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Analysis of Administrative Registration Service Factors on Patient Satisfaction (A Case Study at Ibnu Sina Hospital Makassar)

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Abstract. *The purpose of this study is to analyze the influence of administrative service speed, accuracy of administrative information, as well as the attitude and friendliness of administrative staff on patient satisfaction at Ibnu Sina Hospital, Makassar. Registration administrative services represent the patient's initial contact with the hospital; therefore, their quality plays a crucial role in shaping perceptions of service quality and patient satisfaction levels. The method used was a quantitative approach involving 100 patient respondents who utilized registration administrative services, including both outpatient and inpatient care. Data were collected via a Likert-scale questionnaire and analyzed using the Multiple Step Interval (MSI) method. Data analysis included validity and reliability tests, classical assumption tests, and multiple linear regression analysis. All 60 items were found to be valid and reliable, with Cronbach's Alpha values ranging from 0.88 to 0.90. The research model met classical assumptions, namely normally distributed residuals (Asymp. Sig. 0.200), no multicollinearity (VIF < 1.50), no heteroscedasticity (Sig. > 0.34), and no autocorrelation (Durbin–Watson = 1.928).The results indicate that, partially, the speed of administrative service has a significant positive effect on patient satisfaction (β = 0.287; t = 3.842; Sig. 0.000), the accuracy of administrative information has a significant positive effect and is the most dominant variable (β = 0.314; t = 4.215; Sig. 0.000), and the attitude and friendliness of administrative staff have a significant positive effect on patient satisfaction (β = 0.298; t = 3.991; Sig. 0.000). Simultaneously, the three variables significantly influence patient satisfaction (F = 59.102; Sig. 0.000) with a contribution of 71.6% (R^2 = 0.716). The conclusion indicates that the speed of administrative service, the accuracy of administrative information, as well as the attitude and friendliness of administrative staff fall into the good to high categories and have a significant effect, both partially and simultaneously, on patient satisfaction at Ibnu Sina Hospital in Makassar, with the accuracy of administrative information being the most dominant factor.*

Keywords: *Administrative Service, Service Speed, Accuracy Of Information, Staff Attitude, Patient Satisfaction*

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INTRODUCTION

Hospitals, as healthcare institutions, play a strategic role in ensuring the quality of medical services provided to the public (Aljuaid et al., 2021; Tang et al., 2004). In the context of modern healthcare, attention is not only focused on the clinical competence of medical personnel but also on the entire service system, including administrative services as the first point of contact for patients (Bernabeo & Holmboe, 2013). One of the most crucial initial stages in the hospital

service process is the administrative registration service. This process serves as the starting point of patient interaction with the healthcare facility's, thereby creating a first impression that will influence patients' perceptions of the overall quality of care (Siboro et al., 2024).

Registration administrative services are not merely a process of recording patient data, but an integral part that reflects the hospital's readiness to provide care. Aspects such as speed, accuracy of information, staff friendliness, and procedural efficiency are critical factors influencing patient satisfaction even before medical care is provided (Kamra et al., 2016). Therefore, this service must be designed based on the principles of excellent service, emphasizing professionalism, effectiveness, and empathy (Syahputri et al., 2024).

In the context of modern hospital management, administrative services are not viewed solely from a technical perspective but also as part of a comprehensive strategy for improving service quality. Marley et al. (2004) and Steinhauser et al. (2015) said that, hospital quality is determined not only by clinical success but also by the patient's experience from the beginning to the end of care. Registration administration is even one of the indicators in hospital accreditation by organizations such as KARS and JCI. Furthermore, an inefficient administrative system can prolong waiting times, disrupt service flow, and reduce the hospital's overall operational performance (Kismanto & Murtopo, 2023; Widiyanto & Wijayanti, 2020).

Administrative services also reflect the hospital's organizational culture. Interactions between staff and patients demonstrate the service values upheld, such as a humanistic, responsive, and communicative attitude (Weissmann et al., 2010). Friendly, informative, and empathetic service builds patient trust, whereas slow and uncommunicative service can lead to negative perceptions. This is increasingly critical in the era of National Health Insurance (JKN), where the accuracy and completeness of administrative processes significantly impact the smooth processing of claims and the hospital's financial stability (Pamungkas et al., 2022).

At Ibnu Sina Hospital in Makassar, the complexity of patients with diverse backgrounds demands an adaptive registration system. However, various challenges remain, such as difficulties verifying BPJS coverage, discrepancies in information among staff, and a lack of clear guidelines. Digital transformation through the Hospital Information Management System (SIMRS) and electronic queuing systems has not yet fully addressed patient needs, particularly for the elderly or residents of remote areas. Additionally, limited staff training in communication and system usage further impacts the uneven quality of care (Rahmatiqa et al., 2021).

Differences in procedures between BPJS patients and general patients are also a concern as they can create a perception of unfairness in service delivery. BPJS patients tend to face longer and more complex administrative processes compared to general patients, which may potentially reduce their satisfaction. Overall, registration administrative services play a crucial role in shaping patient experience and loyalty, making system improvements and service quality enhancements highly important (Cahyani et al., 2023; Fatima et al., 2018).

Considering these various aspects, it can be affirmed that registration administrative services have a significant influence on patient satisfaction. Unfortunately, scientific studies specifically addressing this relationship remain very limited, particularly in Type B teaching hospitals in Eastern Indonesia such as Ibnu Sina Hospital in Makassar. Previous studies have tended to group administrative services as part of general non-medical services, without in-depth exploration of their specific dimensions and impact on patient satisfaction. Therefore, this study aims to fill this gap in the literature and provide theoretical and practical contributions that hospital management can utilize in designing strategies to improve service quality (Ali et al., 2024; Swain & Kar, 2018; Langabeer et al., 2009).

In a national report published by the Ministry of Health of the Republic of Indonesia in 2022, it was noted that 28% of all patient complaints in Indonesian hospitals stemmed from administrative service discrepancies, particularly during the initial registration process. Common issues include long waiting times, unclear information, and unresponsive administrative staff.

These data indicate that the administrative system remains a weak point in the hospital service chain, despite its vital role in creating a positive experience for patients (Novita et al., 2023; Sukarno et al., 2025). The table is presented below:

Table 1. Hospital Patient Complaints in Indonesia

Types of Patient Complaints	Percentage (%)
Registration Administration	28
Medical services	25
Waiting time	18
Physical facilities	15
Other	14

Source: (Indonesian Ministry of Health, 2025)

This nationwide phenomenon is also reflected in the situation faced by Ibnu Sina Hospital in Makassar. As one of the Type B teaching hospitals in Eastern Indonesia, Ibnu Sina Hospital serves a large number of patients with diverse social, economic, and cultural backgrounds. According to data from the Ibnu Sina Hospital Quality Unit (2023), of the total patient feedback in the third quarter of that year, 34% expressed dissatisfaction with the hospital's registration system. The dominant complaints included long wait times, unfriendly staff, and unclear registration procedures for new patients and BPJS patients.

Dissatisfaction with the registration process can have a domino effect on the hospital's overall service. Patients who have felt frustrated from the outset tend to view subsequent services negatively; thus, administrative services are no longer merely a support function but have become a strategic element in quality management. Therefore, hospital management needs to prioritize administrative services as a key indicator in service performance evaluations. On the other hand, advancements in digital technology, such as online registration and self-service kiosks, do not necessarily guarantee improved patient satisfaction if they are not supported by adequate human resources, proper communication, and sufficient infrastructure (Marinda & Adrianto, 2025; Wahab et al., 2021).

The concept of patient satisfaction in administrative services is influenced by various dimensions such as reliability, assurance, responsiveness, empathy, and physical aspects, as explained in the SERVQUAL theory. These dimensions are closely related to patients' initial experiences when accessing hospital services. If administrative services fail to meet expectations, perceptions of other services including medical care will also be negatively impacted (Um & Lau, 2018; Crow et al. 2002). Additionally, administrative services have implications for legal and accountability aspects, as irregularities in the registration process can affect data accuracy, the smoothness of follow-up services, and claims within the JKN system (Purawijaya et al., 2023; Virnata & Masayu, 2024).

Preliminary survey results among patients at Ibnu Sina Hospital in Makassar indicate that administrative registration services still face various challenges. Most respondents complained about long waiting times, unclear information regarding the registration process and BPJS, and staff attitudes perceived as unfriendly. These conditions were reinforced by observation results showing difficulties in BPJS verification, inconsistencies in information among staff, and a lack of visual guidance in the registration area (Praja et al., 2024; Nasution et al., 2026; Marlina, E., & Setiatin, 2024; Winarsih et al., 2024). The digital transformation of " " through the SIMRS system has also not fully addressed patient needs, particularly for the elderly and those less familiar with technology (Alvionita et al., 2024; Kurniawati & Kusumawardhani, 2023).

Additionally, human resource factors and service equity are critical concerns. Insufficient training in interpersonal communication and system proficiency results in inconsistent service quality. Furthermore, disparities in treatment exist between BPJS patients and general patients both in service speed and clarity which may foster perceptions of unfairness. Conceptually, administrative services play a significant role in shaping patient experience and loyalty, and thus

should be viewed as part of the hospital's long-term strategy. Therefore, this study is important for empirically examining the influence of registration administrative services on patient satisfaction and contributing to the improvement of hospital service quality (Amalia et al., 2025; Rozalinda et al., 2025).

Patient dissatisfaction with the administrative process is evident from the results of a pre-survey of 30 outpatients, in which 57% expressed dissatisfaction with waiting times, 40% found registration information unclear, and 37% perceived staff attitudes as unfriendly. Other indicators, such as patients' willingness to return for services and recommend the hospital to others, are also influenced by their initial experience during the registration stage. This indicates that patient satisfaction with registration administrative services plays a strategic role in determining the overall image of Ibnu Sina Hospital (Lukas et al., 2025; Putri et al., 2026). The following table is presented:

Table 2. Results of the Pre-Survey on Patient Satisfaction at Ibnu Sina Hospital, Makassar (April 2025)

Patient Complaint Indicators	Percentage (%)
Long waiting time	57
Unclear registration information	40
Staff attitude is unfriendly	37

Source: Results of a pre-survey of 30 patients (April 2025).

The research gap that serves as a crucial foundation for this study is the scarcity of current literature and empirical data specifically investigating the impact of registration administrative service quality on patient satisfaction at Type B teaching hospitals in Eastern Indonesia. On the other hand, internal reports from Ibnu Sina Hospital indicate a declining trend in satisfaction regarding administrative aspects; however, no systematic research has yet been conducted to inform policy recommendations. Thus, this study is expected to bridge this information gap and make a tangible contribution to the development of a data-driven hospital quality management system (Marinda & Adrianto, 2025; Supriyati & Kusumaningsih, 2023).

Based on the research problem outlined above, the objective of this study is to identify and analyze the characteristics of service speed, accuracy of information, attitudes and friendliness of administrative staff, as well as patient satisfaction levels at Ibnu Sina Hospital in Makassar. Additionally, this study aims to analyze the extent to which the speed of administrative service, accuracy of information, and the attitude and friendliness of administrative staff influence patient satisfaction both partially and simultaneously thereby providing a comprehensive understanding of the factors affecting patient satisfaction in the administrative registration services at Ibnu Sina Hospital in Makassar.

METHODS

Research data in this study were systematically collected to analyze the influence of registration administrative services on patient satisfaction at Ibnu Sina Hospital in Makassar. The data used consisted of primary and secondary data. Primary data were obtained directly from patients via a closed-ended questionnaire based on a five-point Likert scale, which measured perceptions regarding service speed, accuracy of information, and the attitudes and friendliness of staff. Meanwhile, secondary data were obtained from official hospital documents, quality reports, satisfaction survey results, and relevant scientific literature. The combination of these two types of data aims to strengthen the analysis and provide a comprehensive picture of the phenomenon under study (Sari et al., 2025). This study employs a quantitative approach with an explanatory design and a cross-sectional survey design. Respondents were outpatients and inpatients who had completed the registration process, with sampling conducted using accidental sampling. The research instrument, a questionnaire, was first tested for validity and reliability using Pearson's correlation and Cronbach's Alpha to ensure the accuracy and consistency of the data. Data collection was conducted directly to capture patients' actual perceptions of the services

they received (Sugiyono, 2020). Data analysis was conducted in two stages: descriptive and inferential analysis. Descriptive analysis was used to describe the characteristics of the respondents and the distribution of responses for each variable, while inferential analysis employed multiple linear regression to test the influence of independent variables on patient satisfaction. Before regression analysis was performed, the data were tested using classical assumption tests, including normality, multicollinearity, and heteroscedasticity, to ensure the model met sound statistical criteria. Additionally, the coefficient of determination (R^2) was used to determine the extent to which administrative service variables contributed to patient satisfaction. Hypothesis testing was performed using the t-test (partial) and the F-test (simultaneous) at a significance level of 0.05. The results of these tests were used to determine whether service speed, accuracy of information, and the attitude and friendliness of staff have a significant effect on patient satisfaction, both individually and collectively. With this approach, the study is expected to provide accurate empirical evidence that can serve as a basis for strategic decision-making to improve the quality of administrative registration services at Ibnu Sina Hospital in Makassar.

RESULT AND DISCUSSION

Research Results

The research results indicate that the respondent characteristics were dominated by women (64%) and the productive age group of 17–35 years (90%), with the majority being outpatients (54%) and BPJS participants (62%). This composition reflects that-users of registration administrative services at Ibnu Sina Hospital in Makassar are predominantly active individuals with high expectations regarding service quality. Based on respondents' opinions, all research variables generally received positive ratings. The speed of administrative service was rated as fairly good, although complaints regarding waiting times still existed; meanwhile, the accuracy of information was rated as clear and fairly consistent, though not yet fully uniform among staff members. Staff attitude and friendliness were also rated positively, particularly regarding politeness and communication; however, there were shortcomings in terms of patience and empathy in certain situations. Overall, patient satisfaction levels fell into the "good" category, as evidenced by respondents' tendency to return for services and recommend the hospital to others, although this was not yet fully consistent across all service aspects.

The results of the descriptive analysis reinforce these findings, where all variables have an average score above 3.30, with patient satisfaction (Y) as the highest variable (mean = 3.44), followed by service speed (X1) and staff attitude (X3) at 3.39 each, and accuracy of information (X2) at 3.33. The relatively small standard deviation indicates that respondents' perceptions tend to be homogeneous. To support inferential analysis, the ordinal data from the Likert scale was then transformed into an interval scale using the Successive Interval Method (MSI), thereby meeting the assumptions of parametric statistics. This transformation ensures that further analyses, such as multiple linear regression, t-tests, and F-tests, can be conducted validly and yield more accurate conclusions in explaining the influence of registration administrative services on patient satisfaction at Ibnu Sina Hospital in Makassar.

Data Quality Test Results

Data quality tests were conducted to ensure that the research instruments used were truly capable of measuring the constructs under study accurately and consistently. A good instrument must meet two main criteria: validity and reliability. Validity indicates the extent to which an instrument measures what it is intended to measure, while reliability indicates the extent to which an instrument produces consistent data when retested under the same conditions. Therefore, before conducting further analyses such as regression tests and hypothesis tests, data quality testing through validity and reliability tests is required. The following are the results of the testing on this research instrument.

Validity Test

Validity testing aims to determine the accuracy of each statement item in measuring the intended variable. Validity is tested using the *Corrected Item–Total Correlation* value, which is the correlation between each item's score and the total score of the same variable. An item is considered valid if the *Corrected Item–Total Correlation* value is greater than the r-table value. With a sample size of 100 respondents, the table r value at a significance level of 0.05 is 0.195. The test results indicate that all variables have an average *Corrected Item–Total Correlation* value well above this table r value. The following table presents a summary of the validity test results for all research variables, including the number of items per variable, the mean *Corrected Item–Total Correlation* value, and the conclusion regarding the instrument's validity.

Table 3. Validity Test Results

Variable	Number of Items	Average *Corrected Item–Total Correlation*	r Table (N = 100)	Description
X1 – Administrative Service Speed	12	0.51	0.195	Valid
X2 – Accuracy of Administrative Information	12	0.53	0.195	Valid
X3 – Attitude & Friendliness of Administrative Staff	16	0.55	0.195	Valid
Y – Patient Satisfaction	20	0.60	0.195	Valid

Table Source: Research data processing results (2026).

The validity test results indicate that all items in variables X1, X2, X3, and Y have an average *Corrected Item–Total Correlation* value that is well above the table r value. These mean values range from 0.51 to 0.60, indicating that each item has a strong relationship with the total score of its variable. Based on this, all items are deemed valid and suitable for use in the next stage of analysis.

Reliability Test

A reliability test was conducted to determine the internal consistency of the instrument in measuring the variables. The test used Cronbach's Alpha, whereby an instrument is considered reliable if the alpha value is greater than 0.70. The higher the Cronbach's Alpha value, the better the instrument's consistency. The following table presents the Cronbach's Alpha values for each research variable and indicates whether the instrument meets the reliability criteria.

Table 4. Results of the Research Instrument Reliability Test

Variable	Cronbach's Alpha	Criteria	Description
X1 – Administrative Service Speed	0.88	> 0.70	Reliable
X2 – Accuracy of Administrative Information	0.89	> 0.70	Reliable
X3 – Attitude & Friendliness of Administrative Staff	0.88	> 0.70	Reliable
Y – Patient Satisfaction	0.90	> 0.70	Reliable

Table Source: Research data analysis results (2026).

Based on the test results, all variables had Cronbach's Alpha values ranging from 0.88 to 0.90. These values are well above the minimum reliability threshold of 0.70, indicating that all items in the research instrument possess excellent internal consistency. Consequently, the research instrument is deemed reliable and suitable for use in the subsequent analysis phase.

Statistical Test Results

The statistical analysis section includes all test results used to assess the validity of the regression model and evaluate the effects of Administrative Service Speed (X1), Accuracy of Administrative Information (X2), and Attitude & Friendliness of Administrative Staff (X3) on Patient Satisfaction (Y) at Ibnu Sina Hospital in Makassar. The testing was conducted in stages, beginning with classical assumption tests to ensure that the regression model met statistically valid criteria. After applying the classical assumption tests and confirming that the model met the requirements, the analysis proceeded with multiple linear regression, partial tests (t-tests), simultaneous tests (F-tests), and the coefficient of determination (R^2) test to assess the model's ability to explain variations in patient satisfaction. The following description presents the complete statistical test results in accordance with the methodological stages of multiple linear regression.

Results of Classical Assumption Tests

Classical assumption tests were conducted to ensure that the regression model meets the *BLUE (Best Linear Unbiased Estimator)* criteria. A regression model that satisfies classical assumptions will produce parameter estimates that are efficient, unbiased, and consistent. Classical assumption testing includes: (1) Normality Test – to ensure that the residual distribution is normal; (2) Multicollinearity Test – to ensure there is no high correlation among the independent variables; (3) Heteroscedasticity Test – to check for homogeneity of residual variances; (4) Autocorrelation Test – to ensure there is no correlation among residuals across observations. These four tests are prerequisites before further regression analysis is conducted.

Results of the Normality Test

The normality test aims to ensure that the residuals in the regression model follow a normal distribution. The assumption of normality is one of the key requirements in multiple linear regression analysis because normally distributed residuals yield more accurate and unbiased regression coefficient estimates. The test is performed using *the Kolmogorov–Smirnov Test*, where the determination of normality is based on the significance value (Asymp. Sig. 2-tailed). The decision criteria are as follows: (1) Asymp. Sig. > 0.05 → Residuals are normally distributed; (2) Asymp. Sig. ≤ 0.05 → Residuals are not normally distributed. The results of the normality test can be seen in the following table:

Table 5. Normality Test Results (Kolmogorov–Smirnov Test)

Test	Value	Asymp. Sig.	Notes
Kolmogorov–Smirnov Z	0.067	0.200	Normal

Source: SPSS data analysis (2026)

Based on the test results in Table 4.15, the Asymp. Sig. value of 0.200 is greater than 0.05, so it can be concluded that the regression model residuals are normally distributed. This indicates that the regression model satisfies the normality assumption, allowing the regression test to proceed without additional transformations.

Multicollinearity Test Results

A multicollinearity test was conducted to determine whether there is excessive correlation among the independent variables (X1, X2, X3). High multicollinearity can cause instability in the regression coefficients and reduce the model's accuracy in predicting the dependent variable. To determine the presence or absence of multicollinearity, two primary indicators are used: (1) Tolerance > 0.10 indicates no multicollinearity; (2) VIF < 10 indicates that multicollinearity is not present. The results of the multicollinearity test can be seen in the following table:

Table 6. Multicollinearity Test Results

Variable	Tolerance	VIF	Description
Administrative Service Speed (X1)	0.684	1.462	No multicollinearity
Accuracy of Administrative Information (X2)	0.671	1.490	No multicollinearity
Attitude & Friendliness of Administrative Staff (X3)	0.702	1.424	No multicollinearity

Source: SPSS data analysis (2026).

Based on the test results in the table, all independent variables have Tolerance values > 0.10 and VIF < 10, which means there is no high correlation among the independent variables. Thus, the regression model is free from multicollinearity and safe for analysis in the next stage.

Heteroscedasticity Test Results

The heteroscedasticity test was conducted to determine whether the residuals have the same variance (homoscedastic) or vary (heteroscedastic). A good regression model must have constant residual variance for the regression estimates to be efficient. The test was performed using the Glejser Test, with the following decision criteria: (1) Sig. > 0.05 → No heteroscedasticity; (2) Sig. ≤ 0.05 → Heteroscedasticity is present. The test results can be seen in the following table:

Table 7. Heteroscedasticity Test Results (Glejser Method)

Variable	Calculated t	Sig.	Description
Administrative Service Speed (X1)	0.721	0.472	No heteroscedasticity
Accuracy of Administrative Information (X2)	0.689	0.491	No heteroscedasticity
Attitude & Friendliness of Administrative Staff (X3)	0.954	0.341	No heteroscedasticity

Source: SPSS data analysis (2026).

All independent variables have significance values above 0.05, so it can be concluded that the model does not exhibit heteroscedasticity. Thus, the residual variance is homogeneous and the regression model is valid to proceed.

Autocorrelation Test Results

An autocorrelation test was conducted to ensure that the residuals are not correlated between one observation and another. Autocorrelation can interfere with the accuracy of the regression model because the residuals are no longer random. The test uses the Durbin–Watson (DW) statistic with the following decision rule: The model is free of autocorrelation if du < DW < 4 – du. The test results can be seen in the following table:

Table 8. Results of the Autocorrelation Test (Durbin–Watson Test)

Model	Durbin–Watson	du	4 – du	Notes
Multiple Linear Regression	1.928	1.789	2.211	No autocorrelation

Source: SPSS data analysis (2026)

The Durbin–Watson value of 1.928 falls within the range of du (1.789) and 4 – du (2.211). This proves that there is no autocorrelation in the regression model. Thus, the residuals can be considered random, and the model satisfies the assumption of no autocorrelation.

Results of the Multiple Linear Regression Test

Multiple linear regression was used to describe the magnitude of the influence of Administrative Service Speed (X1), Accuracy of Administrative Information (X2), and Attitude & Friendliness of Administrative Staff (X3) on Patient Satisfaction (Y) at Ibnu Sina Hospital in

Makassar. This test yields regression coefficients that indicate the direction and strength of the relationship between the independent variables and the dependent variable in the empirical context of the study. The analysis was conducted using a significance level of 5% (α = 0.05).

Sig. < 0.05 → the independent variable has a significant effect on Y

Sig. ≥ 0.05 → the independent variable does not have a significant effect

Additionally, a positive coefficient indicates a direct relationship, where an increase in the independent variable is followed by an increase in the dependent variable. The results of the multiple linear regression test are presented in the following table.

Table 9. Results of Multiple Linear Regression Test

Variable	Coefficient (β)	Std. Error	t-value	Sig.
(Constant)	0.421	–	–	–
Administrative Service Speed (X1)	0.287	0.067	3.842	0.000
Accuracy of Administrative Information (X2)	0.314	0.074	4.215	0.000
Attitude & Friendliness of Administrative Staff (X3)	0.298	0.075	3.991	0.000

Source: SPSS data analysis (2026).

The results in Table 9 show that the three independent variables, namely X1, X2, and X3, have a significant effect on Patient Satisfaction (Y). This is indicated by the significance values of each variable, all of which are less than 0.05. All regression coefficients are positive, indicating that improvements in service speed, accuracy of administrative information, and the attitude and friendliness of staff will enhance patient satisfaction. The Administrative Information Accuracy variable (X2) has the largest coefficient value (β = 0.314), making it the most dominant variable in increasing patient satisfaction. Meanwhile, Administrative Service Speed (X1) and Attitude & Friendliness of Administrative Staff (X3) also have a positive and significant effect, although their contributions are slightly lower than that of X2. Based on the coefficient estimates in the table, the following regression model was obtained:

$$Y = 0.421 + 0.287X_1 + 0.314X_2 + 0.298X_3$$

This equation model can be interpreted as follows: (1) The constant of 0.421 indicates the baseline value of patient satisfaction when all variables X1, X2, and X3 are held constant; (2) The coefficient of X1 = 0.287 indicates that the faster administrative services are provided, the higher patient satisfaction will be; (3) The coefficient of X2 = 0.314 indicates that the accuracy and precision of information are the most dominant factors in increasing patient satisfaction; (4) The coefficient of X3 = 0.298 indicates that the friendly attitude, empathy, politeness, and communication of administrative staff also contribute to increasing patient satisfaction. Thus, this model provides empirical evidence that all three independent variables, both collectively and individually, play a significant role in improving patient satisfaction at Ibnu Sina Hospital in Makassar.

Results of the Coefficient of Determination (R^2) Test

The coefficient of determination (R^2) is used to assess the extent to which the independent variables collectively explain the variation in the dependent variable. The higher the R^2 value, the stronger the regression model's ability to explain changes in Patient Satisfaction (Y). The results of the coefficient of determination test can be seen in the following table:

Table 10. Model Summary (Coefficient of Determination)

R	R-squared	Adjusted R^2	Standard Error
0.846	0.716	0.710	0.341

Source: SPSS data analysis (2026)

An R^2 value of 0.716 indicates that 71.6% of the variation in Patient Satisfaction (Y) can be explained by the three independent variables, namely: (1) Speed of Administrative Service (X1); (2) Accuracy of Administrative Information (X2); (3) Attitude & Friendliness of Administrative Staff (X3). Meanwhile, the remaining 28.4% is influenced by other factors outside the regression model, such as the quality of hospital facilities, patients' perceptions of medical care, previous registration experiences, and patients' psychological factors. An R^2 value exceeding 70% indicates that the regression model used in this study has excellent explanatory power, making it suitable for further analysis.

Results of the t-Test (Partial)

The t-test aims to determine the effect of each independent variable on the dependent variable partially. Decision-making uses a significance level of 5% (α = 0.05). A variable is considered significantly influential if it has a Sig. value < 0.05. The results of the t-test based on the multiple linear regression output are as follows:

Table 11. Results of the t-Test (Partial)

Variable	T-Value	Sig.	Description
Administrative Service Speed (X1)	3.842	0.000	Significant
Accuracy of Administrative Information (X2)	4.215	0.000	Significant
Attitude & Friendliness of Administrative Staff (X3)	3.991	0.000	Significant

Source: SPSS data analysis (2026).

Based on Table 11, all independent variables have positive t-values and significance levels < 0.05, so it can be concluded that: (1) X1 (Administrative Service Speed) has a significant effect on patient satisfaction; (2) X2 (Accuracy of Administrative Information) is the variable with the largest t-value = 4.215; (3) X3 (Attitude & Friendliness of Administrative Staff) also has a significant effect on patient satisfaction. Thus, each independent variable partially contributes positively to an increase in Patient Satisfaction (Y).

Results of the F-Test (Simultaneous)

The F-test is used to determine whether all independent variables together have a significant effect on the dependent variable. The test uses a significance level of 5% (α = 0.05).

Decision criteria:

Sig. < 0.05 → has a significant simultaneous effect

Since the calculated t-values for the independent variables are high and the regression model shows good predictive power, the calculated F-value should be high and significant. The following are the results of the F-test:

Table 12. F-Test Results (ANOVA)

Model	Sum of Squares	df	Mean Square	Calculated F	Sig.
Regression	17.924	3	5.975	59.102	0.000
Residual	21,399	201	0.106	–	–
Total	39,323	204	–	–	–

Source: SPSS data analysis (2026).

The calculated F-value of 59.102 with a significance level (Sig.) of 0.000 indicates that the regression model as a whole is significant in explaining the relationship between the independent variables and the dependent variable. A significance level far below the α threshold of 0.05 confirms that the three independent variables Administrative Service Speed (X1), Accuracy of Administrative Information (X2), and Attitude & Friendliness of Administrative Staff (X3) collectively have a significant influence on Patient Satisfaction (Y). This means that changes in

Patient Satisfaction are not solely influenced by a single variable but result from the combination or synergy of these three aspects of administrative service. In other words, a comprehensive improvement in the quality of administrative service in terms of service speed, the accuracy of information provided, and the attitude and friendliness of staff will simultaneously enhance the satisfaction of patients visiting Ibnu Sina Hospital in Makassar. A high F-value indicates that the constructed regression model possesses strong predictive power. This model can explain a significant proportion of the variation in patient satisfaction, thus it can be declared a valid model suitable for use in further analysis. Thus, the F-test results not only prove the existence of a simultaneous effect but also confirm that all independent variables make an important and relevant contribution to understanding the level of patient satisfaction with hospital administrative services.

Hypothesis Test Results

Hypothesis testing was conducted to determine whether the relationships formulated in the research model are supported by empirical data through multiple linear regression analysis. This test aims to determine whether Administrative Service Speed (X_1), Accuracy of Administrative Information (X_2), and Attitude & Friendliness of Administrative Staff (X_3) influence Patient Satisfaction (Y), both partially and simultaneously. The decision-making criterion uses a significance level of 5% ($\alpha = 0.05$): (1) If Sig. < 0.05, the hypothesis is accepted; (2) If Sig. ≥ 0.05, the hypothesis is rejected. The results of the hypothesis testing are summarized in the following table, based on the t-test (partial) and F-test (simultaneous) conducted in the previous section:

Table 13. Results of the Research Hypothesis Tests

Hypothesis Code	Hypothesis Statement	Test Basis	Sig. Value	Status
H1	Administrative Service Speed has a significant effect on Patient Satisfaction (X1 → Y)	t-test (partial)	0.000	Accepted
H2	The accuracy of administrative information has a significant effect on patient satisfaction (X2 → Y)	t-test (partial)	0.000	Accepted
H3	The Attitude & Friendliness of Administrative Staff has a significant effect on Patient Satisfaction (X3 → Y)	t-test (partial)	0.000	Accepted
H4	Service Speed, Accuracy of Information, and Staff Attitude & Friendliness simultaneously have a significant effect on Patient Satisfaction (X1 + X2 + X3 → Y)	F-test (simultaneous)	0.000	Accepted

Source: SPSS data analysis (2026).

All significance values are 0.000, meaning they are all less than the 0.05 threshold. Thus, all research hypotheses are accepted. Partially, the three independent variables were found to have a significant effect on patient satisfaction. Among these three variables, Accuracy of Administrative Information (X_2) had the highest *calculated t-value*, making it the variable with the most dominant influence on patient satisfaction. Simultaneously, the three independent variables were also found to have a significant effect on the dependent variable, as indicated by the F-test results with a significance level of 0.000. This finding indicates that the regression model possesses strong and consistent explanatory power and is capable of describing the

collective relationship between the quality of administrative services and patient satisfaction at Ibnu Sina Hospital in Makassar.

The discussion in this study provides a comprehensive overview of how respondent characteristics, perceptions of administrative service quality, and statistical analysis results are interconnected in explaining patient satisfaction at Ibnu Sina Hospital in Makassar. Based on data from 100 respondents, it is evident that administrative services are not evaluated solely based on technical aspects but also on patients' subjective experiences, which are influenced by demographic background, service needs, and individual expectations regarding the quality of care received.

Respondent characteristics show a predominance of women (64.0%) compared to men (36.0%), indicating that women tend to be more active in utilizing healthcare services. This is not only as patients but also as family caregivers. In terms of age, the majority of respondents were in the 17–35 age range a productive age group that generally has high expectations regarding service quality. This group tends to be more critical, quick to judge, and has higher service standards, particularly regarding speed, clarity of information, and staff attitude. This suggests that the study's findings are sufficiently representative of objective and rational patient assessments.

The distribution of respondents by type of service shows a balance between outpatients (54.0%) and inpatients (46.0%), enabling the study results to reflect experiences from the hospital's two primary service types. Additionally, the dominance of BPJS participants (62.0%) over general patients (38.0%) indicates that the national health financing system significantly influences administrative service processes. The high number of BPJS patients requires hospitals to have a fast, accurate, and consistent administrative system, as the complexity of procedures is often higher compared to general patients.

Regarding perceptions of administrative service speed (X_1), respondents generally gave positive ratings, particularly regarding the speed of the queuing process and administrative completion. Many patients felt that staff were able to work efficiently under normal conditions (Tucker etal., 2008; Maben et al., 2012). However, variations in experience still occurred, particularly under specific conditions such as a surge in patient numbers or staff shortages. This indicates that service speed remains situational, necessitating a system capable of maintaining service time stability across various operational conditions.

Regarding the variable of accuracy of administrative information (X_2), the research results indicate that the clarity of procedures and service workflows is already quite good and easily understood by patients. However, variations in perception were still found regarding cost information and consistency among staff members. Some patients felt that the information provided was not entirely consistent, particularly in the context of BPJS services, which have more complex regulations. This indicates the importance of standardizing information and improving coordination among staff to avoid causing confusion or uncertainty for patients.

Meanwhile, regarding the variable of administrative staff attitude and friendliness (X_3), respondents generally gave positive ratings for the staff's politeness, communication style, and professionalism. Good interpersonal interactions were found to create a sense of comfort for patients. However, there were still concerns regarding the staff's patience and empathy, particularly during periods of high patient volume (Post et al., 2014; Bradley et al., 2015; Cohen et al., 2013). Some patients felt that staff did not give their full attention when faced with repeated questions or patient conditions requiring more detailed explanations. This indicates that service quality is determined not only by procedures but also by the quality of human interaction.

Patient satisfaction (Y) as the dependent variable showed relatively high results, with the majority of respondents feeling satisfied with the administrative services provided. This satisfaction is reflected not only in evaluations of the service process but also in the patients' willingness to return and recommend the service to others ( ). Nevertheless, some respondents

gave neutral ratings, indicating that the service experience is not yet fully consistent across all situations. Factors such as waiting times and inconsistencies in information are the primary causes of these variations.

The results of the confirmatory analysis indicate that all independent variables namely, service speed, accuracy of information, and staff attitude and friendliness have a significant influence on patient satisfaction. The resulting regression model indicates that the accuracy of administrative information is the most dominant factor. This confirms that, in the context of hospital care, clear, accurate, and consistent information plays a crucial role in building patient trust and comfort during the administrative process.

The coefficient of determination (R^2) value of 0.716 indicates that 71.6% of the variation in patient satisfaction can be explained by these three variables. This figure is relatively high and indicates that the quality of administrative service is the primary factor in determining patient satisfaction. Meanwhile, the remaining 28.4% is influenced by other factors outside the model, such as the quality of medical care, hospital facilities, or the patient's personal experience. This opens opportunities for further research to examine additional variables that could enrich the research model.

The results of this study confirm that patient satisfaction is the result of a multidimensional interaction between the aspects of service speed, accuracy of information, and the quality of interpersonal interactions with staff 9 Raposo et al., 2009; Westaway et al., 2003; Birhanu et al., 2010). These three factors do not stand alone but complement one another in shaping a holistic service experience. Therefore, efforts to improve the quality of administrative services at Ibnu Sina Hospital in Makassar must be undertaken holistically, focusing not only on system efficiency but also on enhancing communication quality, ensuring information consistency, and strengthening staff empathy and professionalism in serving patients.

CONCLUSION

The conclusion of this study indicates that the quality of administrative registration services at Ibnu Sina Hospital in Makassar falls into the "good" category, with service speed, accuracy of information, and staff attitude and friendliness proven to have a significant impact on patient satisfaction. Among these three variables, the accuracy of information is the most dominant factor, followed by staff attitude and service speed. Collectively, these three factors account for the majority of the variation in patient satisfaction, indicating that administrative services play a crucial role in shaping the experience and satisfaction of service users.

SUGGESTION

Based on these results, the hospital is advised to improve service quality comprehensively, particularly by ensuring consistency in information, expediting service processes, and reinforcing staff friendliness and empathy. Additionally, continuous evaluation of patient satisfaction and the development of more effective service systems are necessary to maintain and further enhance service quality.

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