

Analysis of the Influence of Education Costs, Quality of Educational Services, and References on Parents' Satisfaction at SD Katolik Damai, Tambora, West Jakarta

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Abstract

Introduction/Main Objectives: This study examines the determinants of parents' satisfaction in private elementary education, focusing on education costs, service quality, and references as key antecedents within the context of a Catholic school in urban West Jakarta.

Background Problems: SD Katolik Damai faces a 15–17% decline in new student enrollment over 2023–2025 despite maintaining A accreditation. This phenomenon signals a shift in parental satisfaction perception amid intensifying competition from lower-cost schools in the Tambora area. The research questions examine how education costs, service quality, and references individually and simultaneously influence parents' satisfaction.

Research Methods: A quantitative cross-sectional design was employed. Primary data were collected using structured Likert-scale questionnaires distributed to 58 parents selected via Slovin formula from a population of 174. Multiple linear regression analysis with SPSS version 26 was conducted, supplemented by classical assumption tests (normality, heteroscedasticity, multicollinearity).

Finding/Results: Simultaneously, all three variables significantly influence parents' satisfaction ($F = 86.408$; $\text{sig} = 0.000$) with $R^2 = 75.2\%$. Partially, education costs show the most dominant positive significant effect ($t = 39.079$; $\text{sig} = 0.000$). Service quality exhibits significant but negative influence ($t = -2.546$; $\text{sig} = 0.014$), indicating an expectation paradox. References demonstrate no significant impact ($t = 0.953$; $\text{sig} = 0.345$).

Conclusion: Parents at SD Damai are rational consumers whose satisfaction is primarily shaped by perceived value-for-money rather than external recommendations. School management should implement transparent and competitive pricing policies, establish effective expectation management systems, and optimize references as an acquisition tool rather than a retention mechanism.

Keywords: Education costs; service quality; references; parents' satisfaction; Catholic school



Introduction

Primary education serves as the foundation determining a child's intellectual, social, and moral development. In Indonesia, the primary education landscape has become increasingly dynamic with the emergence of various private schools—including faith-based institutions—competing to offer superior educational services. Within this competitive context, parents can no longer be viewed as passive stakeholders. They are active consumers who consciously invest financial resources, time, and trust in the institution they select for their children's education (Kotler & Keller, 2016).

SD Katolik Damai, established on August 2, 1964, at Jalan Duri Selatan No. 29, Tambora, West Jakarta, represents one of the oldest private elementary schools in the area, operating under the Bunda Hati Kudus Education Foundation. Holding A accreditation from BAN-S/M, the school serves approximately 174 elementary students and is recognized for its character education excellence based on Catholic values integrated into the daily curriculum. Facilities are comprehensive, including air-conditioned classrooms, projectors, computer and science laboratories, various extracurricular activities, and the My Campus application-based information system for academic reporting and payments.

However, behind this seemingly solid profile, SD Damai faces a concerning challenge: a 15–17% decline in new student enrollment over the past two years (2023–2025). Internal school data records that elementary student numbers, which once reached over 200, now stand at 174. This decline cannot be separated from the context of emerging schools around Tambora offering more affordable fees. Cost comparisons show that SD Damai charges Rp5,200,000 for registration and Rp850,000/month in tuition, while competitors such as SD Paulus charge only Rp1,500,000 registration with Rp500,000/month tuition, Sekolah Pelita charges Rp2,000,000 registration with Rp925,000/month tuition, and Sekolah Bunda Mulia charges Rp8,600,000 registration with Rp1,300,000/month tuition.

This significant cost gap, combined with post-pandemic economic pressures still felt by most parents in densely populated urban areas like Tambora, drives researchers to empirically examine which factors genuinely shape parents' satisfaction in choosing SD Damai for their children. Three main variables relevant to educational service management studies are education costs, educational service quality, and references (word-of-mouth).

Literature reviews reveal inconsistent findings. Purwanti et al. (2021) and Herni Pujianti (2024) found that cost is not the primary determinant of satisfaction, as parents prioritize service quality. Conversely, Katarina Dian Kusuma Wardhani (2025) and Fhery Catur Wibowo et al. (2024) found the opposite. These inconsistencies demonstrate that the influence of these variables is contextual and situational, depending on school characteristics, location, and parents' socioeconomic profiles. Therefore, specific research on SD Damai's context is necessary to produce applicable and operational findings for school management.

Based on this background, this research formulates the following objectives: (1) to analyze the partial influence of education costs, educational service quality, and references on parents' satisfaction; and (2) to analyze the simultaneous influence of these three variables together on parents' satisfaction at SD Damai, Tambora, West Jakarta.

Research Methods

This study employs a quantitative approach with explanatory research design, aiming to explain causal relationships between variables through explicitly formulated hypothesis testing. The design is cross-sectional, with data collection conducted over a single period

(September–December 2025) to capture parents' perception conditions at the time of research. This approach was selected as appropriate for the study's explanatory objectives requiring statistical generalization from sample to population.

The research population comprised all parents of elementary students at SD Damai, totaling 174 individuals. Sample size determination used the Slovin formula with a 10% margin of error, yielding a minimum sample of 64 respondents. Following data collection via Google Form, 58 respondents met the inclusion criteria: active parents in the 2025/2026 academic year who had enrolled their children for at least one semester at SD Damai. The sampling technique was purposive sampling to ensure respondents possessed sufficient direct experience evaluating school services.

Education cost variable (X1) was operationalized as parents' perception of affordability, price fairness relative to quality, cost utilization transparency, and payment system convenience. Educational service quality variable (X2) was measured using adapted SERVQUAL dimensions: tangibles (physical facility completeness), reliability (service consistency), responsiveness (staff response speed), assurance (staff competence and trustworthiness), and empathy (individual attention to students). Reference variable (X3) was measured through received recommendation intensity, reference sources (family, friends, community), and the extent to which these references shaped parents' initial expectations. Parents' satisfaction variable (Y) was measured based on alignment between service expectations and reality, re-enrollment intention, and willingness to recommend the school to others.

All variables were measured using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire consisted of 50 statements distributed across the four variables.

Instrument validity testing used Pearson Product Moment Correlation with the criterion r -calculated $>$ r -table (r -table for $n = 58$ at $\alpha = 0.05$ is 0.258). Results showed all items on all four variables had r -calculated above 0.258, thus declared valid. Reliability testing used Cronbach's Alpha method with a minimum threshold of 0.70. Results showed Cronbach's Alpha values of $X1 = 0.847$; $X2 = 0.891$; $X3 = 0.823$; and $Y = 0.876$. All variables were declared reliable, and the instrument was deemed appropriate for data collection.

Data analysis was conducted progressively using SPSS version 26. The first stage involved classical assumption tests: (a) normality test using Kolmogorov-Smirnov to ensure normally distributed residuals; (b) heteroscedasticity test using Glejser test to confirm homogeneous residual variance; and (c) multicollinearity test using Tolerance and VIF values to ensure no strong correlation among independent variables. The second stage employed multiple linear regression analysis with the model: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$. The third stage consisted of hypothesis testing through coefficient of determination (R^2) for simultaneous F-test and t-test for partial effects at $\alpha = 0.05$ significance level.

Result

Respondent Profile

Among the 58 participating parents, the gender composition was predominantly female. Age distribution placed all respondents within the productive age range. The most critical factor in this research context was the number of children enrolled at SD Damai; the majority (68.97%) had a single child enrolled, which implies high intensity of attention and service quality expectations. Furthermore, the participants represented various professions, reflecting the socioeconomic heterogeneity characteristic of Tambora residents.

Classical Assumption Tests

The Kolmogorov-Smirnov normality test produced significance values > 0.05 for all variables, indicating normally distributed residuals meeting regression analysis requirements. The Glejser heteroscedasticity test showed significance values for all variables > 0.05, confirming no heteroscedasticity in the model. Multicollinearity testing produced Tolerance values of X1 = 0.521 (VIF = 2.07), X2 = 0.406 (VIF = 5.119), and X3 = 0.247 (VIF = 4.047). All Tolerance values > 0.10 and VIF < 10 confirmed no multicollinearity in this research model. With all classical assumptions satisfied, the multiple linear regression model was declared appropriate for use.

Coefficient of Determination (R²)

Regression model analysis showed R = 0.867, indicating a very strong relationship between the three independent variables collectively and parents' satisfaction. The R Square (R²) value of 0.752 indicates that 75.2% of the variation in parents' satisfaction at SD Damai can be explained by the combination of education costs, service quality, and reference variables. The Adjusted R Square value of 0.738 confirms the stability and generalizability of this model to a broader population. The Standard Error of the Estimate value of 3.494, being relatively small, indicates good predictive accuracy for this model.

F-Test Results (Simultaneous)

The F-test examining the simultaneous influence of all independent variables on the dependent variable showed an F-calculated value of 86.408 with a significance level of 0.000. Since the significance value is far smaller than $\alpha = 0.05$, H4 is accepted: education costs (X1), educational service quality (X2), and references (X3) simultaneously have a significant influence on parents' satisfaction (Y). This very large F value statistically proves that the constructed regression model is highly fit and valid for explaining the phenomenon of parents' satisfaction at SD Damai.

T-Test Results (Partial) and Multiple Linear Regression

Partial hypothesis testing (t-test) and regression coefficient analysis produced the following regression equation:

$$Y = 2.277 + 0.039X_1 - 0.001X_2 + 0.001X_3$$

Table 1. Multiple Linear Regression Results and Hypothesis Testing

Variable	B (Coefficient)	t-calculated	Sig.	Conclusion
Constant (α)	2.277	---	---	---
Education Costs (X1)	0.039	39.079	0.000	Significant (+) ✓ H1 accepted
Service Quality (X2)	-0.001	-2.546	0.014	Significant (-) ✓ H2 accepted*
References (X3)	0.001	0.953	0.345	Not significant X H3 rejected

R = 0.867 | R² = 0.752 | Adjusted R² = 0.738 | F-calculated = 86.408 | Sig. F = 0.000

*H2 accepted with negative direction (expectation paradox)

Source: Primary data processed with SPSS 26, 2025

Discussion

Education Costs: The Primary Determinant Reflecting Value-for-Money Logic

The most prominent finding in this study is the dominant role of education costs as the primary determinant of parents' satisfaction at SD Damai, with t -calculated = 39.079 and significance = 0.000. This influence strength far exceeds other variables and differs from several previous studies that placed service quality as the main satisfaction determinant in educational services.

This phenomenon can be understood through three complementary analytical lenses. First, from the perceived value perspective (Zeithaml, 1988), parents in the Tambora area—most of whom face post-pandemic economic pressures—conduct very strict value-for-money calculations. Given that SD Damai's costs are objectively higher than nearby competitors (Rp5.2 million registration vs. Rp1.5–2 million at other schools), every rupiah spent is expected to yield equal or greater benefits. When this expectation is met, satisfaction forms; when not, the resulting disappointment tends to be more intense.

Second, from the price-as-quality-signal perspective, parents in private schools paying higher fees indirectly associate costs with quality promises. Transparency and honesty in fee management become crucial factors. Several SD Damai parents represented in this research sample indicated that unclear use of activity fees and imported book costs constitute specific sources of dissatisfaction. This finding aligns with Katarina Dian Kusuma Wardhani (2025) and Fhery Catur Wibowo et al. (2024).

Third, from the local competition perspective, the emergence of new schools in Tambora offering more affordable fees with reasonably adequate facilities has shifted parents' price reference points. When lower-cost alternatives are available at reasonably close locations, price sensitivity toward SD Damai's costs increases dramatically. This explains why the cost variable has such a high t -calculated value—nearly four times above the t -table value—in this study.

Service Quality: The Expectation Paradox Among Single-Child Parents

The most unique finding requiring specific attention is that educational service quality significantly influences parents' satisfaction but in a negative direction ($\beta = -0.001$; $t = -2.546$; $\text{sig} = 0.014$). Intuitively, this appears contrary to most previous research findings. However, this phenomenon can be theoretically explained through Expectation-Disconfirmation theory (Oliver, 1980) within a specific context.

The key explanation lies in the respondent profile: 68.97% of parents have only one child enrolled at SD Damai. Parents with a single child tend to devote much more intense and detailed attention to their child's development, consequently applying higher and more critical evaluation standards to service quality. In this situation, an expectation paradox applies: the better the perceived service quality, the higher the new standards they set for subsequent evaluations. If the school cannot consistently exceed these continuously rising standards, satisfaction perception actually decreases even though services have objectively been improved.

The managerial implications of this finding are very important: SD Damai not only needs to improve service quality physically and technically but must also actively manage parents' expectations to remain aligned with the school's actual capacity. Regular communication forums between school management and parents, transparent progress reports, and realistic service target setting are several mechanisms that can help address this expectation paradox.

References: Satisfaction Based on Direct Experience, Not Recommendations

The non-significant influence of references on parents' satisfaction ($t = 0.953$; $\text{sig} = 0.345$) represents an interesting empirical finding from service marketing theory perspective. Normatively, WOM is considered one of the strongest factors in shaping customer perceptions, especially for intangible services like education that are highly experience-dependent. However, data from SD Damai shows a different picture.

This phenomenon can be explained through the concepts of experiential learning and direct evaluation. After parents have actually experienced enrolling their children at SD Damai for several semesters, their satisfaction evaluation is based entirely on direct personal experience—not on narratives constructed by others before enrollment. References received prior to enrollment may be effective in influencing initial decisions (pre-purchase behavior), but their influence diminishes as the accumulation of real post-enrollment experience strengthens.

This finding also indicates that SD Damai parents are independent and critical consumers. They are not trapped in confirmation bias toward received references; rather, they conduct independent and objective evaluations based on what they directly witness and feel. In this context, references are more relevant as a new student acquisition strategy (marketing tool) than as a satisfaction retention mechanism for existing parents.

Simultaneous Influence: Satisfaction as Holistic and Systemic Evaluation

Although partial influences vary in direction and significance levels across variables, simultaneously the three variables explain 75.2% of the variation in parents' satisfaction—a very high figure for survey-based research in the primary education service sector. The very large F value of 86.408 confirms that this research model is very strong in describing field realities.

This finding supports the argument that parents' satisfaction is a multidimensional construct that cannot be reduced to a single factor. Parents conduct holistic evaluations simultaneously considering cost affordability, received service quality, and information circulating in their social environment. Even references—although not partially significant—contribute to forming the perceptual background that influences how parents interpret their school experiences. This finding aligns with Oliver's (1980) conceptual framework viewing satisfaction as the result of a complex multifactor evaluation process.

Conclusion

Based on the research results and discussion, this study produces four main conclusions. First, education costs have a positive and significant influence on parents' satisfaction at SD Damai ($t = 39.079$; $\text{sig} = 0.000$), making it the most dominant variable in this study. The high sensitivity to costs reflects the value-for-money logic that parents apply when evaluating school services, especially in the context of increasingly intense price competition in Tambora.

Second, educational service quality significantly influences parents' satisfaction ($t = -2.546$; $\text{sig} = 0.014$), but with a negative direction indicating an expectation paradox phenomenon. Improved service quality actually raises parents' expectation standards—especially among those with only one child—making satisfaction increasingly difficult to achieve without proactive expectation management.

Third, references do not significantly influence parents' satisfaction ($t = 0.953$; $\text{sig} = 0.345$), indicating that enrolled parents' satisfaction is shaped more by direct experience than external

recommendations. SD Damai parents are independent and critical consumers in evaluating service quality.

Fourth, simultaneously, all three variables have a highly significant influence on parents' satisfaction ($F = 86.408$; $\text{sig} = 0.000$) with a coefficient of determination $R^2 = 75.2\%$, confirming that this research model explains three-quarters of the variation in parents' satisfaction at SD Damai.

Managerial Implications

Based on these findings, management of SD Damai and the Bunda Hati Kudus Education Foundation is advised to take the following strategic actions. First, establish transparent, competitive, and flexible pricing policies. Given that cost is the primary satisfaction determinant, any price policy change must be proactively communicated with detailed explanations of benefits parents will receive. Installment programs, merit-based scholarships, and early payment discounts can serve as instruments to enhance perceived fee fairness.

Second, build an effective expectation management system. Regular communication forums between management, teachers, and parents need to be institutionalized—not only during grade announcements or payments but also to explain service improvement progress and school achievement targets. Transparency in quality improvement planning and reporting will help parents develop more realistic and measurable expectations.

Third, optimize references as an acquisition tool—not retention. Since references are effective in attracting potential new parents, digital marketing strategies based on authentic testimonials, Google reviews, and authentic social media content need strengthening. Referral programs with meaningful incentives for parents who successfully recommend new students are also worth considering.

Limitations and Future Research Agenda

This study has several limitations that should be openly acknowledged. First, using questionnaires as the sole data collection instrument limits depth of understanding regarding parents' motives and experiences. Future research should employ mixed methods combining questionnaires with in-depth interviews to capture qualitative nuances not measurable by Likert scales. Second, the cross-sectional design cannot capture changes in satisfaction over time. Longitudinal studies examining parents' satisfaction across academic years would provide a more dynamic picture. Third, the limited scope of research to a single school limits finding generalizability. Replication studies at other Catholic schools in Jakarta or other cities would strengthen the ecological validity of these findings.

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