

Analysis of Service Quality, Sustainable Environment, and Marketing Promotion on the Satisfaction of Az-Zahrah Vocational School Students and Their Decision to Choose as a Mediating Variable

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Abstract: In this study, the variables of service quality, sustainable environment, and promotion and choice decisions were used as mediators to evaluate the variables that influence the satisfaction of AZ-ZAHRAH vocational school students. To ensure that the Sustainable Development Goals (SDGs) are properly fulfilled, the fourth goal of quality education is one of the concepts that can be applied in schools. To achieve the fourth goal of quality education, the government, schools, and the entire school community must work together. The SDGs inform all schools that implementing environmental sustainability in the education sector is important. This study employs a quantitative approach using the Structural Equation Modeling program, which performs Partial Least Square analysis. The study found a positive and significant relationship between service quality, sustainable environment, and promotion factors and student satisfaction at SMK AZ-ZAHRAH through choice decisions as mediating variables. The purpose of this study is to contribute theoretically to the literature on service quality analysis, environmental sustainability, and promotion of student satisfaction through decision-making as a mediating variable. The practical contribution is that the results of this study provide hope for SMK Az-Zahrah Jakarta Utara to identify effective strategies to strengthen its position in the education market, offer recommendations to school administrators for improving the attractiveness and quality of education, and support the achievement of relevant sustainable development goals.

Keywords: Service Quality, Sustainable Environment, Promotion, Customer Satisfaction, and Choice Decision.

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I. INTRODUCTION

Sustainable development has become an important focus in the modern era, one of which is through the implementation of the Sustainable Development Goals (SDGs) initiated by the United Nations (UN). The SDGs have 17 goals and 169 indicators that are expected to be achieved by 2030, one of which is goal 4 on quality education. Quality education is not only aimed at enhancing students' competencies but also at instilling awareness of the importance of environmental conservation. Schools are expected to serve as agents of change in applying sustainable environmental principles, thereby creating an environmentally friendly educational ecosystem that supports optimal learning processes.

Based on a report by Bappenas (2023), the Indonesian government has integrated education for sustainable development (ESD) and global citizenship education (GCE) into the national education system. Four main components are the focus of implementation, namely education policy, curriculum, teacher training, and student assessment. The high achievement of sustainable education integration indicates a strong commitment to realizing the SDGs in the field of education. However, challenges remain, particularly in terms of the availability of supporting infrastructure and the equitable distribution of quality education services across all regions of Indonesia.

One of the most prominent issues is the limited learning support facilities in some schools, especially computers and basic sanitation. Combined data from Dapodik and EMIS

(2022) show that while access to electricity and the internet is fairly widespread, access to computers for learning and basic sanitation remains low in many schools. This situation has the potential to hinder technology-based learning processes and the implementation of a clean and healthy lifestyle culture in schools. Therefore, appropriate strategies are needed to ensure education can proceed effectively and support sustainable environmental goals.

On the other hand, the growth in the number of vocational high schools (SMK) in urban areas such as North

Jakarta shows fierce competition in attracting prospective students. The public has many school options, both public and private, with varying quality and tuition fees. This competition drives every school, including private SMKs, to improve the quality of their services, provide adequate facilities and infrastructure, and conduct effective promotions. Excellent educational services are a key factor in building a positive image of the school in the eyes of the public.

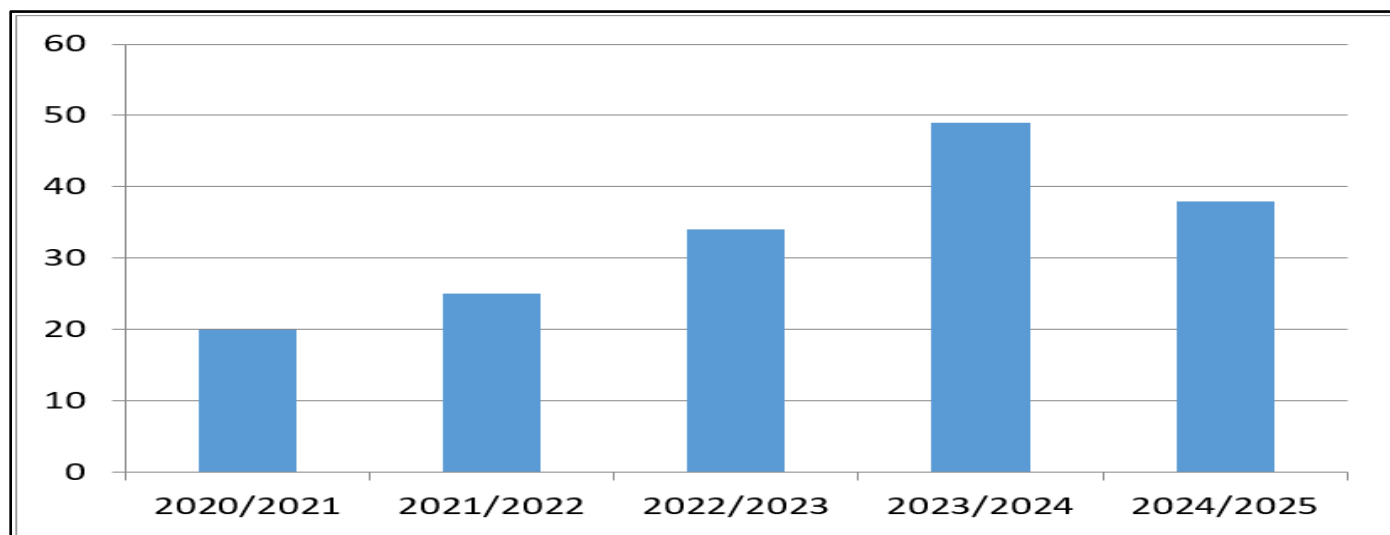


Fig 1 Number of Students in the Last 5 Years
Source: Recap of Az-Zahrah Vocational School Students

SMK Az-Zahrah North Jakarta is one of the private schools that plays a crucial role in producing high-quality human resources. The school focuses on developing expertise in office management and business services. However, enrollment data for new students shows fluctuations in the number of applicants over the past five years, with a significant decline observed in the 2024/2025 academic year. This decline in student numbers is a serious concern as it could impact the school's sustainability and reduce its competitiveness amid the growing number of other vocational schools in North Jakarta.

This study is supported by several studies such as Wahyoedi et al., (2021) showing that the analysis of the three independent variables (service quality, learning quality, and promotional strategies) has a significant influence on parents' decisions in choosing ABC Elementary School.

Denny et al., (2022) showed that the variables of cleanliness, safety, and environmental sustainability had a positive and significant effect on guest satisfaction in part.

Febrianti & Sukma (2023) show that the decision to stay has a positive and significant effect on customer satisfaction, customer quality has a positive and significant effect on customer satisfaction, service quality has a positive and significant effect on the decision to stay, promotion has a positive and significant effect on customer satisfaction, promotion has a positive and significant effect on the decision

to stay, service quality on customer satisfaction through the decision to stay, and the indirect effect of promotions on customer satisfaction through the decision to stay.

II. LITERATURE REVIEW

The Theory of Reasoned Action, also known as TRA, is a very important basis for understanding individual behavior when they make decisions to use educational services. According to TRA, attitudes toward behavior and subjective norms that develop in society influence behavioral intentions (Ajzen, 2011). In education, strong social support and positive beliefs about the services provided by schools can encourage people to choose a particular institution. Intentional factors directly influence behavior, so it is important to examine how parents and students choose schools based on perceptions of quality, promotion, and sustainability.

Customer satisfaction is an important indicator in evaluating the performance of educational services. Kotler and Keller (2022) state that satisfaction is achieved when service performance meets or exceeds consumer expectations. Three components that influence satisfaction are experience, expectations, and the value received by customers. In the context of schools, satisfaction includes the quality of the learning process, supporting facilities, administrative services, and a comfortable school climate. Previous research also indicates that satisfaction directly

impacts student loyalty and the image of educational institutions (Tjiptono, 2023).

Interest is the main predictor of choice behavior, as it reflects an individual's tendency to take certain actions (Schiffman, 2019). Interest is influenced by attitudes, subjective norms, and perceptions of behavioral control (Ajzen, 2010). In the context of education, prospective students' interest in choosing a school can be influenced by perceptions of learning quality, teacher quality, promotional strategies, and the added value offered by the school. The more positive these perceptions are, the higher the interest will be, ultimately leading to a decision to enroll in the school in question.

Service quality plays a significant role in creating satisfaction and attracting prospective students. According to Tjiptono (2010), the dimensions of service quality include tangibles, reliability, responsiveness, assurance, and empathy. In educational services, service quality encompasses the competence of teaching staff, the adequacy of facilities, administrative responsiveness, and personal attention to students and parents. Previous research has indicated that improvements in service quality have a positive impact on students' decisions to choose and remain loyal to educational institutions (Kotler & Keller, 2021).

The application of sustainable environment concepts is also an important factor in the attractiveness of schools. Sustainable environment in education includes environmentally friendly infrastructure management, environmental awareness programs, and the integration of sustainability values into the curriculum (Hasan Ismail et al., 2018). Schools that apply sustainability principles not only support the global goals of the SDGs but also shape the character of students who care about the environment. Related research indicates that environmental sustainability has a positive correlation with perceptions of school quality and student satisfaction (Agustinus Denny & Dalimunthe, 2022).

Educational promotion plays a role in communicating the advantages and appeal of schools to prospective students. Promotion includes various activities such as advertising, sales promotion, public relations, personal selling, and direct marketing (Kotler & Keller, 2022). Effective promotion strategies can increase public awareness and strengthen the positive image of educational institutions. Previous studies have shown that promotion strategies have a significant influence on school selection decisions and student satisfaction because they provide clear and engaging information about the school's strengths (Wahyoedi et al., 2021; Sugiyarni & Bukhori, 2023).

Previous studies have provided strong evidence of the relationship between service quality, environmental sustainability, and promotion on satisfaction and choice decisions. The results of Wahyoedi et al. (2021) show that service quality, learning quality, and promotional strategies significantly influence parents' decisions in choosing a school. Meanwhile, research by Denny & Dalimunthe (2022) found that the implementation of environmental sustainability affects customer satisfaction. Another study by Febrianti & Sukma (2023) states that promotion and service quality together influence consumer decisions and satisfaction in the context of hotel services, which is relevant for application in the education sector.

Based on previous theories and research, it can be concluded that service quality, environmental sustainability, and promotion are key factors in improving student satisfaction and influencing their decision to choose a school. In addition, the decision to choose has the potential to be a mediating variable that strengthens the relationship between these factors and satisfaction. These findings support the need for a comprehensive strategy in managing the quality of educational services so that institutions can compete effectively and sustainably.

➤ Research Framework & Hypothesis

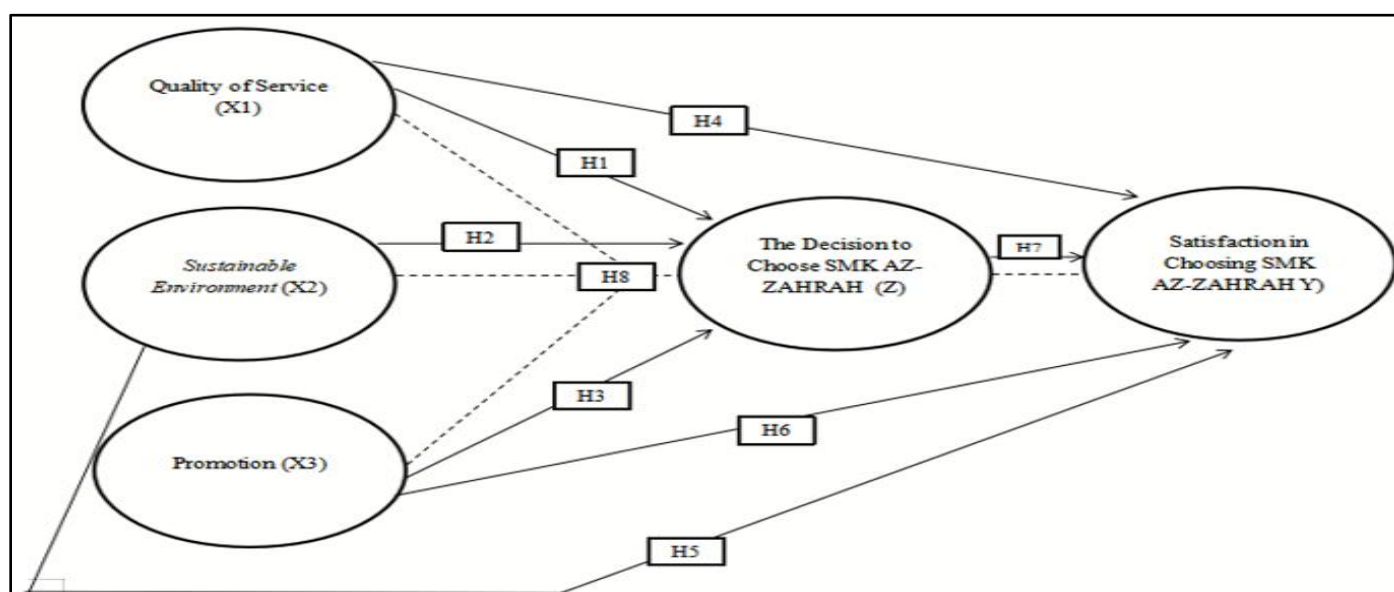


Fig 2 Research Framework (2025)

- H1: Service quality has a significant impact on student satisfaction.
- H2: A sustainable environment has a significant impact on student satisfaction.
- H3: Promotion has a significant impact on student satisfaction.
- H4: Service quality has a significant impact on decision-making.
- H5: A sustainable environment has a significant impact on decision-making.
- H6: Promotion has a significant impact on decision-making.
- H7: Decision-making has a significant impact on student satisfaction.
- H8: Service quality, a sustainable environment, and promotion have a significant impact on satisfaction through.

III. RESEARCH METHODOLOGY

A. Research Design

The design of this study is a quantitative research study using a survey method and an explanatory approach. According to Kriyantono (2012), quantitative research is research that describes or explains a problem whose results can be generalized. The purpose of the explanatory approach in this study is to determine the extent of the influence of the variables of service quality, environmental sustainability, and promotion on the decision to choose Az-Zahrah Vocational School as a mediator for the satisfaction of Az-Zahrah Vocational School students in North Jakarta.

B. Research Population and Sample

The population in this study was all students enrolled at SMK Az-Zahrah in North Jakarta. The population and sample in this study consisted of 105 students from grades X, XI, and XII.

C. Data Analysis Methods

The data were analyzed using the Partial Least Square – Structural Equation Modeling (PLS-SEM) approach through SmartPLS software. The analysis was conducted in two stages: first, testing the measurement model (outer model) which included convergent validity, discriminant validity, and construct reliability using factor loadings, Average Variance Extracted (AVE), Composite Reliability, and Cronbach's Alpha. Second, testing the structural model (inner model), which included R-Square tests, f-Square tests, and Q-Square tests to measure the predictive power of the model, as well as hypothesis testing using the bootstrapping procedure to determine the significance of the relationships between variables. Descriptive analysis was also used to describe the characteristics of the respondents and the mean values of each research variable, thereby providing a comprehensive overview of the influence of service quality, environmental sustainability, and promotion on choice satisfaction through choice decisions.

IV. RESULTS AND DISCUSSION

A. Outer Model Evaluation Results

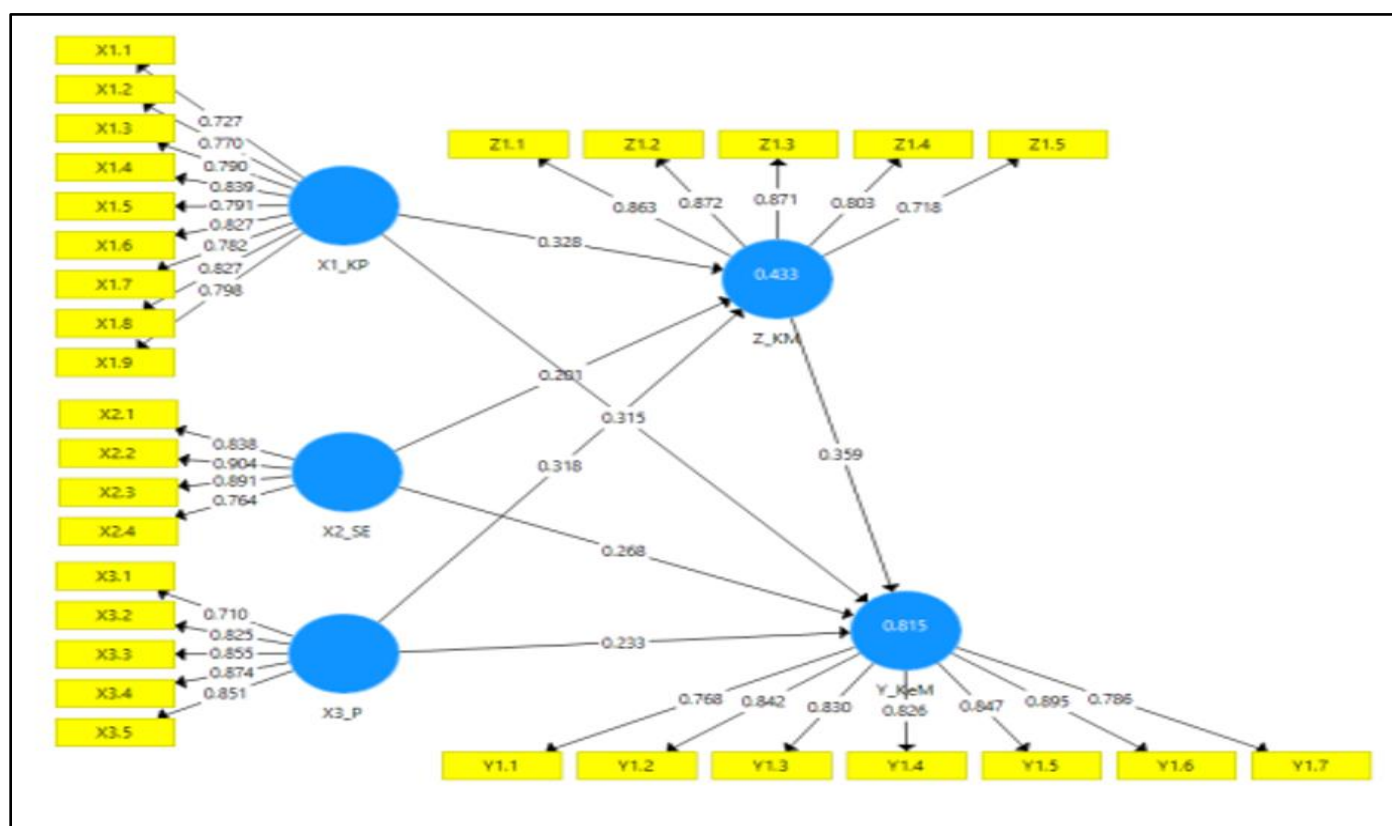


Fig 3 Outer Model Evaluation Results
Source: Compiled by researchers (2025)

Individual indicators are considered reliable if they have a correlation value above 0.70. However, in scale development research, loadings of 0.50 to 0.60 are still acceptable (Hair, et al, 2016) in (Sihombing & Arsani, 2022). The results of this study are the results of the convergent validity test – outer loading in this study, which indicate that all items or indicators are valid and acceptable.

B. AVE Evaluation Results

Table 1 AVE Results

Laten	AVE	Critical R	Criteria (AVE \geq 0,5)
Quality of Service (X1)	0.618	0,5	Valid
Sustainable Environment (X2)	0.706	0,5	Valid
Promotion (X3)	0.683	0,5	Valid
Satisfaction (Y)	0.688	0,5	Valid
The Decision to Vote (Z)	0.761	0,5	Valid

Source: Compiled by Researchers (2025)

If $AVE > 0.5$, it is considered valid (Hair, et al, 2016) in (Sihombing & Arsani, 2022).

Research results where the convergent validity test – AVE, indicators have a value greater than 0.5, which can be declared valid and have met the testing criteria in the convergent validity test stage.

C. Results of the Fornell-Lacker Evaluation

Table 2 Fornell-Lacker Results

	Quality of Service (X1)	Sustainable Environment (X2)	Promotion (X3)	Satisfaction (Y)	The Decision to Vote (Z)
Quality of Service (X1)	0,786				
Sustainable Environment (X2)	0,452	0,840			
Promotion (X3)	0,392	0,456	0,826		
Satisfaction (Y)	0,654	0,652	0,679	0,829	
The Decision to Vote (Z)	0,511	0,596	0,602	0,844	0,872

Source: Compiled by researchers (2025)

If the square root value of AVE for each construct is greater than the correlation value between constructs in the model, then it is said to have good discriminant validity. (Hair, et al, 2016) in (Sihombing & Arsani, 2022).

The results of this study found that the construct was greater and the discriminant validity value was good.

Table 3 Cronbach's and Composite Reliability Results

Latent	Cronbach's Alpha	Composite Reliability
Quality of Service (X1)	0.922	0.936
Sustainable Environment (X2)	0.858	0.905
Promotion (X3)	0.883	0.914
Satisfaction (Y)	0.924	0.939
The Decision to Vote (Z)	0.920	0.941

Source: Compiled by researchers (2025)

The results of this study indicate that all statement values in the indicators already have high reliability values in accordance with the criteria in the test.

D. Results of Inner Model Evaluation

Table 4 R Square Results

	R Square	Relationship
Satisfaction (Y)	0.825	Strong
The Decision to Vote (Z)	0.529	Moderate

Source: Compiled by researchers (2025)

Table 5 Q Square Results

Variable	Q2 predict
Y	0,551
Z	0,395

Source: Compiled by researchers (2025)

Table 6 F Square Results

Variable	F-Square	Effect
Service Quality - Decision to Choose	0,176	Large
Sustainable Environment - Decision to choose	0,164	Large
Promotion - Decision to choose	0,213	Large
Service Quality - Satisfaction	0,247	Large
Sustainable Environment - Satisfaction	0,170	Large
Promotion - Satisfaction	0,161	Large
Decision Making - Satisfaction	0,680	Large

Source: Compiled by Researchers (2025)

According to Chin (1998) in Ghazali (2011), the following are the categories of R Square values: R Square of 0.67 = Strong Model, R Square of 0.33 = Moderate Model, R Square of 0.19 = Weak Model.

The results of the Inner Model research in Table 5 show that, based on the R Square results, satisfaction is 0.825 and is considered strong, while the decision to choose is 0.529 and is considered moderate. Looking at the results in Table 6, the Q-square for variable Y shows 0.551 and variable z shows 0.395. Meanwhile, the results from Table 7 F-square in this study show good results.

E. Hypothesis Results

Table 7 Direct Hypothesis Results

Hipotesa	RELATIONSHIP	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Ket
H1	X1 -> Y	0.249	0.246	0.066	3.770	0.000	ACCEPTED
H2	X1 -> Z	0.219	0.217	0.081	2.683	0.008	ACCEPTED
H3	X2 -> Y	0.142	0.136	0.058	2.471	0.014	ACCEPTED
H4	X2 -> Z	0.331	0.329	0.095	3.467	0.001	ACCEPTED
H5	X3 -> Y	0.213	0.229	0.080	2.653	0.008	ACCEPTED
H6	X3 -> Z	0.366	0.371	0.092	3.958	0.000	ACCEPTED
H7	Z -> Y	0.503	0.493	0.050	10.117	0.000	ACCEPTED

Source: Compiled by Researchers (2025)

The hypothesis results show the results of testing the direct influence between variables in the model. Of the seven hypotheses tested, all seven hypotheses were influential and significant, meaning they were accepted. The t-statistic values for these seven relationships were greater than 1.96 with a p-value < 0.05, indicating statistical significance

Table 8 Results of Indirect Hypothes

Hypothesis	RELATIONS HIP	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Ket
H8	X1 → Z → Y	0.110	0.106	0.040	2.764	0.006	ACCEPTED
	X2 → Z → Y	0.167	0.162	0.051	3.271	0.001	ACCEPTED
	X3 → Z → Y	0.184	0.183	0.050	3.657	0.000	ACCEPTED

Source: Compiled by Researchers (2025)

The results of testing the hypothesis of the indirect effect of the three independent variables on satisfaction (Y) through the decision to choose (Z) as a mediator variable. The results show that all indirect paths tested have a significant and acceptable effect.

V. DISCUSSION

A. H1: Service quality → Decision to choose

The results of the study show that service quality has a positive and significant effect on the decision to choose, supporting the findings of Wahyoedi et al. (2021) and Akmal et al. (2023). Good service increases the trust of students and parents in the quality of education. These findings reinforce the importance of professional teachers and educational staff in attracting interest in choosing a school.

B. H2: Sustainable environment → Decision to choose

A sustainable environment has a positive and significant effect on the decision to choose, in line with the research by Milošević et al. (2022) and Denny & Dalimunthe (2022). Prospective students now consider the sustainability aspect of a school as an added value. Commitment to environmental preservation is an important factor in the decision to choose a school.

C. H3: Promotion → Decision to choose

Promotion has been proven to have a positive and significant effect on the decision to choose, according to research by Wahyoedi et al. (2021) and Sugiyarni & Bukhori (2023). Effective promotional strategies increase awareness and interest among prospective students. The more massive and targeted the promotion, the higher the tendency to choose the school.

D. H4: Service quality → Satisfaction

Service quality has a positive and significant effect on student satisfaction, supporting the findings of Nadhira & Saputri (2024). Professional service provides a satisfying learning experience for students. Improving the services provided by teaching staff is key to increasing student satisfaction and loyalty.

E. H5: Sustainable environment → Satisfaction

A sustainable environment has a positive and significant influence on satisfaction, according to research by Denny & Dalimunthe (2022). Sustainability practices in schools provide comfort and pride for students. High environmental awareness supports the creation of a more positive learning experience.

F. H6: Promotion → Satisfaction

Promotion has a positive and significant effect on satisfaction, in line with the research by Febrianti & Sukma (2023). Professional promotion increases public trust in schools. The positive image created by effective promotion has an impact on satisfaction with school choices.

G. H7: Decision to choose → Satisfaction

The decision to choose has a positive and significant effect on satisfaction, supporting the findings of Ellitan (2023). Students who make conscious choices feel satisfied with the decisions they make. Trust in the quality of the school reinforces their pride in being part of the institution.

H. H8: Mediation of choice decisions

Choice decisions were found to mediate the relationship between service quality, sustainable environment, and promotion on satisfaction, supporting the research of Adestyani et al. (2024). This mediation indicates that positive perceptions of service, environment, and promotion influence satisfaction through the reinforcement of choice decisions. These findings emphasize the importance of integrated strategies in school management.

VI. CONCLUSION

- Service quality has a significant impact on student satisfaction.
- A sustainable environment has a significant impact on student satisfaction.
- Promotion has a significant impact on student satisfaction.
- Service quality has a significant impact on decision-making.
- A sustainable environment has a significant impact on decision-making.

- Promotion has a significant impact on decision-making.
- Decision-making has a significant impact on student satisfaction.
- Service quality, a sustainable environment, and promotion have a significant impact on satisfaction through.

This study concludes that service quality, sustainable environment, and promotion have a positive and significant influence on students' decision-making and satisfaction at SMK Az-Zahrah Jakarta Utara. Decision-making was found to be a mediating variable that strengthens the influence of independent variables on student satisfaction. These results indicate that improving service quality, implementing sustainable environmental concepts, and employing effective promotional strategies are crucial in enhancing the school's appeal. Consistent implementation can foster student satisfaction and loyalty while supporting the goals of sustainable education.

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