

The Influence of Total Quality Management-Based Educational Service Quality on Parents' Satisfaction and Loyalty

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ABSTRACT

This study aims to analyze the effect of Total Quality Management-based educational service quality on parental satisfaction and parental loyalty at SMK Sasmita Jaya 2. This research employed a quantitative approach with an explanatory survey design. The population consisted of 780 parents, and the sample was determined using the Slovin formula with a 5% error level, resulting in 265 respondents. Data were collected using a Likert-scale questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. The results indicate that educational service quality has a positive and significant effect on parental satisfaction with a path coefficient of 0.782 and a t-statistic of 14.231. Educational service quality also directly affects parental loyalty with a coefficient of 0.341 and a t-statistic of 4.562. Furthermore, parental satisfaction significantly influences parental loyalty with a coefficient of 0.523 and a t-statistic of 7.812. The findings also reveal that parental satisfaction mediates the relationship between educational service quality and parental loyalty with a coefficient of 0.409 and a t-statistic of 6.174. The R-square values indicate that educational service quality explains 61.2% of parental satisfaction and 68.7% of parental loyalty. These findings suggest that improving Total Quality Management-based educational services is an important strategy to enhance parental satisfaction and loyalty.



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A. INTRODUCTION

The competition among vocational secondary education institutions has intensified in recent years, driven by increasing public demand for high-quality educational services. Schools are not only expected to produce competent graduates but also to deliver educational services that satisfy parents as primary stakeholders. In the context of modern education, schools are increasingly viewed as service organizations whose success is largely determined by the quality of services provided to educational users. High-quality service contributes to customer satisfaction and ultimately fosters loyalty toward educational institutions. Empirical evidence indicates that academic service quality significantly influences satisfaction and loyalty among education service users, making service quality improvement a critical strategy for institutional sustainability (Supriyanto et al., 2025). This highlights that schools capable of delivering superior

service quality are more likely to achieve higher levels of customer satisfaction and long-term loyalty.

Educational service quality is a key determinant of customer satisfaction, encompassing both students and parents. It includes various dimensions such as teacher professionalism, adequacy of facilities, accuracy of administrative services, effective communication with parents, and efficient school management systems. Research by Kosasih et al. (2024) demonstrates that educational service quality significantly affects student satisfaction and contributes to school loyalty. This finding is supported by Fahlevi and Sugiat (2025), who argue that service quality directly influences both satisfaction and loyalty among education service users. Furthermore, Pradiani (2025) found that academic quality and school services significantly impact parental satisfaction and loyalty. These findings suggest that educational service quality not only affects students but also plays a crucial role in shaping parents' perceptions and decisions, emphasizing the importance of continuous service quality improvement to maintain public trust.

Parental satisfaction serves as an essential indicator in evaluating the effectiveness of educational services. As primary decision-makers, parents hold expectations regarding service quality, learning outcomes, and both academic and non-academic development of their children. When these expectations are met, parents tend to experience satisfaction and are more likely to maintain their choice of school. Kusumaningrum et al. (2024) found a significant relationship between institutional service quality and parental satisfaction. Similarly, Savira et al. (2024) reported that perceived school service quality contributes positively to parental satisfaction, while Efendi et al. (2025) confirmed a positive correlation between service quality and parental satisfaction. These findings reinforce the notion that improving educational service quality is a strategic approach to enhancing customer satisfaction in the education sector.

Beyond satisfaction, parental loyalty is a critical factor for the sustainability of educational institutions, particularly private schools that rely heavily on public trust. Parental loyalty can be reflected in continued enrollment decisions, support for school programs, and recommendations to others. Supriyanto et al. (2025) found that satisfaction significantly influences loyalty toward educational institutions. This is consistent with Kosasih et al. (2024), who demonstrated that customer satisfaction leads to increased school loyalty. Additionally, Pradiani (2025) reported that parental satisfaction has a significant effect on loyalty toward educational institutions. These findings indicate that satisfaction is a key driver of loyalty, highlighting the importance of service quality as a strategic tool in strengthening institutional sustainability.

Efforts to improve educational service quality can be effectively implemented through the adoption of Total Quality Management (TQM). This approach emphasizes continuous improvement, customer focus, involvement of all organizational members, and systematic quality control. Inayati and Wulansari (2025) found that TQM implementation significantly enhances educational service quality. This is supported by Sari (2024), who noted that TQM improves customer satisfaction through continuous quality improvement. Furthermore, Saleh et al. (2025) emphasized that TQM serves as a strategic framework for improving educational quality due to its strong orientation toward customer satisfaction. Al-Idrus et al. (2025) also demonstrated that TQM implementation increases satisfaction among both parents and students. Therefore, TQM represents an effective approach to improving service quality, which in turn impacts satisfaction and loyalty.

Conceptually, TQM-based educational service quality extends beyond learning outcomes to include the overall service process experienced by customers. It involves

interactions between teachers and students, administrative systems, learning facilities, and communication with parents. Irmawati et al. (2025) explain that educational service quality encompasses academic services, school management, and facility support. When these components are effectively managed through TQM principles, parental satisfaction increases, leading to stronger loyalty. Thus, integrating educational service quality with TQM is essential for enhancing both satisfaction and loyalty among parents.

In practice, SMK Sasmita Jaya 2, as a private vocational high school, faces challenges in improving service quality to maintain public trust. Increasing competition among private vocational schools in South Tangerang and rising parental expectations regarding graduate quality require continuous service improvement. Common challenges in private vocational schools include limited communication with parents, inefficiencies in academic administrative services, lack of transparency in student progress reporting, and insufficient competency-based learning facilities. Additionally, parental involvement in school programs remains relatively low, indicating the need for stronger engagement strategies. These conditions suggest that the implementation of TQM-based educational service quality must be optimized to enhance parental satisfaction and loyalty at SMK Sasmita Jaya 2.

Despite extensive research on service quality, satisfaction, and loyalty, several research gaps remain. Previous studies consistently reported positive relationships among educational service quality, satisfaction, and loyalty (Kosasih et al., 2024; Fahlevi & Sugiat, 2025; Pradiani, 2025). However, the findings are not entirely consistent regarding the mechanism through which educational service quality influences parental loyalty. Kosasih et al. (2024) emphasized the direct influence of educational service quality on loyalty, whereas Pradiani (2025) demonstrated that parental satisfaction plays an important role in strengthening loyalty. Likewise, Supriyanto et al. (2025) identified satisfaction as a dominant predictor of customer loyalty, suggesting that the mediating role of satisfaction may differ across educational contexts. These inconsistencies indicate that the relationship among educational service quality, parental satisfaction, and parental loyalty requires further empirical verification, particularly within vocational secondary education.

In addition to these inconsistent findings, previous studies present several methodological limitations. Most research has employed students as the primary respondents, while parents, as the principal decision-makers in school selection and continued enrollment, have received considerably less attention (Kosasih et al., 2024; Fahlevi & Sugiat, 2025). Furthermore, although Total Quality Management (TQM) has been recognized as an effective management approach for improving educational quality (Inayati & Wulansari, 2025; Saleh et al., 2025), many empirical studies have investigated educational service quality without explicitly examining how TQM-based service quality influences parental loyalty through parental satisfaction as an intervening mechanism. Existing studies have also been conducted predominantly in higher education and primary school settings, leaving vocational secondary education relatively underexplored.

Accordingly, this study addresses these theoretical and methodological gaps by examining the influence of TQM-based educational service quality on parental satisfaction and parental loyalty. The primary novelty of this research lies in the development and empirical testing of a mediation model in which parental satisfaction explains the mechanism through which TQM-based educational service quality affects parental loyalty. While previous studies have generally examined the direct relationships among service quality, satisfaction, and loyalty, evidence regarding this mediation mechanism within a TQM framework remains limited. The investigation conducted at SMK Sasmita Jaya 2, a private vocational secondary school, constitutes a contextual contribution rather than the principal novelty, providing empirical evidence from an educational setting that has received relatively limited scholarly attention.

Therefore, this study is expected to enrich the literature on educational quality management by extending the understanding of the causal mechanism linking TQM-based educational service quality and parental loyalty, while also offering practical implications for improving educational services in vocational secondary education.

B. METHODS

This study employs a quantitative approach with an explanatory survey design to analyze the influence of Total Quality Management-based educational service quality on parental satisfaction and loyalty at SMK Sasmita Jaya 2. The quantitative approach is chosen to empirically test causal relationships among variables through statistical analysis. The explanatory design aims to examine the relationships between TQM-based educational service quality as the independent variable, parental satisfaction as the mediating variable, and parental loyalty as the dependent variable.

Data were collected using a structured questionnaire based on a five-point Likert scale, ranging from strongly disagree to strongly agree. This approach allows for the collection of objective data that can be statistically analyzed to test research hypotheses systematically (Creswell & Creswell, 2018; Sugiyono, 2017).

The population of this study consists of all parents of students at SMK Sasmita Jaya 2, totaling 780 individuals in the current academic year. Given the relatively manageable population size, probability sampling was applied using proportional random sampling to ensure equal representation. The sample size was determined using Slovin's formula with a 5% margin of error, resulting in 265 respondents. This sample size is considered adequate for Structural Equation Modeling using Partial Least Squares (PLS-SEM), as it meets the recommended criteria of 5–10 times the number of indicators and a minimum of 200 observations for stable estimation (Hair et al., 2022). Therefore, 265 respondents are deemed sufficient for comprehensive model testing.

Data collection was conducted through direct distribution of questionnaires to parents. The research instrument was developed by adapting measurement constructs from well-established studies on educational service quality, customer satisfaction, and customer loyalty. The educational service quality construct was operationalized using indicators reflecting service reliability, responsiveness, assurance, empathy, and tangible aspects, consistent with the service quality dimensions proposed in previous educational service studies and the SERVQUAL framework (Kotler & Keller, 2016; Irmawati et al., 2025). The parental satisfaction construct was adapted from previous studies examining parents' perceptions of educational services (Kusumaningrum et al., 2024; Savira et al., 2024), while the parental loyalty construct was adapted from studies measuring parents' intention to continue school enrollment, willingness to recommend the school, commitment, and support for school programs (Pradiani, 2025; Supriyanto et al., 2025).

Before large-scale data collection, the questionnaire underwent a content validation process through expert judgment involving two experts in educational management and one expert in educational measurement to ensure the relevance and clarity of each item. Minor revisions were made based on their recommendations regarding wording and contextual suitability for vocational secondary education. Subsequently, the instrument was pilot-tested on a small group of parents outside the main sample to evaluate item clarity and consistency. Construct validity and reliability were then assessed in the main study using convergent validity, discriminant validity, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's alpha within the PLS-SEM framework.

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. This method is suitable for analyzing complex relationships among latent variables and is widely used in predictive research with

moderate sample sizes (Hair et al., 2022; Ghozali, 2022). Hypothesis testing was carried out using bootstrapping procedures to evaluate path coefficients, t-statistics, and p-values. Additionally, model evaluation included goodness-of-fit measures such as R-square and predictive relevance.

Construct validity criteria followed the threshold of Average Variance Extracted (AVE) greater than 0.50 and composite reliability above 0.70, as recommended in structural model evaluation (Fornell & Larcker, 1981).

C. RESULT AND DISCUSSION

RESULT

1. Characteristics of Respondents

The respondents in this study were parents of students at SMK Sasmita Jaya 2, totaling 265 individuals. This number was obtained based on the Slovin formula calculation with a 5% margin of error from the total population of 780 parents. The characteristics of respondents in this study were classified based on gender, student grade level, and parents' occupation. The description of respondent characteristics aims to provide a general overview of the profile of participants involved in the study, thereby strengthening the interpretation of subsequent analytical results.

Table 1. Characteristics of Respondents

Characteristics	Category	Frequency	Percentage
Gender	Male	118	44.5%
	Female	147	55.5%
Student Grade	X	92	34.7%
	XI	88	33.2%
	XII	85	32.1%
Occupation	Private Employee	96	36.2%
	Entrepreneur	71	26.8%
	Civil Servant	34	12.8%
	Others	64	24.2%
Total		265	100%

Based on Table 1, the characteristics of respondents by gender indicate that the majority are female parents, totaling 147 respondents or 55.5%, while male respondents amount to 118 or 44.5%. This shows that mothers were more dominant in completing the questionnaire than fathers, indicating that mothers play a more active role in monitoring educational services and students' academic development at SMK Sasmita Jaya 2. This condition also suggests that perceptions of educational service quality in this study are largely represented by mothers as primary education customers.

Furthermore, based on student grade level, respondents consisted of 92 respondents (34.7%) from grade X, 88 respondents (33.2%) from grade XI, and 85 respondents (32.1%) from grade XII. This distribution indicates that respondents were drawn from all grade levels with relatively balanced proportions. This suggests that parents' perceptions of educational service quality at SMK Sasmita Jaya 2 reflect service experiences across all grade levels, from newly enrolled students to final-year students. The representation of respondents from each grade level also strengthens the validity of the data, as it reflects the overall condition of school services.

Based on parents' occupation, respondents were dominated by private employees, totaling 96 respondents or 36.2%. This was followed by entrepreneurs with 71 respondents (26.8%), other occupations with 64 respondents (24.2%), and civil servants with 34 respondents (12.8%). This distribution indicates that most parents at SMK Sasmita Jaya 2 come from private employment and entrepreneurial backgrounds. This condition reflects that the majority of parents have relatively high work activity, requiring school services that are responsive, communicative, and easily accessible. Additionally, the diversity of occupations indicates that SMK Sasmita Jaya 2 serves communities with varied socio-economic backgrounds.

Overall, the characteristics of respondents indicate that the majority are female parents, with a balanced distribution across grade levels, and dominated by private employees and entrepreneurs. This condition shows that the research data proportionally represent the population of parents at SMK Sasmita Jaya 2. Therefore, these respondent characteristics provide a comprehensive overview of parents' perceptions regarding TQM-based educational service quality, satisfaction, and loyalty toward SMK Sasmita Jaya 2.

2. Measurement Model Evaluation (Outer Model)

a. Convergent Validity Test

The convergent validity test was conducted to determine the extent to which indicators are able to reflect latent constructs in each research variable. Convergent validity is assessed based on loading factor values greater than 0.70 and Average Variance Extracted (AVE) values greater than 0.50. The analysis was performed using Partial Least Squares (PLS) with SmartPLS software. The results of the convergent validity test are presented in Table 2.

Table 2. Convergent Validity Test Results (Loading Factor)

Variable	Code	Indicator	Loading Factor	Remark
TQM-Based Service Quality	X1	Service reliability	0.812	Valid
	X2	Service responsiveness	0.846	Valid
	X3	Service assurance	0.831	Valid
	X4	Empathy toward parents	0.802	Valid
	X5	Tangible evidence	0.825	Valid
Parental Satisfaction	Y1.1	Satisfaction with academic services	0.874	Valid
	Y1.2	Satisfaction with school communication	0.861	Valid
	Y1.3	Satisfaction with facilities	0.843	Valid
	Y1.4	Overall satisfaction	0.818	Valid
Parental Loyalty	Y2.1	Intention to remain enrolled	0.867	Valid
	Y2.2	Willingness to recommend	0.854	Valid
	Y2.3	Commitment to school	0.826	Valid
	Y2.4	Support for school programs	0.839	Valid

Based on Table 2, all indicators have loading factor values above 0.70. This indicates that all indicators are able to validly reflect the constructs of TQM-based service quality, parental satisfaction, and parental loyalty. Therefore, all indicators meet the convergent validity criteria and can be used for further analysis.

b. Average Variance Extracted (AVE)

In addition to loading factors, convergent validity is also evaluated using the Average Variance Extracted (AVE). The AVE value indicates the construct's ability to explain the variance of its indicators. A construct is considered valid if it has an AVE value greater than 0.50. The results are presented in Table 3.

Table 3. Average Variance Extracted (AVE) Results

Variable	AVE	Standard	Remark
TQM-Based Service Quality	0.676	> 0.50	Valid
Parental Satisfaction	0.721	> 0.50	Valid
Parental Loyalty	0.708	> 0.50	Valid

Based on Table 3, all variables have AVE values above 0.50. This indicates that the constructs of TQM-based service quality, parental satisfaction, and parental loyalty have good convergent validity. Therefore, the measurement model meets the criteria and can proceed to reliability testing.

c. Reliability Test

The reliability test was conducted to determine the internal consistency of indicators in measuring latent variables. Reliability is assessed using Cronbach's Alpha and Composite Reliability, with a threshold greater than 0.70. The results are presented in Table 4.

Table 4. Construct Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability	Standard	Remark
TQM-Based Service Quality	0.881	0.912	> 0.70	Reliable
Parental Satisfaction	0.871	0.913	> 0.70	Reliable
Parental Loyalty	0.864	0.905	> 0.70	Reliable

Based on Table 4, all variables have Cronbach's Alpha and Composite Reliability values above 0.70. This indicates that all constructs have a high level of reliability. Therefore, the indicators for TQM-based service quality, parental satisfaction, and parental loyalty demonstrate good internal consistency and are suitable for structural model analysis (inner model).

3. Structural Model Evaluation (Inner Model)

The structural model evaluation aims to examine the relationships among latent variables, namely the effect of TQM-based educational service quality on parental satisfaction and parental loyalty. The evaluation is conducted by analyzing R-square (R^2), path coefficients, t-statistics, and p-values using the bootstrapping procedure in SmartPLS. The R-square value indicates the explanatory power of exogenous variables on endogenous variables, while hypothesis testing determines the significance of relationships among variables.

Table 5. R-Square Values of Structural Model

Endogenous Variable	R Square	R Square Adjusted	Category
Parental Satisfaction	0.612	0.608	Moderate-Strong
Parental Loyalty	0.687	0.682	Moderate-Strong

Based on Table 5, the R-square value for parental satisfaction is 0.612, indicating that TQM-based educational service quality explains 61.2% of the variance in parental satisfaction, while the remaining 38.8% is influenced by other variables outside the model. Furthermore, the R-square value for parental loyalty is 0.687, meaning that TQM-based service quality and parental satisfaction explain 68.7% of the variance in parental loyalty, while 31.3% is influenced by other variables not examined in this study. These values indicate that the model has strong predictive capability in explaining parental loyalty at SMK Sasmita Jaya 2.

4. Hypothesis Testing (Bootstrapping)

Hypothesis testing was conducted using the bootstrapping technique in SmartPLS to determine the significance of relationships among variables. A hypothesis is accepted if the t-statistic > 1.96 and p-value < 0.05. The results are presented in Table 6.

Table 6. Hypothesis Testing Results (Bootstrapping)

Hypothesis	Variable Relationship	Path Coefficient	T-Statistic	P-Value	Decision
H1	TQM Service Quality → Parental Satisfaction	0.782	14.231	0.000	Accepted
H2	TQM Service Quality → Parental Loyalty	0.341	4.562	0.000	Accepted
H3	Parental Satisfaction → Parental Loyalty	0.523	7.812	0.000	Accepted
H4	TQM Service Quality → Parental Loyalty (Mediated by Satisfaction)	0.409	6.174	0.000	Accepted

Based on Table 6, the first hypothesis indicates that TQM-based educational service quality has a positive and significant effect on parental satisfaction, with a path coefficient of 0.782, t-statistic of 14.231, and p-value of 0.000. This shows that better service quality leads to higher parental satisfaction.

The second hypothesis indicates that TQM-based educational service quality has a positive and significant effect on parental loyalty, with a path coefficient of 0.341, t-statistic of 4.562, and p-value of 0.000. This suggests that improvements in service quality directly enhance parental loyalty.

The third hypothesis shows that parental satisfaction has a positive and significant effect on parental loyalty, with a path coefficient of 0.523, t-statistic of 7.812, and p-value of 0.000. This indicates that higher satisfaction leads to stronger parental loyalty.

The fourth hypothesis indicates that parental satisfaction mediates the relationship between TQM-based educational service quality and parental loyalty, with a path coefficient of 0.409, t-statistic of 6.174, and p-value of 0.000. This shows that service quality influences loyalty both directly and indirectly through parental satisfaction. Therefore, parental satisfaction acts as a mediating variable that strengthens the relationship between TQM-based educational service quality and parental loyalty at SMK Sasmita Jaya 2.

DISCUSSION

This study examined the influence of Total Quality Management (TQM)-based educational service quality on parental satisfaction and parental loyalty at SMK Sasmita Jaya 2. The findings demonstrate that TQM-based educational service quality significantly enhances parental satisfaction and parental loyalty. In addition, parental satisfaction plays an important role in strengthening parental loyalty and serves as a mediating mechanism through which educational service quality contributes to loyalty. These findings suggest that improving educational service quality through the implementation of TQM principles not only directly increases parents' trust and commitment toward the school but also indirectly strengthens loyalty by fostering higher levels of parental satisfaction. Therefore, parental satisfaction represents a key mechanism linking service quality initiatives to sustainable parental loyalty in vocational secondary education.

The results of this study are consistent with the findings of Wulandari et al. (2024), which revealed that the quality of early childhood education services significantly influences parental loyalty through satisfaction as a mediating variable. These findings indicate that parental satisfaction is an important factor in building loyalty toward educational institutions. Furthermore, Budiyanto et al. (2021) also stated that service quality has a direct influence on both satisfaction and loyalty of early childhood education parents. This suggests that educational service quality is a key determinant in enhancing customer loyalty in the education sector.

The significant effect of TQM-based educational service quality on parental satisfaction in this study also strengthens the findings of Rajadurai and Jan (2018), which demonstrated that the service quality of private schools has a positive effect on parental satisfaction. Research by Slamet and Saputra (2024) also indicates that educational service quality significantly contributes to student and parental satisfaction in private secondary schools. In addition, Savira et al. (2024) found that perceived school service quality contributes to parental satisfaction levels. Therefore, educational service quality serves as a primary factor in shaping customer satisfaction in education.

The findings of this study also show that parental satisfaction has a significant effect on parental loyalty. This supports the study by Badri and Mohaidat (2014), which stated that parental satisfaction plays a role in enhancing school reputation and customer loyalty. Similarly, Skallerud (2011) found a positive relationship between parental satisfaction and school loyalty. This indicates that when parents are satisfied with the educational services provided by a school, they are more likely to continue enrolling their children and recommend the school to others.

Furthermore, the results indicate that TQM-based educational service quality also has a direct effect on parental loyalty. This finding is in line with Nurlailiyah (2025), which stated that school service quality affects parental satisfaction, which in turn impacts loyalty. Pradiani (2025) also demonstrated that academic quality and school services influence both satisfaction and parental loyalty. This suggests that improving educational service quality not only enhances satisfaction but also directly contributes to parental loyalty toward the school.

The role of satisfaction as a mediating variable in this study indicates that TQM-based educational service quality affects loyalty not only directly but also indirectly through increased parental satisfaction. This finding is consistent with Wulandari et al. (2024), which identified parental satisfaction as an important mediator between service quality and loyalty. Anggraini et al. (2024) also found that educational service quality influences parental satisfaction, which subsequently increases school loyalty. Therefore, parental

satisfaction functions as an intervening variable that strengthens the relationship between educational service quality and parental loyalty.

Overall, the findings of this study confirm that the implementation of Total Quality Management in educational services can enhance parental satisfaction and loyalty. This is also supported by Ikhwan et al. (2025), which stated that integrated and quality-oriented educational service management can increase public trust in schools. The present study further extends this evidence by demonstrating that parental satisfaction is not merely an outcome of service quality but also a crucial mechanism that translates TQM-based educational service quality into stronger parental loyalty. This finding contributes to the educational quality management literature by providing empirical support for the mediating role of parental satisfaction within a TQM framework in the context of vocational secondary education.

D. CONCLUSION AND SUGGESTIONS

This study examined the influence of Total Quality Management (TQM)-based educational service quality on parental satisfaction and parental loyalty at SMK Sasmita Jaya 2. The findings demonstrate that TQM-based educational service quality significantly enhances parental satisfaction and parental loyalty. Furthermore, parental satisfaction serves as an important mediating mechanism through which educational service quality strengthens parental loyalty. These findings confirm that implementing TQM principles in educational services not only improves parents' perceptions of service quality but also fosters stronger long-term commitment and loyalty toward the school.

From a theoretical perspective, this study contributes to the educational quality management literature by providing empirical evidence that parental satisfaction functions as a key mediating mechanism linking TQM-based educational service quality and parental loyalty. This finding extends previous studies that primarily focused on direct relationships among these variables by demonstrating the importance of examining the indirect pathway through parental satisfaction.

Practically, the findings suggest that school administrators should prioritize the implementation of TQM principles through continuous service improvement, transparent communication with parents, responsive academic and administrative services, and systematic quality evaluation. Strengthening these aspects is expected to enhance parental satisfaction, which subsequently promotes parental loyalty and reinforces the long-term sustainability of private vocational secondary schools.

This study has several limitations. First, the research was conducted in a single private vocational secondary school, which may limit the generalizability of the findings to other educational contexts. Second, the study relied solely on parents' perceptions collected through a cross-sectional survey, which may not fully capture changes in satisfaction and loyalty over time. Third, the research examined only TQM-based educational service quality and parental satisfaction, whereas other factors, such as school image, perceived value, trust, student academic achievement, and parental engagement, may also influence parental loyalty.

Future research is recommended to validate the proposed mediation model across different educational settings, including public schools, higher education institutions, and other vocational schools. Longitudinal studies are also encouraged to examine changes in parental satisfaction and loyalty over time. Furthermore, future studies may incorporate additional variables, such as school reputation, trust, perceived value, digital service quality, or parental engagement, to develop a more comprehensive understanding of the determinants of parental loyalty in educational institutions.

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