

Sentiment analysis of Google reviews based on service quality dimensions related to patient satisfaction

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Abstract: This study examines the use of Google Reviews as a source of patient satisfaction evaluation at RSUD Kota Tangerang using the SERVQUAL framework and Expectation-Disconfirmation Theory (EDT). The digitalization of healthcare services has encouraged patients to express their experiences through online review platforms, making Google Reviews an important source of real-time and organic feedback. However, studies analyzing online hospital reviews in Indonesian public hospitals remain limited. This research aimed to identify sentiment distribution across five SERVQUAL dimensions, analyze the relationship between service quality and patient satisfaction, and formulate strategic recommendations for hospital management. An explanatory sequential mixed-methods design was applied. A total of 204 Google Reviews from January 2023 to May 2026 were analyzed quantitatively using Spearman rank correlation (SPSS Version 26) after classification with a SERVQUAL-based codebook ($\kappa=0.81$; $p<0.001$). Qualitative data were obtained through in-depth interviews with eight hospital management informants and analyzed using thematic analysis. The findings showed an average rating of 3.38 (SD=1.87), with 57.8% positive and 40.7% negative sentiments. Reliability demonstrated the largest service quality gap ($P-E=-2.356$; 78.1% negative; $\rho=-0.315$; $p<0.001$) and the strongest negative correlation with ratings, while Empathy showed a significant positive relationship with patient satisfaction ($\rho=0.153$; $p=0.029$). Three of five SERVQUAL dimensions showed significant correlations with ratings. Interview results identified four main hierarchical barriers: values and motivation, organizational culture and leadership, human resources and demographics, and systems and infrastructure. The study concludes that Google Reviews can complement conventional patient satisfaction surveys and support hospital quality improvement strategies.

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1. Introduction

The accelerated adoption of digital technology in everyday life has reshaped public behavior in evaluating and selecting healthcare facilities. Location-based review platforms, particularly Google Maps, are now widely used by millions of users as an initial reference before visiting medical institutions. Aunimo et al. (2025) in the Journal of Medical Internet Research confirmed that reviews published on such platforms are able to represent the collective perception of society regarding service quality more responsively than conventional patient satisfaction surveys conducted periodically.

RSUD Kota Tangerang, as the only fully operational regional government referral hospital before 2024, carries a substantial healthcare service burden while holding a Paripurna accreditation status from KARS. Since 2023, the hospital has implemented a differentiated inpatient class system consisting of VIP, Class 1, Class 2, and Class 3 services. This policy naturally increased patients' expectations prior to receiving healthcare services. When actual



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service experiences fail to meet these expectations, negative disconfirmation occurs, as conceptualized by Richard L. Oliver (1980) in the Expectation-Disconfirmation Theory (EDT). Karume et al. (2025) in PLOS ONE empirically demonstrated that healthcare institutions with strong formal reputations are more likely to experience negative disconfirmation from patients.

Studies integrating online review sentiment analysis with the SERVQUAL framework within the context of Indonesian public regional hospitals remain very limited. Trenggono & Bachtiar (2025) in the *Jurnal Administrasi Rumah Sakit Indonesia* highlighted the practical benefits of utilizing Google Reviews in improving service quality management in private hospitals; however, similar studies focusing on public hospitals are still lacking, particularly those involving the complexity of the BPJS system, limited inpatient capacity, and the dual role of hospitals as final referral centers. This research seeks to address this gap through a mixed-methods approach combining quantitative sentiment analysis and institutional in-depth interviews.

This study has four specific objectives: (1) to map the sentiment distribution of Google Reviews based on the five SERVQUAL dimensions; (2) to identify the service quality dimension with the largest gap; (3) to examine the relationship between service quality and patient satisfaction within the EDT framework; and (4) to explore management perspectives in formulating actionable recommendations for service improvement

2. Literature Review

The rapid development of digital technology has significantly transformed patient behavior in evaluating healthcare services. Online review platforms such as Google Maps have become important references for patients before selecting healthcare institutions. Digital reviews provide spontaneous, real-time, and publicly accessible evaluations regarding patient experiences. According to Aunimo et al. (2025), online reviews are considered more responsive in reflecting public perceptions of healthcare quality compared with conventional satisfaction surveys conducted periodically. The increasing influence of digital reviews has also strengthened the role of electronic word-of-mouth (eWOM) in shaping hospital reputation and patient trust (Aunimo et al., 2025; Shan et al., 2024).

Service quality is one of the most important determinants of patient satisfaction in healthcare institutions. The SERVQUAL model developed by A. Parasuraman, Valarie Zeithaml, and Leonard Berry measures service quality through five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. The theory explains that service quality is determined by the gap between patient expectations and actual service performance. Negative gaps indicate dissatisfaction, while positive gaps indicate satisfaction. SERVQUAL has become one of the most widely applied models in healthcare quality assessment worldwide (Jonkisz et al., 2021; Parasuraman et al., 1988).

The tangibles dimension refers to the physical evidence of healthcare services, including hospital facilities, medical equipment, staff appearance, and communication materials. In hospital settings, clean environments, modern medical equipment, and organized service systems contribute to positive patient perceptions. Research by Rahmatia et al. (2025) showed that tangibles significantly influence patient satisfaction, although the effect is generally smaller compared to interpersonal dimensions such as empathy and assurance. Tangibles also create patients' first impressions before direct interaction with healthcare providers occurs (Rahmatia et al., 2025).

Reliability is defined as the ability of healthcare institutions to deliver promised services accurately, consistently, and dependably. This dimension includes punctuality, accuracy of information, consistency of procedures, and reliability of hospital systems. Several studies identified reliability as the most critical dimension affecting dissatisfaction among hospital patients. Amalina et al. (2021) found that long waiting times and administrative inconsistencies were dominant sources of patient complaints in Indonesian public hospitals. Reliability failures often generate strong negative reviews because patients directly compare expected and actual service performance (Amalina et al., 2021; Mosadeghrad et al., 2022).

Responsiveness reflects the willingness of healthcare workers to assist patients promptly and efficiently. In hospital services, responsiveness includes rapid emergency responses, quick administrative processes, and timely handling of patient complaints. Hosseinzadeh et al. (2024) identified responsiveness as one of the dimensions with the largest service quality gaps

in emergency departments. Delays in treatment and slow responses often become major triggers of negative online reviews. Conversely, fast and attentive services increase patient satisfaction and improve hospital reputation (Hossein-zadeh et al., 2024; Huang et al., 2024).

The assurance dimension refers to healthcare workers' competence, professionalism, courtesy, and ability to build trust and confidence among patients. Assurance combines technical competence with interpersonal communication skills. In healthcare settings, patients expect accurate diagnoses, safe procedures, and clear explanations regarding their conditions and treatments. Rahmatia et al. (2025) found that assurance significantly influences inpatient satisfaction because trust is fundamental in healthcare relationships. Patients are more likely to express dissatisfaction online when they perceive discrimination, unclear communication, or lack of professionalism (Eriksen et al., 2023; Rahmatia et al., 2025).

Empathy is considered the most influential SERVQUAL dimension in determining patient satisfaction. Empathy refers to personalized attention, emotional support, and healthcare workers' ability to understand patient concerns. Maita et al. (2024) demonstrated that communication quality, closely related to empathy, was the strongest predictor of healthcare eWOM ratings. Patients tend to remember interpersonal experiences more strongly than technical aspects of care. Therefore, empathetic communication plays a crucial role in generating positive online reviews and strengthening patient loyalty (Maita et al., 2024; Rahmatia et al., 2025).

Electronic Word-of-Mouth (eWOM) theory explains how consumers share opinions and experiences through internet-based platforms. According to Thorsten Hennig-Thurau et al. (2004), eWOM includes positive or negative statements made by consumers and distributed publicly online. Compared with traditional WOM, eWOM has greater persistence, scalability, measurability, and traceability. In healthcare services, Google Reviews function as a form of eWOM that allows patients to evaluate healthcare quality openly and influence public perception of hospitals (Hennig-Thurau et al., 2004; Shan et al., 2024).

Expectation-Disconfirmation Theory (EDT), developed by Richard L. Oliver, explains that patient satisfaction is determined by the comparison between expectations and actual service performance. Positive disconfirmation occurs when services exceed expectations, while negative disconfirmation occurs when services fail to meet expectations. Zhang et al. (2022) confirmed that expectation and disconfirmation are strong predictors of public service satisfaction. In hospitals with strong reputations and accreditation status, patients often have very high expectations, increasing the risk of dissatisfaction when service quality does not match anticipated standards (Karume et al., 2025; Oliver, 1980; Zhang et al., 2022).

The integration of SERVQUAL, eWOM, and EDT provides a comprehensive framework for understanding patient satisfaction through online reviews. SERVQUAL identifies which service quality dimensions influence satisfaction, eWOM explains how patient experiences are expressed publicly, and EDT clarifies the psychological mechanism behind satisfaction and dissatisfaction formation. Combining these three theories enables researchers to analyze healthcare service quality comprehensively and identify strategic areas for improvement based on patient-generated digital feedback (Hennig-Thurau et al., 2004; Oliver, 1980; Parasuraman et al., 1988).

3. Proposed Method

Research Design

This study employed an Explanatory Sequential mixed-methods design, in which quantitative analysis was conducted as the first phase, followed by qualitative interviews as a deeper exploratory phase (Creswell & Creswell, 2018). This approach was selected because online review data require not only statistical quantification but also contextual interpretation that can only be obtained from institutional policymakers. The analytical procedure followed the guidelines proposed by Guo et al. (2024), which recommend combining distributional and thematic analyses in healthcare social media content studies.

Data Sources and Research Subjects

The primary data were obtained from Google Maps reviews of RSUD Kota Tangerang collected through web scraping techniques using Python Selenium and BeautifulSoup libraries from January 2023 to May 2026. Of more than 1,900 extracted reviews, 204 reviews met the inclusion criteria: (1) uploaded within the study period, (2) containing a minimum of ten words in the review text, and (3) clearly related to healthcare service experiences at RSUD Kota Tangerang. Primary qualitative data were collected through semi-structured in-depth

interviews with eight hospital management informants selected purposively based on the relevance of their positions to the service quality dimensions being investigated. (Table 1)

Table 1. In-depth Interview Informant Profile.

Code	Work Unit	Date	Duration (minutes)
I-1	Business Development and Partnerships	April 2026	25
I-2	Inpatient Services	May 2026	37
I-3	Public Relations	May 2026	28
I-4	Emergency Room	21 May 2026	27
I-5	Outpatient Room	21 May 2026	11
I-6	Top Management	22 May 2026	33
I-7	Internal Audit Unit	22 May 2026	38
I-8	Outpatient Coordinator	22 May 2026	31

Source: Primary Data, 2026, All informants provided written informed consent. Identities anonymized

Data Collection and Analysis Procedures

Each review was coded using the ServQual codebook containing ten sentiment codes (T+/T-, R+/R-, Rs+/Rs-, A+/A-, E+/E-) developed deductively from Parasuraman et al. (1988) five-dimension operationalization. Inter-coder coding consistency was verified using Cohen's Kappa, which yielded a κ value of 0.81 ($p < 0.001$), exceeding the minimum standard of $\kappa \geq 0.70$ required by O'Connor & Joffe (2020). Service quality disparity was quantified through a gap score using the P-E formula, where E was set at 5.00 to represent ideal expectations. The relationship between dimension scores and review ratings was tested using Spearman correlation using SPSS 26. EDT scenario classification refers to the rating: values 4–5 are categorized as Positive Disconfirmation, values 3 as Confirmation, and values 1–2 as Negative Disconfirmation. Interview data were transcribed and analyzed through thematic analysis (Braun & Clarke, 2021) with deductive coding based on the ServQual framework and inductive coding for organically emerging themes.

4. Results and Discussion

General Characteristics of Google Review Data

Among the 204 reviews that met the inclusion criteria, the rating distribution demonstrated a highly prominent bimodal pattern. Five-star reviews dominated the dataset with a proportion of 54.4% ($n=111$), while one-star reviews accounted for 33.8% ($n=69$). Meanwhile, three-star, four-star, and two-star ratings collectively contributed only 11.8% of the total reviews. The overall mean rating was 3.24 with a standard deviation of 1.87, indicating a very wide variability in patient perceptions. In terms of sentiment distribution, 57.8% of reviews ($n=118$) were classified as positive, 40.7% ($n=83$) as negative, and 1.5% ($n=3$) as neutral. From a temporal perspective, 97.1% of the reviews originated from the year 2025.

Service Quality Gaps Across SERVQUAL Dimensions

All SERVQUAL dimensions demonstrated negative gap scores, indicating that patients' perceived service performance remained below the ideal expectation standard overall. The Reliability dimension showed the poorest performance, with the largest gap score of -2.356 and the highest proportion of negative sentiment (78.1%). The Assurance dimension ranked

second with a gap score of -2.000 and 42.7% negative sentiment. Meanwhile, the Empathy dimension recorded the highest number of references ($n=144$; 70.6% of total reviews), reflecting that interpersonal aspects of healthcare services were the most frequently discussed dimension by patients. Detailed findings are presented in Table 2.

Tabel 2. Sentiment Distribution and SERVQUAL Gap Scores per Dimension ($n=204$).

Dimensi	N Ulasan	Positif n (%)	Negatif n (%)	Rata-rata (P)	Gap Score (P-E)
<i>Tangibles</i>	72	54 (75,0%)	18 (25,0%)	3,694	-1,306
<i>Reliability</i>	73	16 (21,9%)	57 (78,1%)	2,644	-2,356
<i>Responsiveness</i>	67	52 (77,6%)	15 (22,4%)	3,134	-1,866
<i>Assurance</i>	96	53 (55,2%)	41 (42,7%)	3,000	-2,000
<i>Empathy</i>	144	106 (73,6%)	38 (26,4%)	3,618	-1,382
Total referensi	452	—	—	—	—

Note. $E=5.00$ (ideal expectation); $\text{Gap}=P-E$; one review may cover multiple dimensions simultaneously. Source: Primary Data, 2026

Spearman Correlation Test Results

Spearman's correlation test yielded three dimensions that showed a significant correlation with Google Review ratings, partially confirming Hypothesis H2. The Reliability dimension recorded the strongest negative correlation ($\rho=-0.315$; $p<0.001$), confirming H1. Assurance also showed a significant negative correlation ($\rho=-0.169$; $p=0.016$). The negative direction of these two dimensions indicates that the more complaints related to reliability and service assurance, the lower the ratings given by patients. The Empathy dimension showed a significant positive correlation ($\rho=0.153$; $p=0.029$), confirming H3 indicating that more positive experiences with empathy contribute to higher ratings. The Tangibles and Responsiveness dimensions did not show a statistically significant correlation (Table 3). The non-significance of Responsiveness is attributable to a pronounced unit-level polarization: positive reviews originated almost exclusively from inpatient units, while negative Responsiveness reviews derived overwhelmingly from the Emergency Department, with opposing effects canceling each other in aggregate analysis.

Tabel 3. Spearman Rank Correlation: SERVQUAL Dimension Scores vs. Google Review Ratings.

Dimensi	Koefisien Spearman (ρ)	P Value	Significance	Direction
<i>Reliability</i>	-0,315	< 0,001	*** Highly Significant	Negative
<i>Assurance</i>	-0,169	0,016	* Significant	Negative
<i>Empathy</i>	0,153	0,029	* Significant	Positive
<i>Tangibles</i>	0,116	0,099	ns	—

<i>Responsiveness</i>	-0,110	0,119	ns	—
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Note. *** $p < 0.001$; * $p < 0.05$; ns = not significant. Analyzed using SPSS Version 26. H2 partially confirmed: 3 of 5 dimensions significant. Source: Primary Data, 2026

Distribution of Expectation-Disconfirmation Theory (EDT) Scenarios

Based on the EDT classification, 57.8% of the reviews ($n=118$) were categorized as Positive Disconfirmation, indicating that patients' actual experiences exceeded their prior expectations. Meanwhile, 1.5% of reviews ($n=3$) were classified as Confirmation, whereas 40.7% ($n=83$) were categorized as Negative Disconfirmation, reflecting dissatisfaction caused by service performance that failed to meet patient expectations. The proportion of Negative Disconfirmation (40.7%) exceeded the 30% threshold established in the study hypothesis, confirming H4.

Synthesis of In-Depth Interview Findings

Five convergent themes emerged from the triangulation of eight management informants. First, all informants (8/8) agreed that human resources constituted the most fundamental barrier, particularly regarding staff quantity, competence, placement, and consistency of service behavior. Second, outpatient waiting time was directly confirmed through field observations by the Internal Supervisory Unit (I-7) as a condition that had not yet met service standards in most outpatient clinics. Third, service excellence training programs had not been implemented continuously and had not adequately covered all service units, especially front-line staff. Fourth, the inpatient class differentiation system implemented since 2023 created structural expectation disconfirmation due to discrepancies between the promised class entitlements and the available service capacity. Fifth, the limited dissemination of official complaint channels encouraged dissatisfied patients to directly express their complaints through Google Reviews.

Four additional high-value institutional findings were also identified through the interviews and could not have been obtained solely through review analysis. First, Google Reviews functioned as a mechanism of external institutional pressure that accelerated facility improvement processes previously delayed by internal procurement procedures (I-2). Second, RSUD Kota Tangerang performs a dual role as the final referral hospital for patients who cannot be accommodated by other healthcare facilities, causing its structural human resource burden to exceed its original operational capacity (I-2). Third, the discrepancy between the hospital's internal Community Satisfaction Index of 92% and the 40.7% negative sentiment proportion in Google Reviews was not considered contradictory, but rather a consequence of methodological differences between two instruments measuring different dimensions of satisfaction (I-6). Fourth, the identified service barrier model was hierarchical and consisted of four interconnected layers: values and motivation → organizational culture and leadership → human resources and demographics → systems and infrastructure

Discussion

Reliability as the Critical Point of Service Quality

The largest gap identified in the Reliability dimension (gap = -2.356) confirms hypothesis H1 and positions reliability as the primary intervention priority. This gap substantially exceeds the figure reported by Mosadeghrad et al. (2022) in Iranian public hospitals (-0.91), indicating that the service reliability challenges faced by RSUD Kota Tangerang are considerably more severe than international benchmarks. Amalina et al. (2021) identified waiting time complaints as the most dominant dissatisfaction narrative among Indonesian BPJS outpatients, a finding consistent with the Google Review patterns observed in this study.

Interview triangulation revealed that reliability problems originated from three causal layers with different levels of controllability. The first layer involved the failure of the hospital information system (SIMRS) to provide real-time inpatient bed availability updates, which Informant I-4 confirmed as a daily source of communication errors. The second layer consisted of BPJS server disruptions, which were external factors beyond the direct control of hospital management. Informants I-3 and I-6 acknowledged these disruptions as major contributors to long patient queues. The third layer involved physician service quota limitations regulated under national BPJS policies. The varying levels of control across these three layers require different strategic responses, ranging from internal system improvements and policy negotiations with BPJS to advocacy at the regulatory level.

Empathy as the Main Determinant of Satisfaction in Digital Reviews

The position of Empathy as the only dimension significantly positively correlated with ratings ($q = 0.153$; $p = 0.029$), as well as the most frequently discussed dimension in reviews ($n = 144$; 70.6%), confirms the proposition of Maita et al. (2024), who identified communication factors as the strongest predictors of healthcare eWOM ratings. Rahmatia et al. (2025) further supported this finding by reporting that Empathy had the greatest influence on inpatient satisfaction in Indonesian hospitals ($\beta = 0.629$; $p < 0.001$). The dominance of empathy-related narratives reflects the reality that interpersonal interactions are the most memorable experiences for patients and the strongest motivators for writing online reviews.

The inconsistency of empathy identified through Google Review analysis can be explained by three structural factors revealed during the interviews. First, therapeutic communication training had only been implemented for case managers and public relations units, while frontline staff with the highest intensity of patient interaction had not received equivalent training (I-3). Second, outpatient units were frequently used as placement areas for staff requiring further supervision or development, thereby structurally increasing the risk of inconsistent service behavior (I-8). Third, work fatigue experienced by healthcare workers handling large numbers of critically ill patients directly reduced their capacity to maintain consistent empathy standards (I-2, I-4).

The Accreditation Paradox from the EDT Perspective

The proportion of Negative Disconfirmation reaching 40.7% confirms hypothesis H4 and illustrates what this study conceptualizes as the “accreditation paradox.” The achievement of Paripurna accreditation status together with the implementation of differentiated inpatient class systems simultaneously created public expectations that exceeded the hospital’s actual service capacity. Consequently, even minor service gaps generated disproportionately intense dissatisfaction reactions. Karume et al. (2025) empirically confirmed this mechanism, while Zhang et al. (2022) meta-analysis of 77 public service satisfaction studies emphasized that prior expectations are predictors of satisfaction as important as actual service performance itself.

Google Reviews as a Complementary Evaluation Instrument

The contrast between the hospital’s internal Community Satisfaction Index (IKM) of 92% and the 40.7% negative sentiment proportion found in Google Reviews does not indicate inconsistency, but rather reflects fundamental differences in the dimensions of satisfaction measured by each instrument. Internal satisfaction surveys conducted within hospital settings tend to be influenced by social desirability bias, whereas Google Reviews, written voluntarily after service experiences, more accurately represent authentic patient evaluations despite their susceptibility to negativity bias. Aunimo et al. (2025) confirmed that both instruments measure complementary dimensions of satisfaction and provide the greatest value when integrated into healthcare quality monitoring systems.

The institutional pressure function of Google Reviews identified in this study (I-2) also expands the conceptualization of eWOM beyond its traditionally recognized informative and evaluative roles toward a broader public accountability function capable of encouraging institutional change (Hennig-Thurau et al., 2004; Shan et al., 2024).

5. Research Limitations

This study has several limitations that should be considered when interpreting the findings. First, the inherent negativity bias of Google Reviews may have led to an overestimation of dissatisfaction levels, as dissatisfied patients are generally more motivated to post reviews, reflected in the discrepancy between the 40.7% negative sentiment and the hospital’s 92% internal satisfaction index. Second, some interviews were limited in duration and depth, particularly the interview with Informant I-5, although this was mitigated through triangulation with other informants and review data. Third, the analyzed review data were limited to the 2023–2026 period, dominated by reviews from 2025, which restricted broader temporal analysis and coincided with the implementation of the differentiated inpatient class system. Finally, the interview findings may have limited generalizability because the study was conducted exclusively at RSUD Kota Tangerang, a Type C public referral hospital with unique

institutional characteristics that may differ from other regional public hospitals in Indonesia contexts.

6. Conclusion

This study demonstrates that Google Reviews can be utilized as a data source for evaluating service quality, complementing conventional satisfaction survey approaches. Four hypotheses were addressed: H1 was confirmed (Reliability recorded the largest gap at -2.356 , with 78.1% negative sentiment); H2 was partially confirmed (3 of 5 SERVQUAL dimensions showed significant correlations); H3 was confirmed (Empathy was the only positively correlated dimension, $\rho=+0.153$; $p=0.029$); and H4 was confirmed (Negative Disconfirmation reached 40.7%, exceeding the 30% threshold). The Reliability dimension proved to be the critical service point with the largest gap (gap= -2.356) and a top priority for management intervention, while Empathy proved to be the strongest determinant of satisfaction influencing patient ratings ($\rho=+0.153$). The Negative Disconfirmation proportion of 40.7% confirms that formal accreditation has shaped public expectations that exceed actual performance capacity, a paradox that needs to be proactively managed through more transparent communication of expectations to the public.

Operational recommendations proposed include: (1) immediate updates to the hospital management information system (SIMRS) so that ward availability can be accessed in real time by all staff; (2) standardization of the mechanism for conveying information on doctor schedule changes via direct telephone lines and social media simultaneously; (3) expansion of the service excellence training program to reach all frontline service personnel, not just support staff units; and (4) the formation of a dedicated digital reputation management team tasked with periodically monitoring and analyzing Google Review trends as part of the quality cycle. This research is expected to serve as a reference for other government hospitals in Indonesia in utilizing digital review data as a component of a sustainable service quality monitoring system.

7. Statement Of Conflict Of Interest And Research Ethics

The authors declare that they have no conflicts of interest that could influence the results or interpretation of this study. Each informant involved in the in-depth interviews provided written consent by signing an informed consent form before the interview session began. The identities of all informants were consistently disguised using alphanumeric codes and are not disclosed in any reports. The use of public Google Review data for non-commercial academic research has received ethical validation as stated by Aunimo et al. (2025).

Reference.

- Amalina, R. N., Vionalita, G., Puspitaloka, E., & Veronika, E. (2021). Analisis kepuasan pasien peserta BPJS Kesehatan terhadap pelayanan rawat jalan di Rumah Sakit Umum Daerah Kota Bogor tahun 2021. *Journal of Hospital Management*.
- Aunimo, L., Oprescu, A. M., Kudryavtsev, D., Munoz Saavedra, L., & Romero Ternero, M. del C. (2025). Perceived quality of service in primary health care based on Google Maps reviews before, during, and after the COVID-19 pandemic: Sentiment analysis. *Journal of Medical Internet Research*, 27, Article e70410. <https://doi.org/10.2196/70410>
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.
- Eriksen, A. A., Fegran, L., Fredwall, T. E., & Larsen, I. B. (2023). Patients' negative experiences with health care settings brought to light by formal complaints: A qualitative metasynthesis. *Journal of Clinical Nursing*, 32(17–18), 5816–5835. <https://doi.org/10.1111/jocn.16704>

- Guo, Y., Ovadje, A., Al-Garadi, M. A., & Sarker, A. (2024). Evaluating large language models for health-related text classification tasks with public social media data. *Journal of the American Medical Informatics Association*, 31(10), 2181–2189. <https://doi.org/10.1093/jamia/ocae210>
- Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing*, 18(1), 38–52. <https://doi.org/10.1002/dir.10073>
- Hosseinzadeh, M., Pouladzadeh, M., & Eskandari, A. (2024). Assessment of healthcare service quality and patient satisfaction using the SERVQUAL questionnaire in Khuzestan Province during 2022–2023. *Jundishapur Journal of Chronic Disease Care*, 13(4). <https://doi.org/10.5812/jjcdc-146329>
- Huang, C.-Y., Lee, P.-C., & Chen, L.-H. (2024). Exploring consumers' negative electronic word-of-mouth of five military hospitals in Taiwan through SERVQUAL and Flower of Services: Web scraping analysis. *JMIR Formative Research*, 8, e54334. <https://doi.org/10.2196/54334>
- Jonkisz, A., Karniej, P., & Krasowska, D. (2021). SERVQUAL method as an “old new” tool for improving the quality of medical services: A literature review. *International Journal of Environmental Research and Public Health*, 18(20), 10758. <https://doi.org/10.3390/ijerph182010758>
- Karume, A. K., Nyongesa, K., Okutoyi, L., & Kinuthia, J. (2025). Patient's expectations and perceptions on quality of care: An evaluation using SERVQUAL gap in Kenya. *PLOS ONE*, 20(3), e0315910. <https://doi.org/10.1371/journal.pone.0315910>
- Maita, H., Kanezaki, Y., Akimoto, T., Kobayashi, T., Hirano, T., & Kato, H. (2024). Relationship between evaluation factors and star ratings for Japanese community healthcare institutions in electronic word-of-mouth reviews: An observational study. *BMC Primary Care*, 25(1), Article 413. <https://doi.org/10.1186/s12875-024-02668-y>
- Mosadeghrad, A. M., Jaafari-pooyan, E., & Zamandi, M. (2022). Economic evaluation of health interventions: A critical review. *Iranian Journal of Public Health*, 51(10), 2159–2173. <https://doi.org/10.18502/ijph.v51i10.10975>
- O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International Journal of Qualitative Methods*, 19. <https://doi.org/10.1177/1609406919899220>
- 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. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Rahmatia, S., Basri, M., Ismail, I., Adi, S., Nasrullah, N., & Ahmad, A. (2025). Service quality in hospital inpatient care: SERVQUAL model approach. *Health SA Gesondheid*, 30. <https://doi.org/10.4102/HSAG.v30i0.3055>
- Shan, W., Wang, J., Shi, X., & Evans, R. D. (2024). The impact of electronic word-of-mouth on patients' choices in online health communities: A cross-media perspective. *Journal of Business Research*, 173, Article 114404. <https://doi.org/10.1016/j.jbusres.2023.114404>
- Trenggono, P. H., & Bachtiar, A. (2025). Evaluasi implementasi manajemen rumah sakit dalam upaya peningkatan rating Google customer review di Rumah Sakit Karisma Cimarame tahun 2023: Pendekatan teori SERVQUAL dan Donabedian. *Jurnal ARSI: Administrasi Rumah Sakit Indonesia*, 11(1). <https://doi.org/10.7454/arsi.v11i1.1192>

Zhang, J., Chen, W., Petrovsky, N., & Walker, R. M. (2022). The expectancy-disconfirmation model and citizen satisfaction with public services: A meta-analysis and an agenda for best practice. *Public Administration Review*, 82(1), 147–159.
<https://doi.org/10.1111/puar.13368>