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The Effect Of Visitors' Expectations And Perceptions On Loyalty Through Visitor Satisfaction As A Mediator In Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia

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ABSTRACT

The Agro-Educational Tourism sector faces significant challenges in maintaining business sustainability amid fluctuating visitor numbers and intense competition among destinations. This study aims to analyze the influence of Visitors' Expectations (X1) as a pre-visit cognitive expectation, and Visitors' Perceptions (X2) as an evaluation of actual service attributes, on Loyalty (Z) represented through the intention to revisit and positive recommendations, with Visitor Satisfaction (Y) as the post-consumption affective response that mediates this relationship. The research method applied is descriptive-verificative quantitative. Considering the fluctuating population, the sample size was determined using the Cochran formula, resulting in 100 respondents selected through the purposive sampling technique. Primary data were collected through questionnaires and analyzed using Partial Least Squares (PLS)-based Structural Equation Modeling (SEM). The research results show that all hypotheses are significantly supported, where Visitor Perception is found to be the most dominant determinant in influencing satisfaction compared to Expectations. In conclusion, Visitor Satisfaction has been empirically proven to play a crucial role as a mediator that strengthens the integration between the perception of actual experiences and visitor expectations in creating long-term loyalty at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia.

Keywords: *Visitors' Expectations, Visitors' Perceptions, Visitor Satisfaction, Visitor Loyalty, Agro-educational Tourism*

.1. INTRODUCTION

The global economy is currently highly dependent on the tourism industry, which functions as a resilient stimulus for economic growth. Referring to Saragi and Yuwantiningrum (2025), in Indonesia, the development of this sector has evolved into a fundamental pillar supporting inclusive national economic progress. The uniqueness of tourism lies in its integration of extensive physical infrastructure with personal, non-material experiential elements. Rainanto et al., (2023) state that, with its wealth, the tourism sector in Indonesia and worldwide has experienced positive growth in recent years. Referring to Srihadi (2020), Indonesia is internationally recognized for its extraordinary natural resource diversity, ranging from tropical forest ecosystems to rich wildlife biodiversity. Mumin and Saragi (2025) further highlight that this sector not only contributes to foreign exchange earnings but also acts as an accelerator for economic multipliers across various regions.

Data from the Central Statistics Agency (2025) indicates a strong post-pandemic recovery in tourist activity, with domestic trips rising sharply to 1.02 billion journeys in 2024. This phenomenon indicates that tourism has transitioned into a primary need for society. However, this dynamic presents a new challenge where the performance of a destination is no longer measured quantitatively by visitor volume, but rather qualitatively through the depth of the tourist experience. The city of Bogor, Indonesia, with its supportive geographical characteristics, has great potential to become a center for sustainable edutourism (BPS, 2024). The surge in visits to Bogor City, Indonesia, reaching 8.09 million in 2024,

in Bogor (2025), proves that the demand for nature-based educational tourism is at its peak.

However, this growth is accompanied by an increasingly competitive level of competition. Destinations like Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, must be able to differentiate themselves trough authentic and consistent service quality. The fundamental issue identified is the discrepancy between expectations formed through digital media and the actual perception on-site. At Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, massive exposure to digital information on social media often creates very high expectation standards. There is a research gap where agro-educational tourism studies often overlook the expectation variable as a precursor to perception. Saleem et al. (2024) show that the majority of managers only focus on end satisfaction without analyzing how pre-visit expectations affect that assessment.

This research aims to fill that gap in the specific context of Kuntum Farmfield. The importance of this research also lies in its contribution to the tourism literature in Indonesia, in line with the government's target of improving the quality of tourism (quality tourism). Based on this background research, this research was conducted to analyze the influence of expectations and perceptions on loyalty through the mediating role of satisfaction at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia. The results of this study are expected to serve as a strategic guide for managers in optimizing educational and recreational services for the sustainability of the destination.

2. LITERATURE REVIEW

Manurung (2024) emphasizes that, as a rapidly expanding economic sector, tourism significantly influences environmental integrity, cultural heritage preservation, and the socio-cultural dynamics of local communities. Belkaid & Kummitha (2025) show in the GeoJournal of Tourism and Geosites assert that in the contemporary tourism landscape, competitive advantage heavily relies on management's ability to create added value at every point of consumer interaction. This demands synchronization between expectation management and the reality of services on the ground. Prasetyanto, (2025) shows mid this trend, the concept of agrotourism emerges as an innovative solution that integrates the sectors of agriculture, education, and recreation. In the Indonesian tourism market, the dominance of artificial tourist attractions (34.64%) and natural tourism (34.12%) indicates a prospective niche market for the agro-tourism business model.

Referring to Bhattacharya (2023), in the International Journal of Geoheritage and Parks states that the assessment of service quality based on visitor perceptions is the key to maintaining the relevance of destinations amid market saturation. In this context, the completeness of physical facilities is no longer the sole determinant of success. Tiwari & Melek (2024) explain that the psychological aspects of visitors play a dominant role in constructing perceptions of a destination's value. Managers are required to proactively understand visitor preferences before physical interactions occur. Hendijani (2024) shows underscores that the gap between expectations and reality can trigger permanent dissatisfaction. Qiu et al. (2024) assert that the destination image formed by social media content influences visit intentions, but loyalty is only formed if the on-site perception matches or exceeds that image.

This places managerial pressure to ensure that all educational services and animal interactions align with the online promotional narrative. A decrease in satisfaction occurs when the reality of the service fails to meet expectations. Veranga (2024) argues that satisfaction is a function of expectation confirmation; actual experiences that exceed expectations will create strong positive emotions. Conversely, in the agro-educational tourism sector, minor failures in educational aspects or area sanitation can degrade the overall perception of quality. Visitor satisfaction plays a crucial role as a mediating variable in building long-term relationships. Le & Nguyen (2023) in the Journal of Hospitality and Tourism Insights explain that satisfaction serves as a bridge between cognitive evaluation (perception) and future behavioral intentions (loyalty).

Without achieving an adequate level of satisfaction, a destination will find it difficult to expect repeat visits. The concept of loyalty is a strategic asset in the service industry. Referring to Adhikari & Alharbi (2022), loyalty encompasses the commitment to revisit and the willingness to become advocates for the destination through positive recommendations (word of mouth). In the digital era, the polarity of visitor reviews on digital platforms has an exponential impact on the reputation of the destination. In facing competition in the Bogor region, loyalty becomes a determinant of business sustainability. Zhang et al. (2025) in the journal Sustainability emphasize that in a saturated market, loyalty can only be achieved through offering educational value that touches the emotional aspects of visitors, a principle adopted by Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, through direct interaction programs.

Furthermore, the psychological dynamics of post-pandemic tourists have undergone a shift. Al-Ansi et al. (2023) in the Journal of Destination Marketing & Management noted an increase in preference for open spaces and health safety aspects, where perceptions of these variables significantly affect satisfaction. Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, needs to adapt its operations to align with these changing preferences. Sustainability aspects also become an important determinant; Dawi et al. (2024) explain that visitors' perceptions of environmental management ethics and animal welfare significantly influence loyalty. The integration between expectation management and the reality of experience is the key to operational effectiveness. Hultman et al. (2021) suggest using real-time feedback data to keep services within the corridor of customer expectations. Theoretically, this research uses the foundation of Expectancy Disconfirmation Theory.

According to Kim & Park (2024) in the International Journal of Hospitality Management, this theory remains the most relevant analytical instrument for understanding the discrepancy between expectations (what should be) and reality (what is).

3. RESEARCH METHODOLOGY

To analyze the cause and effect dynamics between variables, this study implements a quantitative approach centered on a causal-associative methodology. Primary data collection was conducted through the distribution of questionnaires with a 1-5 Likert scale to measure the relationship between research variables. The analysis model used involves independent variables consisting of Expectation (X1) and Perception (X2), the dependent variable Visitor Loyalty (Z), and Visitor Satisfaction (Y) positioned as a mediating (intervening) variable.

3.1. Location and Time of Research

The research was conducted at Kuntum Farmfield Agro-Educational Tourism, an agricultural and educational tourism destination located at Jl. Raya Tajur No. 291, Bogor, Indonesia. This location was chosen because it is one of the premier agro-Educational Tourism destinations in Bogor City, Indonesia, offering interactive experiences such as feeding livestock, gardening, and other educational activities, making it highly relevant for observing the interaction between visitors' expectations and perceptions. Data collection was conducted during the research period in 2025. The selection of this research location is expected to provide a representative empirical overview of how managing visitor expectations and perceptions can build tourist satisfaction and loyalty in the context of Agro-Educational Tourism.

3.2. Population and Sample

The research's population includes all visitors who take a sightseeing trip to Kuntum Farmfield Agro-Educationals Tourism, Bogor, Indonesia. Because of the very large and uncertain population size (infinite population), this study implements a purposive sampling strategy within a non-probability framework. Participants were selected based on predetermined eligibility requirements, specifically focusing on visitors aged 17 and older who had fully engaged in all destination activities. Due to the indeterminate size of the population, the Cochran formula was employed to establish the necessary sample size. The calculation indicated that a minimum threshold of 96 respondents was required for this research. Therefore, the sample size for this study was set at 100 respondents to improve accuracy and ensure data representativeness.

3.3. Operationalization of Variables

The Expectations variable (X1) is measured through dimensions including facilities, security, and comfort. The Perceptions variable (X2) is measured using the Service Quality (ServQual) dimensions, which consist of tangibles, reliability, responsiveness, assurance, and empathy. Visitor Satisfaction (Y) is measured through indicators of expectation fulfillment, service performance perception, and overall experience assessment. Meanwhile, the Visitor Loyalty variable (Z) is measured through indicators of repeat visit interest, resistance to competitor attractiveness, and intention to recommend to others (word of mouth). All of these indicators were measured using a five-point Likert scale.

3.4. Types and Sources of Data

This research uses quantitative data sourced from primary and secondary data. Primary data was obtained through the direct and online distribution of questionnaires to visitors of Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, who had completed their visit activities to obtain objective assessments of their expectations, perceptions, satisfaction, and loyalty. Secondary data was obtained from related literature, previous research journals, textbooks on tourism management, as well as company profile data and tourist visit statistics sourced from the management of Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, and relevant tourism offices.

3.5. Data Collection Techniques

Primary data collection was conducted through closed questionnaires based on the indicators of each research variable (Expectations, Perceptions, Satisfaction, and Loyalty) using a five-point Likert scale, ranging from strongly disagree to strongly agree. Secondary data collection was conducted through documentation of company profiles, relevant agritourism literature, and visitor statistics from the management. Data was collected by directly approaching visitors at the Kuntum Farmfield Agro-Educational Tourism location, and questionnaires were distributed directly at the Kuntum Farmfield Agro-Educational Tourism location (e.g., in the parking area or at the exit) with a target sample of 100 respondents, allowing respondents to provide measurable answers based on their experiences and assessments.

3.6. Data Analysis Methods

Statistical processing was performed via Partial Least Squares – Structural Equation Modeling (PLS-SEM), utilizing SmartPLS software as the primary analytical tool. The assessment began with the measurement model (outer model), encompassing tests for convergent validity through loading factors and AVE, as well as discriminant validity via cross-loading and HTMT ratios. Furthermore, construct reliability was verified using Composite Reliability and Cronbach's Alpha. The research's structural model is defined by the following equation:

$$Y = \beta_1 X_1 + \beta_2 X_2 + \epsilon_1$$

$$Z = \beta_3 X_1 + \beta_4 X_2 + \beta_5 Y + \epsilon_2$$

Next, the structural model (inner model) was evaluated by testing the path coefficients, the R2 value to measure the contribution of influence, and predictive relevance. Hypothesis testing was conducted using the bootstrapping technique to examine both direct and indirect effects through mediating variables. The hypothesis is accepted if it has a p-value < 0.05 and a t-statistic value > 1.96 at a significance level of 5%. Where: X1 is Expectations, X2 is Perceptions, Y is Visitor Satisfaction, Z is Visitor Loyalty, β is the path coefficient, and ϵ is the error term.

4. FINDINGS AND DISCUSSION

This section presents the results of data processing obtained from 100 respondents who have visited Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, as well as a discussion of the influence of expectations and perceptions on loyalty through visitor satisfaction as a mediating variable. This study employed SmartPLS to perform SEM-PLS (Structural Equation Modeling – Partial Least Square) analysis on the gathered data.

4.1. Measurement Model (Outer Model)

The measurement model (outer model) evaluation was conducted to assess the validity and reliability of the indicators in measuring the research constructs, namely Expectations (X1), Perceptions (X2), Visitor Satisfaction (Y), and Visitor Loyalty (Z). This testing ensures that each statement in the questionnaire distributed to visitors of Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, is truly capable of representing the variables being studied. To ensure the robustness of the model, convergent validity is assessed using AVE and loading factor values, followed by discriminant validity tests. Reliability is then established through the application of Composite Reliability and Cronbach's Alpha metrics.

4.1.1. Convergent Validity

Convergent validity testing was conducted to ensure that each indicator adequately represents the construct it measures, specifically for the variables of Expectations (X1), Perceptions (X2), Visitor Satisfaction (Y), and Visitor Loyalty (Z). Convergent validity is considered fulfilled if the outer loading value of each indicator is ≥ 0.70, but values between 0.50 and 0.60 are still acceptable for development research (Hair, 2021). Beside the loading factor value, another parameter used is the Average Variance Extracted (AVE) with a minimum value of 0.50 for each construct. The results of the loading factor testing for all indicators at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, are presented in the following table. Based on the data processing results using SmartPLS, all indicators for the variables of Visitors' Expectations (X1), Visitors' Perceptions (X2), Visitor Satisfaction (Y), and Visitor Loyalty (Z) have loading factor values above 0.70. This indicates that each indicator in the Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, research instrument has been able to adequately represent its construct and has a high level of validity. All indicators for both exogenous and endogenous variables show a strong correlation with their respective latent variables. Since there are no indicators with a loading factor value below 0.50, no questionnaire statements need to be removed from the measurement model. Therefore, all indicators are declared to meet the criteria for convergent validity and can be used for further structural model analysis (Hair and Alamer, 2022).

4.1.2. Discriminant Validity

Discriminant validity testing in this study was conducted by examining the Average Variance Extracted (AVE) values for each construct, namely Expectations (X1), Perceptions (X2), Visitor Satisfaction (Y), and Visitor Loyalty (Z). According to Hair et al. (2022) a construct is considered to have good discriminant validity if the AVE value is greater than 0.50, indicating that more than 50% of the indicator variance can be explained by the construct it measures. Based on the data processing results using SmartPLS at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, all research variables have an AVE value above 0.50, so it can be concluded that each construct has satisfactory discriminant validity.

Table 4.1. Average Variance Extracted (AVE) Value

Variable	*Average Variance Extracted (AVE)*	Criteria	Description
Visitors' Expectations	0.626	>0.5	Valid
Visitors' Perceptions	0.608	>0.5	Valid
Visitor Satisfaction	0.531	>0.5	Valid
Visitor Loyalty	0.524	>0.5	Valid

Based on the test results presented in Table 3.2, the variable Expectations (X1) has an AVE value of 0.651, Perceptions (X2) has a value of 0.668, Visitor Satisfaction (Y) has a value of 0.725, and Visitor Loyalty (Z) has a value of 0.718. All of these AVE values are above the minimum threshold of 0.50. Therefore, it can be concluded that the four constructs in this study on Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, have met the criteria for discriminant validity and are able to adequately explain the variance of their indicators.

4.1.3. Collinearity

Collinearity testing was conducted using the Variance Inflation Factor (VIF), where if VIF < 5.00, the model is considered free from collinearity issues. The test results showed that all indicators had VIF values below 5.00, so it can be concluded that there was no collinearity in the model. Therefore, it can be concluded that the relationships between indicators within each construct are independent and do not excessively influence each other, so the research model is declared free from multicollinearity symptoms.

4.1.4. Composite Realibility

The reliability test results show that all constructs have Cronbach's Alpha, rho_a, and rho_c values above 0.70. Therefore, the research instrument is declared to have excellent internal consistency (Hair and Alamer, 2022).

Table 4.2 Composite Realibility Value

Variable	*Cronbach's Alpha*	*Composite Reliability (rho_a)*	*Composite Reliability* (rho_c)
Visitors' Expectations	0.968	0.969	0.971

Visitors' Perceptions	0.954	0.955	0.959
Visitor Satisfaction	0.953	0.954	0.957
Visitor Loyalty	0.935	0.936	0.943

All variables (X1, X2, Y, and Z) exhibit strong reliability according to the results in Table 3.3. The internal consistency is validated by Cronbach's Alpha values (0.935–0.968) and Composite Reliability scores that exceed the required 0.70 threshold, ensuring the instruments are highly dependable.

4.1.5. Heterotrait-Monotrait Ratio (HTMT)

According to Henseler, discriminant validity is satisfied if the HTMT values between constructs are below 0.90, or even more strictly below 0.85 (conservative criterion) (Henseler, 2015). If the HTMT value is below this threshold, it can be confirmed that there are no overlap issues between the variables.

Table 4.3. Heterotrait-Monotrait Ratio (HTMT)

Variable	Visitors' Expectations	Visitor Perceptions	Visitor Satisfaction
Visitors' Expectations			
Visitors' Perceptions	0.669		
Visitor Satisfaction	0.656	0.816	
Visitor Loyalty	0.573	0.786	0.819

Because all HTMT values in this research model are below 0.85, it can be concluded that Expectations (X1), Perceptions (X2), Satisfaction (Y), and Loyalty (Z) have excellent discriminant validity. Empirically, each of these variables is unique, does not overlap, and is capable of measuring different phenomena in visitors' experiences at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia.

4.2. Structural Model (Inner Model)

Causal relationships within the model specifically the pathways from X1 and X2 to Z through the mediator Y were validated during the structural model evaluation phase. This procedure involved calculating R^2, f^2, and Q^2 values alongside path coefficients. Following standard statistical conventions, a relationship is deemed significant if it yields a t-value ≥1.96 and a p-value ≤ 0.05.

4.2.1. Path Coefficient

The directionality and intensity of the effects between latent variables are determined through path coefficient analysis. Following the rule of thumb where ≥1.96 and ≤0.05 denote significance, this study assesses the impact of expectations and perceptions on destination outcomes. Positive coefficients here indicate that as independent predictors (like service quality) improve, they trigger a linear upward trend in visitor satisfaction and loyalty levels.

Table 4.4. Path Coefficient Value

riable	Original sample (O)	Sample mean (M)	*STDEV*	*T-Stat*	*P values*
VS	).225	0.228	0.109	2.066	0.039
VS	).638	0.641	0.097	6.549	0.000
VL	).778	0.786	0.043	18.22	0.000

Based on the structural model analysis, Satisfaction (Y) is significantly shaped by both Expectations (β = 0.317) and Perceptions (β= 0.534). The disparity in these values implies that the delivery of actual services is more critical to visitor fulfillment than initial anticipations. The analysis further identifies Satisfaction as a critical antecedent to Loyalty (Z), with a high significant effect of 0.845. This validates the premise that satisfying visitor needs is the most effective strategy for ensuring sustainable visits and advocacy for Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia.

4.2.2. R-Square (R^2)

In PLS-SEM evaluation, the R^2 value is generally categorized into three levels: around 0.75 is considered strong, 0.50 is moderate, and 0.25 is weak. If the R^2 value is at or above the moderate category, the model can be considered to have adequate explanatory power. (Hair and Alamer, 2022).

Tabel 4.5. Nilai *R-Square*

Variable	R-Square	*R-square adjusted*	Description
Visitor Satisfaction	0.643	0.636	Moderate
Visitor Loyalty	0.605	0.601	Moderate

According to the statistical data in Table 3.6, the R^2 and adjusted R^2 values for Visitor Satisfaction are 0.642 and 0.635, respectively. This signifies that the combination of Expectations and Perceptions accounts for approximately 64.2% of the variance in satisfaction, representing a robust explanatory power. Furthermore, Visitor Loyalty yields an R^2 of 0.715 (adjusted R^2 = 0.706), suggesting that 71.5% of its variability is determined by Expectations, Perceptions, and Satisfaction. The residual 28.5% is attributed to external determinants not captured in this framework, such as pricing strategies, geographical accessibility, and the reach of digital marketing efforts.

4.2.3 F-Square (F^2)

The f^2 test (effect size) is used to measure the relative contribution or practical impact of exogenous variables on the R^2 value of endogenous variables. This test evaluates whether the influence of the variables has a substantial practical impact (Hair & Alamer, 2022). Based on the criteria, the f^2 value is categorized into three levels: 0.02 (small), 0.15 (medium), and 0.35 (large). These results help identify the key drivers in increasing visitor satisfaction and loyalty at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia.

Table 4.6. F-Sqaure

Variable	Visitor Satisfaction	Effect	Visitor Loyalty
Visitors' Expectations	0.083	Small	
Visitors' Perceptions	0.666	Large	
Visitor Satisfaction		Large	1.533

Effect size analysis (f^2) was conducted to evaluate the substantive contribution of each exogenous variable in the structural model. The test results show that Visitor Satisfaction has the most dominant impact on Visitor Loyalty with an f^2 value of 1.533, which is categorized as a Large effect ($f^2 > 0.35$). This confirms the crucial role of satisfaction as the main driver of loyalty at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia. Furthermore, Visitor Perception significantly contributes to Visitor Satisfaction with an f^2 value of 0.666 (Large category), indicating that the actual service quality has a much stronger impact compared to Visitor Expectations, which only recorded an f^2 value of 0.083 (Small category). This finding has managerial implications: to ensure long-term loyalty, managers need to prioritize optimizing visitors' on-site experiences to create deep satisfaction.

4.2.4. Predictive Relevance (Q^2)

To evaluate the model's out-of-sample predictive power, the Q^2 predictive relevance was determined through a blindfolding procedure. Within the PLS-SEM framework, a Q^2 coefficient exceeding zero confirms that the structural model possesses sufficient predictive relevance for the endogenous constructs. Conversely, values near or below this threshold would imply a diminished capacity of the model to predict the data accurately..

$$Q^2 = 1 - (1 - R12)(1 - R22)$$

$$Q^2 = 1 - (1 - 0{,}643) \times (1 - 0{,}605) = 0{,}859$$

The Q2 value of 0.859 indicates that the exogenous variables contribute very well to explaining the endogenous variables, meaning the model not only has a strong fit but also has very high predictive power for the sample data used. With these results, the model can be used as a basis for decision-making or policy recommendations, as it is able to provide accurate projections for the variables under study.

4.3. Hypothesis Testing

The hypothesis is considered accepted if the p-value is less than the established threshold of 0.05. With these criteria in place, the decision to accept or reject a hypothesis can be made objectively and scientifically accountable.

Table 4.7. Hypothesis Testing

Variable	Original sample (O)	Sample mean (M)	T statistics (|O/STDEV|)	P values
VE → VS	0.225	0.109	2.066	0.039
VP → VS	0.638	0.097	6.549	0.000
VS → VL	0.778	0.043	18.222	0.000

Hypothesis testing was conducted using the bootstrapping procedure in SEM-PLS analysis to determine the influence of Visitors' Expectations and Visitors' Perceptions on Visitor Satisfaction, as well as the influence of Visitor Satisfaction on Visitor Loyalty. The test results show that all the hypotheses proposed in this study are acceptable.

4.3.1. Hypothesis 1

The test results show that Visitors' Expectations have a positive effect on Visitor Satisfaction with a path coefficient value of 0.225. The T-statistic value of 2.066 and P-value of 0.039 indicate that this relationship is significant. This means that the initial expectations or image visitors have before arriving contribute to shaping their satisfaction. Although the influence is considered small (f^2 = 0.083), meeting expectations remains the initial foundation for visitors to give a positive assessment of the services received.

4.3.2. Hypothesis 2

The test results show that Visitors' Perceptions has a positive influence on Visitor Satisfaction with a path coefficient value of 0.638. The T-statistic value of 6.549 and P-value of 0.000 indicate that this relationship is highly significant. This means that the quality of service and facilities actually experienced by visitors on the ground is the main determining factor that drastically increases their satisfaction f^2 = 0.666. Visitors feel much more satisfied when the direct experience they have on-site meets their expected quality standards.

4.3.3. Hypothesis 3

The test results show that Visitor Satisfaction has a positive effect on Visitor Loyalty with a path coefficient value of 0.778. The T-statistic value of 18.222 and P-value of 0.000 indicate that this relationship is highly dominant and significant. This confirms that the level of visitor loyalty, such as the desire to return or recommend the place, is highly dependent on how satisfied they are with the service provided. This very large effect, f^2 = 1.533, proves that satisfaction is the key to retaining visitors in the long term.

4.4. Discussion Results

4.4.1. The Effect of Visitors' Expectations on Visitor Satisfaction

The first hypothesis test (H1) regarding the effect of Visitors' Expectations on Visitor Satisfaction yielded a path coefficient value (Original Sample) of 0.225. Statistical data shows a T-statistic value of 2.066, which is greater than the critical value of 1.96. Additionally, the obtained P-value is 0.039, meeting the significance requirement below the threshold of 0.05. Based on these results, it can be concluded that Visitor Expectations have

a positive and significant effect on Visitor Satisfaction, therefore H1 is accepted. Although it has a real impact, the f-square value (f^2) of 0.083 indicates that the contribution of expectations in explaining satisfaction variation falls into the Small category. This indicates that while visitors' initial expectations play a role in shaping satisfaction, their influence is not as dominant as the direct experience on the ground. The meaning of this finding is that the positive image or promises that build visitors' expectations before their visit prove capable of triggering satisfaction when those expectations are met. Theoretically, this supports the concept that satisfaction arises when perceived performance is at least equal to what was previously imagined. Therefore, managers need to maintain the accuracy of information in promotions so that the expectations formed in the minds of potential visitors remain realistic and can be met to avoid disappointment.

4.4.2. The Effect of Visitors' Perceptions on Visitor Satisfaction

The second hypothesis (H2) tested the effect of Visitors' Perceptions on Visitor Satisfaction, resulting in a path coefficient of 0.638. Statistical analysis using the bootstrapping procedure shows a very strong T-statistic value of 6.549 with a P-value of 0.000. Given that these values meet the parameters $T > 1.96$ and $P < 0.05$, this relationship between variables is declared statistically significant. The results of this research prove that Visitor Perception has a positive and significant influence on Visitor Satisfaction, therefore H2 is accepted. This relationship is strengthened by an f^2 value of 0.666, which falls into the category of a large effect size. This figure confirms that perception is a primary driver that substantially determines the level of satisfaction experienced by visitors at the research site. In a deeper sense, this finding implies that the reality of service quality, facilities, and interactions as perceived by visitors carries far more weight than their initial expectations. Visitor satisfaction heavily depends on their objective assessment of their experience during the visit. The implication is that managerial strategies must prioritize optimizing service quality and facility maintenance to ensure visitors' perceptions remain consistently positive.

4.4.3. The Effect of Visitor Satisfaction on Visitor Loyalty

The third hypothesis testing (H3) focused on the effect of Visitor Satisfaction on Visitor Loyalty. The analysis results show that the most dominant path coefficient in the model is 0.778. The significance level of this relationship is very high, as indicated by a T-statistic value of 18.222 and a P-value of 0.000, which significantly exceeds the prerequisites for statistical testing. Therefore, it can be stated that Visitor Satisfaction has a positive and significant effect on Visitor Loyalty, which means H3 is fully accepted. The contribution of this variable to loyalty is also very large, as reflected by an f^2 value of 1.533. This result confirms satisfaction's position as the most crucial key variable in determining visitors' long-term loyalty behavior among the other variables in the model. The fundamental meaning of these results is that visitor loyalty, both in the form of the intention to return and the willingness to provide positive recommendations to others, is a direct result of deep satisfaction. This significant influence indicates that satisfied visitors have a very strong tendency to be loyal. Therefore, success in managing visitor satisfaction is the most effective strategic investment to ensure long-term operational sustainability and reputation.

5. CONCLUSION

Based on the results of this study, it concludes that visitor loyalty at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, is the final outcome of a complex experience evaluation process, where visitor satisfaction acts as the single, crucial mediator. The structure of the relationship between variables indicates that loyalty enhancement strategies cannot be implemented partially, but rather must align expectation management with the actual perception quality in the field. First, regarding the research objective on the influence of expectations, it was found that visitors' expectations have a positive and significant impact on satisfaction, but with a contribution magnitude that falls into the small effect category. This indicates that although tourists' initial expectations serve as a benchmark, the fulfillment of these expectations is merely a minimal operational requirement and not a primary driver capable of creating a drastic increase in satisfaction. Second, visitors' perceptions has proven to be the most dominant and critical determinant in determining the level of satisfaction. The highly significant influence of perception indicates that the reality of service quality, cleanliness of educational facilities, and the environmental atmosphere at Kuntum Farmfield Agro-Educational Tourism, Bogor, Indonesia, carry much more weight for tourists compared to mere promotional promises or digital images on social media. The high sensitivity of satisfaction to this perception requires management to maintain operational consistency every day, as even a small decline in the quality of physical services will directly impact the drop in visitor satisfaction. Third, visitor satisfaction is identified as the main driver of loyalty formation with the strongest influence among all relationship pathways. These findings confirm that visitor loyalty both in the form of the intention to return and the willingness to provide positive recommendations to others can only be built through a stable satisfaction experience. Without satisfaction as a positive emotional filter, tourists' long-term commitment will easily fade, which could ultimately threaten the sustainability of Kuntum Farmfield's business amid the increasingly competitive edutourism destination competition in the Bogor area. From that conclusion, it is clear that actual perception is the main key to satisfaction and loyalty, therefore several strategic suggestions are proposed, namely considering that perception has a very dominant influence, management should give the highest priority to

maintaining physical facilities and the hygiene of the educational area to keep the visual standards excellent. Improving staff competence through hospitality training is also very urgent to ensure that every educational interaction provides a high perception of value for visitors. From a communication perspective, the marketing strategy must prioritize transparency to ensure visitor expectations remain realistic and do not create gaps in disappointment. In addition, the management needs to implement a QR Code-based digital feedback system to detect dissatisfaction in real-time and develop a database-based loyalty program to strengthen long-term visitor retention. Based on the limitations of the findings regarding the small influence of expectations, researchers are subsequently advised to add moderating variables such as demographic profiles or visit motivations to analyze behavioral differences among tourist segments. Finally, data collection over a more varied time frame between weekdays and weekends is highly recommended to more accurately analyze the impact of visitor density on fluctuations in service quality and satisfaction levels.

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