcare services.

Third, location significantly influenced patient satisfaction. Accessibility, travel convenience, and environmental comfort contribute to a positive service experience. Because dental treatment requires physical visits and often repeated appointments, convenience becomes an essential factor in patient evaluation.

Simultaneously, service quality, price, and location explained a substantial proportion of patient satisfaction. This confirms that satisfaction in healthcare services is multidimensional and formed through the integration of experiential, economic, and accessibility factors. Improving only one aspect is insufficient; healthcare providers must manage these attributes in a balanced and coordinated manner to achieve optimal satisfaction outcomes.

## References :

- Adams, J. S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, 2, 267–299. [https://doi.org/10.1016/S0065-2601\(08\)60108-2](https://doi.org/10.1016/S0065-2601(08)60108-2)
- Akbar, F. H., & Parvez, N. (2019). Impact of service quality on patient satisfaction in private dental hospitals in India. *Journal of Healthcare Management*, 21(3), 245–259. <https://doi.org/10.1177/0972063419875654>
- Al-Abri, R., & Al-Balushi, A. (2014). Patient satisfaction survey as a tool towards quality improvement. *Oman Medical Journal*, 29(1), 3–7. <https://doi.org/10.5001/omj.2014.02>
- Alhashem, A. M., Alquraini, H., & Chowdhury, R. I. (2017). Factors influencing patient satisfaction in primary healthcare clinics in Kuwait. *International Journal of Health Care Quality Assurance*, 24(3), 249–262. <https://doi.org/10.1108/09526861111125570>
- Aliman, N. K., & Mohamad, W. N. (2016). Linking service quality, patients' satisfaction and behavioral intentions: An investigation on private healthcare in Malaysia. *Procedia – Social and Behavioral Sciences*, 224, 141–148. <https://doi.org/10.1016/j.sbspro.2016.05.419>
- Alrubaiee, L., & Alkaa'ida, F. (2017). The mediating effect of patient satisfaction in the patients' perceptions of healthcare quality–patient trust relationship. *International Journal of Marketing Studies*, 3(1), 103–127. <https://doi.org/10.5539/ijms.v3n1p103>
- Armstrong, G., Adam, S., Denize, S., & Kotler, P. (2014). *Principles of marketing*. Pearson.
- Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing*, 56(2), 57–71. <https://doi.org/10.1177/002224299205600205>
- Donabedian, A. (2005). Evaluating the quality of medical care. *The Milbank Quarterly*, 83(4), 691–729. <https://doi.org/10.1111/j.1468-0009.2005.00397.x>
- Fatima, T., Malik, S. A., & Shabbir, A. (2018). Hospital healthcare service quality, patient satisfaction and loyalty. *International Journal of Quality & Reliability Management*, 35(6), 1195–1214. <https://doi.org/10.1108/IJQRM-02-2017-0031>
- Grönroos, C. (2020). *Service management and marketing: Managing the service profit logic* (5th ed.). Wiley.
- Handayani, P. W., Hidayanto, A. N., & Budi, I. (2015). Patient satisfaction with hospital services: A study from Indonesia. *International Journal of Healthcare Management*, 8(3), 157–165. <https://doi.org/10.1179/2047971915Y.0000000014>

- Kotler, P., & Keller, K. L. (2012). *Marketing management* (14th ed.). Prentice Hall.
- Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.
- Lovelock, C., & Wirtz, J. (2011). *Services marketing: People, technology, strategy*. Pearson.
- McCarthy, E. J. (1960). *Basic marketing: A managerial approach*. Richard D. Irwin.
- Meesala, A., & Paul, J. (2018). Service quality, consumer satisfaction and loyalty in hospitals. *Journal of Retailing and Consumer Services*, 40, 261–269. <https://doi.org/10.1016/j.jretconser.2016.10.011>
- Monroe, K. B. (2003). *Pricing: Making profitable decisions* (3rd ed.). McGraw-Hill.
- Mosadeghrad, A. M. (2014). Factors influencing healthcare service quality. *International Journal of Health Policy and Management*, 3(2), 77–89. <https://doi.org/10.15171/ijhpm.2014.65>
- Naidu, A. (2019). Factors affecting patient satisfaction and healthcare quality. *International Journal of Health Care Quality Assurance*, 22(4), 366–381. <https://doi.org/10.1108/09526860910964834>
- Newsome, P. R. H., & Wright, G. H. (2016). Patient management: A review of patient satisfaction. *British Dental Journal*, 186(4), 166–170. <https://doi.org/10.1038/sj.bdj.4800052a>
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460–469. <https://doi.org/10.1177/002224378001700405>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41–50.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Rahma, A., & Wahyono, W. (2018). The influence of service quality, price, and location on patient satisfaction. *Management Analysis Journal*, 7(1), 88–97. <https://doi.org/10.15294/maj.v7i1.23590>
- Tjiptono, F., & Chandra, G. (2016). *Service, quality & satisfaction* (4th ed.). Andi.
- Xia, L., Monroe, K. B., & Cox, J. L. (2004). The price is unfair! A conceptual framework of price fairness perceptions. *Journal of Marketing*, 68(4), 1–15. <https://doi.org/10.1509/jmkg.68.4.1.42733>
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value. *Journal of Marketing*, 52(3), 2–22. <https://doi.org/10.1177/002224298805200302>
- Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2013). *Services marketing: Integrating customer focus across the firm* (6th ed.). McGraw-Hill Education