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Assessing Service Quality and Tourist Satisfaction in Community-based Tourism: The Case of Mountainous Areas, Hue City, Vietnam

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ABSTRACT

This study aims to evaluate the satisfaction of domestic tourists with the quality of community-based tourism (CBT) services in, mountainous areas, Hue city—a locality with a 20-year history of developing this type of tourism. Besides promoting tourism-driven economic growth, CBT activities here also contribute significantly to preserving and enhancing the cultural and historical values of the Co Tu community. Based on a survey of 150 tourists, the study employs exploratory factor analysis (EFA) and correlation regression methods to identify factors affecting tourist satisfaction. The regression analysis results reveal six positive factors influencing tourist satisfaction, including service capacity, reliability, empathy, responsiveness, perceived pricing, and tangible facilities. Among these, "service capacity" has the strongest impact, while "tangible facilities" exert the weakest influence. The research model achieves a high explanatory power, with an adjusted R^2 coefficient of 0.823 (82.3%). Based on these findings, the study proposes several solutions aimed at improving the identified factors, enhancing service quality, and increasing tourist satisfaction to support the sustainable development of community-based tourism in the area.

Keywords: Satisfaction, Community-based Tourism, Exploratory Factor Analysis
JEL Classifications: Z32, Z33, C38

1. INTRODUCTION

Community-based tourism (CBT) has increasingly attracted attention from researchers and policymakers worldwide. In the period from 1960 to 1970, CBT typically represented a country or territory, with limited studies emphasizing specific groups such as ethnic minorities (Zielinski et al., 2020). Development of CBT often involves trade-offs and conflicts between economic and environmental dimensions, necessitating comprehensive preparation to address these issues. Zielinski et al. (2020) noted the challenges in developing CBT among ethnic minority communities due to poor economic conditions, weak infrastructure, and limited tourism skills.

In Vietnam, tourism has become a crucial component of socio-economic development, capitalizing on natural conditions, cultural diversity, and ethnic composition (Van, 2024). Hue, situated in Central Vietnam, is recognized as a key tourism development region and a distinctive festival city. Despite welcoming nearly five million visitors in 2019, generating substantial revenue, rural mountainous areas like Nam Dong and A Luoi districts face socio-economic challenges, with ethnic minority communities heavily reliant on natural resources and highly vulnerable due to geographical isolation and limited infrastructure (Hoang et al., 2021).

In reality, examining the potential of CBT in mountainous areas becomes increasingly important, particularly given the socio-economic benefits it can generate for remote communities (Ramaano, 2025). The rise of new tourism trends, coupled with ongoing digital transformation, highlights the need to better understand tourist behavior so that marketing strategies,

destination branding, and digital communication channels can be designed more effectively—key elements for sustaining CBT development (Kumar et al., 2024).

Growing studies addressed tourist satisfaction and revisit intention, underscoring the need for investment in appealing tourism infrastructure and for leveraging natural and cultural assets (Nguyen et al., 2023; Nguyen and Hoan, 2020). In the same vein, research on CBT has grown steadily in recent years, with many studies examining visitor experiences and the motivations behind return visits after engaging in local tourism activities (Nguyen et al., 2023). Digital technology is also defining how tourists plan, share, and recall their trips, creating new opportunities for storytelling, marketing, and online engagement—factors that increasingly influence destination competitiveness.

At the community level, several authors highlight the persistent difficulty of aligning local expectations with market-oriented tourism development, arguing that CBT often operates under conflicting pressures between economic objectives and socio-cultural values (Agung Prakoso et al., 2020; Zielinski et al., 2020). In Vietnam, policy reports and empirical studies further indicated that, despite winden range of cultural diversification, CBT initiatives have been continuing to adapt to the hug changes of structural constraints related to limited investment, fragmented institutional support, and weak local governance frameworks (Quang et al., 2023)

1.1. Research Gap

In the past few years, community-based tourism has been seen more and more as a way to promote sustainable development, especially in mountainous areas with a lot of ethnic minority communities. However, most domestic and foreign research works mainly focus on analyzing tourist behavior, intention to return or general satisfaction, without specifically quantifying factors affecting service quality and tourist satisfaction in the local context. Models like SERVQUAL and SERVPERF have been used a lot in Vietnam for urban tourism and hotel services. However, it is still very rare to change and test these models in community-based tourism, which is based on indigenous cultural factors and people's participation. In particular, the mountainous areas of Hue, such Nam Dong and A Luoi, have poor socio-economic conditions and transportation infrastructure that doesn't work well together, but they do have unique cultural and natural treasures. So, looking at the things that determine how happy domestic tourists are here not only helps fill a vacuum in academic research, but it also has real-world value in creating community tourism development plans that work for the area.

2. LITERATURE REVIEW AND METHODS

2.1. Literature Review

2.1.1. Quality of service in community-based tourism

Service quality CBT is assessed through the quantification of tourists' experiences with a set of services they have used, compared with their prior expectations. The inclusive arguments should take into account both tangible aspects—such as infrastructure, accommodation facilities, and landscape quality—and intangible dimensions, including service attitude, cultural values, and the level of local community participation. The previous studies have been grounded in countries sharing the similar conditions to Vietnam (Hanafiah et al., 2016; Liu et al., 2024) passed that the set of related indicators to measure the service quality in CBT include reliability, service competence, empathy, tangibles, responsiveness, and perceived value. These domains play an essential role in fostering the development of CBT by increasing tourist satisfaction, which, in turn, encourages revisits and positive word-of-mouth recommendations. Strengthening the internal capacities of local actors and stakeholders is equally vital, as it forms the foundation for achieving the sustainable growth of this tourism model.

2.1.2. Tourist satisfaction

The notion of satisfaction has undergone considerable discourse, yielding a diverse array of definitions within the tourism literature (Kozak and Rimmington, 2000a). Most scholars concur that tourist satisfaction arises from the juxtaposition of pre-trip expectations and the actual experiences encountered during the trip (Mortazavi, 2020). (Kotler, 2000) define satisfaction as "person's feeling of pleasure or disappointment that results from comparing a product's perceived performance with expectations. Also, (Kozak and Rimmington, 2000b) also say that tourist satisfaction is a key part of successful destination marketing because it directly affects tourists" choice of destination, service use, and decision to return. To sum up, tourist satisfaction can be thought of as a mental state that shows how well the actual experience meets or exceeds expectations. When tourists feel like their experience was better than they expected, they are usually happy. When it wasn't as good as they expected, they are usually unhappy. To improve service quality, there is a need to enhance the tourist experience, and promote sustainable destination development, it is important to understand this satisfaction gap in the context of community-based tourism.

2.1.3. Community based tourism

The world tourism organization (UNWTO) describes tourism as "activities of people traveling and staying outside their usual place of residence for less than a year for leisure, business, or other purposes, excluding travel for paid work." In the same vein, (Kontogeorgopoulos et al., 2014) refer to CBT as a kind of travel that lets visitors immerse themselves in local life. Here, local people take part directly in tourism, gain both social and economic benefits, and share the duty of protecting their culture, traditions, and natural surroundings. Vietnam's Tourism Law (2017) defines CBT as "a form of tourism built upon community cultural values, managed and organized by residents for their own benefit." In practice, CBT is a people-centered approach in which the community acts as both service provider and guardian of cultural and natural assets. Profits from tourism usually stay within the community and are shared among local households, helping to build small but steady sources of income. More importantly, the process of sharing benefits encourages people to work together and strengthens their sense of belonging. In that sense, community-based tourism reflects participation, empowerment, and local ownership — values that make the development of tourism more balanced and truly sustainable over time.

2.2. Methodology

2.2.1. Data collection

2.2.1.1. Secondary data

Secondary data include information and statistics related to population, land use, tourism revenue, and the number of visitors. These data were obtained from statistical yearbooks and socio-economic reports. In addition, the author collected supporting information from mass media sources such as books, newspapers, magazines, online databases, published research articles, and master's theses.

2.2.1.2. Primary data

Primary data were collected through survey questionnaires and interviews with domestic tourists who had experienced CBT services in Nam Dong district. Key information gathered included respondents' gender, age, occupation, income, and education level. Furthermore, data on destination awareness channels, visiting frequency, trip purposes, and types of tour packages used were also collected to ensure a comprehensive evaluation.

2.2.2. Sample size and research site selection

Sampling and survey Implementation. Due to time and resource constraints, the study employed a random sampling approach combined with convenience selection. The survey targeted domestic tourists who had participated in CBT activities within the study area. According to (Williams et al., 2010), the minimum sample size required for EFA should be at least 5 times the number of observed variables. Given that the measurement scale consisted of 26 observed variables, the minimum required sample size was 26 × 5 = 130, based on a 5:1 ratio. However, the actual study surveyed 150 respondents to ensure statistical significance and account for potential errors.

2.2.2.1. Survey procedure

In practice, it was challenging to reach tourists who had previously experienced CBT services. Therefore, the author conducted a combined approach using both in-person and online surveys. Questionnaires were distributed via email and social media platforms such as Facebook and Zalo. The survey included conditional screening questions, for example: "Have you ever participated in community-based tourism in the local area?" Once 150 valid responses were obtained, the data collection process was concluded.

The selection of Namdong as the study area is grounded in both its practical relevance and its representativeness for CBT development in mountainous regions of central Vietnam. Namdong shown distinctive socio-cultural and environmental characteristics, with a high proportion of Cơ Tu ethnic minority households, a rich repository of traditional crafts and rituals, and natural landscapes that remain relatively unspoiled. These conditions provide an ideal foundation for developing CBT models. However, the district also faces structural constraints—such as limited tourism infrastructure, low service capacity, and modest market exposure—which directly influence visitors' experiences and levels of satisfaction.

2.2.3. Data analysis

The study used a mix of descriptive statistics, comparison, exploratory factor analysis (EFA), and multiple regression to interpret the data. All information was checked, cleaned, and analyzed with SPSS version 26. Before moving to deeper analysis, the reliability of each scale was tested using Cronbach's Alpha. This step aim to decide which items were stable enough to keep for the next analyses, including EFA and regression. Any items that did not meet the required reliability were dropped. Following (Atkinson et al., 2004), a Cronbach's Alpha value of 0.6 or higher was treated as acceptable. In the same way, variables showing a corrected item-total correlation below 0.3 were considered weak and removed from the model. After that, the remaining variables were analyzed through EFA and regression to find the key factors affecting tourist satisfaction in community-based tourism.

2.2.3.1. Linear regression analysis

To examine the impact of factors on tourist satisfaction when experiencing community-based tourism. The correlation regression model has the form:

$$Y = \beta_0 + \beta_1 * \beta_2 + X_2 + \cdots + \beta_i * X_i$$

Where, Yi: Satisfaction of domestic tourists experiencing community-based tourism.

Xi: The value of the independent variable in the model.

2.3. Research Hypotheses and Proposed Model

The ladder model uses a combination of two scales: SERVPERF by Cronin and Taylor (1992) and SERVQUAL (Cronin Jr. and Taylor, 1992). Simultaneously, by inheriting and applying previous research models while also making adjustments to suit the research context, the scale consists of 5 service quality components that impact visitor satisfaction. This result also shows the diversity in measuring service quality and that the SERVPERF scale has been adapted to suit different services and can be used in the tourism sector.

Hypothesis H_1 is proposed: H_1: Trust level has a positive impact on domestic tourists' satisfaction with the quality of community-based tourism services.

- H_2: Service capacity has a positive impact on domestic tourists' satisfaction with the quality of community-based tourism services.
- H_3: Tangible facilities have a positive impact on domestic tourists' satisfaction with the quality of community-based tourism services.
- H_4: Empathy has a positive impact on domestic tourists' satisfaction with the quality of community-based tourism services at the research sites.
- H_5: Level of responsiveness has a positive impact on domestic tourists' satisfaction with the quality of community tourism services.
- H_6: Perceived price has a positive impact on domestic tourists' satisfaction with the quality of community tourism services.

Based on the above hypotheses, the author has proposed the following research model and measurements.

2.3.1. Measurement scale development

The measurement scale for evaluating service quality in CBT was developed based on the SERVQUAL model and adapted to fit the specific characteristics of the research site context. A total of 26 observed variables were designed to capture six key dimensions of service quality (Table 1): Reliability, service competence (assurance), tangibles, empathy, responsiveness, and perceived price, together with three items measuring overall tourist satisfaction. For some indicators, those are updated and adjusted based on previous empirical studies on service quality and tourist to fix with the research site conditions. Each indicator was measured on a five-point Likert scale, ranging from 1 = Strongly disagree to 5 = Strongly agree. Before data collection, the questionnaire was pre-tested with a small group of respondents (n = 20) to ensure clarity, cultural relevance, and linguistic accuracy. The final version of the instrument was then used to collect data from 150 domestic tourists who had experienced CBT services.

The reliability and validity of the scale were subsequently tested using Cronbach's Alpha, exploratory factor analysis (EFA), and multiple regression analysis. Items with a corrected item-total correlation below 0.3 or a Cronbach's Alpha below 0.6 were eliminated from the final model.

3. FINDINGS AND DISCUSSION

3.1. Reliability Test Using Cronbach's Alpha

Table 2 presents the results of the Cronbach's Alpha reliability analysis for the independent variables. All constructs meet the minimum reliability threshold ($\alpha > 0.6$), confirming the internal consistency of the measurement scales. The findings demonstrate that all factors attained satisfactory reliability, with Cronbach's alpha values between 0.654 and 0.850, surpassing the minimum requirement of 0.6 recommended by Hair et al. (2006). The reliability dimension yielded a Cronbach's alpha of 0.771, with item-total correlations ranging from 0.507 to 0.604, indicating internal consistency among the items. The service competency dimension had a lower yet adequate reliability level (α = 0.654), indicating that the observed variables were moderately associated. The physical elements dimension achieved the highest dependability ($\alpha = 0.850$), signifying that the items characterizing the natural landscape, traditional architecture, and cultural identity of the Co Tu community exhibited substantial consistency. The empathy dimension attained a Cronbach's alpha of 0.760, whilst responsiveness and perceived price exhibited Alpha coefficients of 0.803 and 0.711, respectively.

In all dimensions, the adjusted item-total correlations surpassed 0.3, indicating that no items required removal. These findings affirm the internal consistency of the scales and verify their appropriateness for further exploratory factor analysis (EFA).

Table 1: Measurement items and references for service quality in CBT

Factor	Code	Variable explanations	Relevant references
Reliability	TC1	The destination provides services on time as promised.	Akama and Kieti, 2003; Parasuraman et al., 1988
	TC2	Information about the destination is clearly communicated to tourists.	Choi and Chu, 2001a; Kandampully and Suhartanto, 2000; Parasuraman et al., 1991
	TC3	The destination informs visitors when the service will be performed.	Getty and Thompson, 1994; Parasuraman et al., 1991
	TC4	Services are performed correctly the 1st time, with attention to minimizing errors.	Zeithaml et al., 2010a
Service competence (Assurance)	NL1	Staff behavior at the destination inspires trust.	Choi and Chu, 2001b; Marković et al., 2010
	NL2	Tourists feel safe during transactions at the destination.	Tasci and Gartner, 2007
	NL3	Staff are equipped with adequate professional knowledge and skills.	Karatepe, 2011; Zeithaml et al., 2010b
Tangibles	HH1	The landscape is beautiful, peaceful, and mostly unspoiled.	Chen and Tsai, 2007; Chi and Qu, 2008
	HH2	Guol houses reflect the unique culture of the Co Tu ethnic group.	Richards and Wilson, 2007; Rudnick et al., 2003
	HH3	Local people wear traditional costumes with vivid patterns and colors.	Richards and Wilson, 2007; Rudnick et al., 2003
	HH4	There is no evidence of overcharging, solicitation, or theft.	Ko and Stewart, 2002
	HH5	The transportation system allows convenient access to the site.	Buhalis, 2000
Empathy	DC1	Staff are attentive and understand tourists' needs.	Akama and Kieti, 2003; Parasuraman et al., 1988
	DC2	The timing of tourism activities suits visitors' needs.	Modified by authors
	DC3	Local residents communicate and interact well with visitors.	Modified by authors
	DC4	Staff respond to tourists' individual preferences when possible.	Prebensen et al., 2013
Responsiveness	DU1	Staff respond quickly to tourists' requests.	Akama and Kieti, 2003; Parasuraman et al., 1988
	DU2	Community-based tourism activities are diverse and appealing.	Modified by authors
	DU3	Staff are always willing to assist tourists.	Modified by authors
	DU4	Services are delivered promptly at the destination.	Liu et al., 2013
Perceived price	GC1	Service prices are lower than at other community-based destinations.	Petrick, 2002
	GC2	Service prices are reasonable compared to the provided quality.	Sweeney and Soutar, 2001
	GC3	Tourists are fully satisfied with the pricing policy of the destination.	Petrick, 2002
Overall satisfaction	SHL1	Tourists are satisfied with the overall quality of community-based tourism in Thuong Lo.	Kozak and Rimmington, 2000c; Yoon and Uysal, 2005
	SHL2	Tourists are willing to recommend the destination to friends and relatives.	Kozak and Rimmington, 2000c; Yoon and Uysal, 2005
	SHL3	Tourists intend to revisit the community-based tourism site in the future.	Kozak and Rimmington, 2000c; Yoon and Uysal, 2005

Source: Adapted and develop by authors

Table 2: Results of Cronbach's alpha reliability analysis for independent variables

Factor	Code	Variable explainations	Corrected item-total correlation	Cronbach's alpha if item deleted
Reliability (Cronbach's Alpha=0.771)	TC1	The destination provides services on time as promised.	0.507	0.754
	TC2	Information about the destination is clearly communicated to tourists.	0.596	0.704
	TC3	The destination informs visitors when the service will be performed.	0.594	0.706
	TC4	Services are performed correctly the 1st time, with attention to minimizing errors.	0.604	0.698
Service competence (Cronbach's Alpha=0.654)	NL1	Staff behavior at the destination inspires trust.	0.519	0.478
	NL2	Tourists feel safe during transactions at the destination.	0.530	0.464
	NL3	Staff are equipped with adequate professional knowledge and skills.	0.352	0.697
Tangibles (Cronbach's Alpha=0.850)	HH1	The landscape is beautiful, peaceful, and mostly unspoiled.	0.658	0.821
	HH2	Guol houses reflect the unique culture of the Co Tu ethnic group.	0.644	0.832
	HH3	Local people wear traditional costumes with vivid patterns and colors.	0.779	0.790
	HH4	There is no evidence of overcharging, solicitation, or theft.	0.570	0.842
	HH5	The transportation system allows convenient access to the site.	0.698	0.809
Empathy (Cronbach's Alpha=0.760)	DC1	Staff always pay attention to and understand customers' needs.	0.461	0.759
	DC2	Staff are attentive and understand tourists' needs.	0.646	0.651
	DC3	The timing of tourism activities suits visitors' needs.	0.704	0.632
	DC4	Local residents communicate and interact well with visitors.	0.452	0.756
Responsiveness (Cronbach's Alpha=0.803)	DU1	Staff respond quickly to tourists' requests.	0.666	0.734
	DU2	Community-based tourism activities are diverse and appealing.	0.549	0.786
	DU3	Staff are always willing to assist tourists.	0.684	0.720
	DU4	Services are delivered promptly at the destination.	0.613	0.764
Perceived price (Cronbach's Alpha=0.711)	GC1	Service prices are lower than those at other community-based tourism destinations.	0.537	0.617
	GC2	Service prices are appropriate for the quality provided.	0.439	0.726
	GC3	You are completely satisfied with the service prices at the destination.	0.628	0.508

Source: Findings of data from surveys

3.1.1. Cronbach's Alpha of dependent variable

The findings of the Cronbach's Alpha for the dependent variable—"Overall" "Satisfaction"—highlighted an acceptable level of internal consistency ($\alpha = 0.631$) (Table 3). Although the coefficient was relatively moderate compared to other domains, it remained above the threshold of 0.6, demonstrating that the three observed indicators shared the underlying concept with adequate reliability. That evidence was paralleled with previous studies on tourist satisfaction in community-based tourism settings (e.g., Minh, T. N. (2017)), where the satisfaction construct often captures objective and behavioral perspectives such as emotional experience, intention to revisit, and willingness to recommend.

The results also supported that these indicators are suitable for inclusion in the subsequent regression model to examine the determinants of tourist satisfaction within the community-based tourism context at the research sites.

Table 3: Cronbach's alpha reliability test for the dependent construct

Group indicators		Corrected item-total correlation	Cronbach's alpha if item deleted
Overall satisfaction		**Cronbach's alpha=0.631**	
SHL1	Tourists are satisfied with the overall quality of community-based tourism in Thuong Lo.	0.424	0.557
SHL2	Tourists are willing to recommend the destination to friends and relatives.	0.465	0.520
SHL3	Tourists intend to revisit the community-based tourism site in the future.	0.455	0.523

Source: Findings of data from surveys

Table 4: KMO and Bartlett's test for dependent variable

KMO coefficient	0.871
Bartlett's test	
Degrees of freedom	253
Significance	0.000
Total variance explained (%)	66.121
Eigenvalues	1.025

Source: Findings of data from surveys

3.2. Exploratory Factor Analysis (EFA)

3.2.1. EFA for independent variables

The EFA was carried out to determine the shadow structure of the independent variables labeling service quality domains in CBT (Table 4). Findings indicated that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.871, which was absolutely standard above the confirmed level of 0.5 (Kaiser, 1974), meaning that the statistic was appropriate for factor analysis. The Bartlett's Test of Sphericity yielded a Chi-square value parallelingdf = 253 and was statistically significant (Sig. = 0.000), verifying the positive correlations among variables matching the criteria of the application of EFA. The analysis extracted factors with eigenvalues >1 (the smallest being 1.025). These components collectively explained 66.121% of the total variance, outstripping the 50% benchmark recommended by Hair et al. (2006). This indicates that the selected variables effectively represent the latent constructs of service quality in community-based tourism.

Table 5: Rotated component matrix for independent variables

Factor	1	2	3	4	5	6
HH2	0.784					
HH3	0.755					
HH5	0.749					
HH1	0.641					
HH4	0.625					
DU4		0.757				
DU1		0.755				
DU3		0.748				
DU2		0.606				
TC1			0.819			
TC2			0.690			
TC3			0.647			
TC4			0.616			
DC3				0.836		
DC1				0.700		
DC2				0.669		
DC4				0.502		
GC2					0.736	
GC3					0.663	
GC1					0.590	
NL1						0.677
NL2						0.628
NL3						0.616
Eigenvalues	8.292	1.797	1.639	1.278	1.177	1.025
Variance explained (%)	36.053	7.813	7.126	5.554	5.117	4.458

Source: Findings of data from surveys

All factor loadings in the rotated component matrix subsisted >0.5, confirming the convergent validity of the constructs. Consequently, all observed variables were retained for subsequent regression analysis (table 5).

To determine the number of factors to be retained, two main criteria were applied:

(1) Kaiser's Criterion: According to Kaiser's rule, only factors with eigenvalues >1 are retained, while less significant ones are removed. The EFA results revealed six factors with Eigenvalues exceeding 1, indicating that these six components were sufficient to explain the underlying structure of the data. (2) Total Variance Explained: Factor analysis is considered appropriate when the total variance explained exceeds 50%. The EFA results indicated that six factors were extracted, each with factor loadings >0.5 for all observed variables, confirming strong associations within each construct.

Although minor cross-loadings were observed among a few variables, all 23 observed indicators were retained in the final model. The significant Bartlett's Test result confirmed that the variables were intercorrelated, validating the suitability of the dataset for factor analysis.

The six extracted factors accounted for 66.121% of the total variance, meaning that these six components collectively explained 66.121% of the variation among the 23 observed variables. The extracted factors were interpreted as follows:

Factor 1: Tangibles (Eigenvalue = 8.292 >1)

This factor captures the tangible and physical elements of the destination, such as a beautiful, peaceful, and relatively pristine landscape; traditional Guol houses reflecting Co Tu ethnic culture; residents wearing traditional colorful attire; absence of overcharging or solicitation; and convenient road access.

Factor 2: Responsiveness (Eigenvalue = 1.797 >1)

This dimension measures the promptness and enthusiasm of local staff in assisting tourists, including fast responses, a variety of engaging CBT activities, readiness to help, and timely delivery of services.

Factor 3: Reliability (Eigenvalue = 1.639 >1)

This factor reflects the reliability of service provision, including punctuality, clarity of information, proper communication regarding service timing, and consistent delivery without errors.

Factor 4: Empathy (Eigenvalue = 1.287 >1)

This dimension reflects the degree of understanding and care shown by staff and residents toward tourists' needs, including attentiveness, suitable activity schedules, positive interactions, and responsiveness to personal preferences.

Factor 5: Perceived Price (Eigenvalue = 1.177 >1)

This factor relates to tourists' perceptions of price fairness, encompassing affordability compared with other CBT sites, price-quality balance, and overall satisfaction with pricing.

Factor 6: Service Competence (Eigenvalue = 1.025 >1)

This final factor represents the professionalism and competence of staff, including trustworthy behavior, safe transactions, and adequate knowledge and skills in service delivery.

Together, these six dimensions confirm the multidimensional nature of service quality in community-based tourism, aligning closely with the SERVQUAL framework and providing a solid foundation for subsequent regression analysis.

3.2.2. EFA for dependent variable

The KMO coefficient of 0.651 ranged within the acceptable volume of 0.5-1.0, indicating that the data were suitable for conducting factor analysis (Table 6). Furthermore, the Bartlett's Test of sphericity concurred statistically significantly (Sig. = 0.000 <0.05), approving sufficient correlations among the observed variables. Therefore, it was proper to continue with EFA for the dependent variable. This step extracted one factor with an Eigenvalue of 1.745, which accounted for 58.172% of the total variance (table 6). This result revealed that the three observed variables (SHL1-SHL3) effectively signify a single latent construct—Overall Tourist Satisfaction—which was coherent

Table 6: KMO and Bartlett's test for dependent variable

KMO coefficient	0.651
Bartlett's test	
Degrees of freedom	3
Significance	0.000
Eigenvalues	1.745
Extraction sums of squared loadings	58.172

Source: Findings of data from surveys

with the theoretical framework and suitable for subsequent regression analysis.

Table 7 presented the result of the rotated component matrix for the dependent variable. The factor loadings of all three indicators — satisfaction with service quality, willingness to recommend, and intention to revisit — were above 0.7, showing a high degree of consistency and convergent validity. Therefore, these items collectively represent a single latent construct: Overall tourist satisfaction.

This factor was subsequently used as the dependent variable in the regression model to identify the determinants of satisfaction with community-based tourism services in Namdong.

3.2.3. Correlation analysis among variables

The Pearson correlation analysis was conducted to evaluate the linear relationships between the independent variables and the dependent variable (Tourist satisfaction—SHL). As shown in Table 8, all correlation coefficients were positive and statistically significant at the 1% level ($P < 0.01$), indicating that improvements in any service quality dimension could contribute to increasing the overall record of tourist satisfaction.

Among the independent variables, service competence (NL) ranked the strongest correlation with Tourist Satisfaction ($r = 0.750$), followed continuously by tangible facilities (HH) ($r = 0.683$) and empathy (DC) ($r = 0.676$). These records indicated that tourists place the highest value on the professionalism, infrastructure, and interpersonal sensitivity of local service providers at the research sites. Temporarily, reliability (TC) and responsiveness (DU) identify moderately strong relationships (ranging from 0.637 to 0.679), while perceived price (GC) illustrated a slightly lower connection but still a significant relation ($r = 0.655$).

There was no record of uncorrelation coefficients upper than 0.8, indicating multicollinearity among the independent variables and confirming the suitability of the data for subsequent regression analysis.

3.3. Linear Regression Analysis

The regression analysis confirms that all six independent variables significantly and positively influence tourist satisfaction; however, their standardized coefficients (Beta) reveal differences in explanatory power (table 9). These differences closely reflect the service context of community-based tourism (CBT) and the behavioral expectations of domestic tourists. The Adjusted $R^2 = 0.823$ demonstrates that the six explanatory variables collectively account for 82.3% of the variance in tourist satisfaction. Moreover, Durbin-Watson = 1.580 confirms the absence of first-order autocorrelation, and all VIF values <2 indicate no multicollinearity issues, ensuring the robustness of the model.

Table 7: Rotated component matrix for dependent variables

Indicators	Value
	1
SHL2	0.776
SHL3	0.771
SHL1	0.741

Source: Findings of data from surveys

The regression results indicated that all six independent variables exert statistically significant and positive effects on dependent variable with CBT (CBT) in the study area. The value of service competence was the highest record ($\beta = 0.328$), followed by reliability ($\beta = 0.202$), empathy ($\beta = 0.191$), responsiveness ($\beta = 0.177$), perceived price ($\beta = 0.162$), and Tangibles ($\beta = 0.147$). The findings indicated that although tourists value physical amenities and infrastructure, experiential and interpersonal factors are more critical in influencing overall pleasure. The affirmative coefficients for all factors allow to summarize that enhancements in any service-quality domains causing increased satisfaction levels. Nonetheless, the significance of the impacts indicates that human-centered factors—such as service professionalism, reliability, and emotional involvement—presenting the greater importance than tangible dimension. The empirical model also resumes the strong explanatory capability and offers definitive proof of the multifaceted features of tourist satisfaction in CBT contexts.

The study allows us to conclude that human-centered service attributes, particularly service competence, reliability, and empathy, have been playing root factors of satisfaction in CBT. Those findings are aligned with several previous studies (Agung Prakoso et al., 2020; Kontogeorgopoulos et al., 2014). The result means that the professionalism and interpersonal engagement form played an important role as a structural backbone of CBT service quality. However, unlike oriented market tourism where tangibles are often targeted (Marković et al., 2010), the less important contribution of tangibles in this study proposes the other vision that CBT visitors viewed the primary through experiential and relational dimensions rather than physical concentration.

This finding invites a degree of critical reflection. Kandampully and Suhartanto (2000) about customer loyalty, confirmed the absolute advantage of human resources in serving the service competence as an important pillar. However, this finding is still faced with the long-term sustainability of CBT due to the different level of local community capacity, which is officially uneven across ethnic and rural groups. In the same vein, although reliability arises as a driving factor, Parasuraman et al.'s (1988; 1991) warrant that reliability is the essential baseline of service quality may not be fully covered in resource-constrained settings. In mountainous areas, service distribution could partially be formed by environmental limitations and seasonal constraints. The given reflection could admit to implying that tourists may change their expectations accordingly. This contextual nuance challenges the assumption that reliability functions uniformly across destinations.

Table 8: Pearson correlation coefficients

Correlations							
	TC	NL	HH	DC	DU	GC	SHL
TC							
Pearson correlation	1	0.440**	0.460**	0.401**	0.488**	0.376**	0.637**
Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000
N	150	150	150	150	150	150	150
NL							
Pearson correlation	0.440**	1	0.538**	0.489**	0.466**	0.483**	0.750**
Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000
N	150	150	150	150	150	150	150
HH							
Pearson correlation	0.460**	0.538**	1	0.482**	0.476**	0.561**	0.683**
Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000
N	150	150	150	150	150	150	150
DC							
Pearson correlation	0.401**	0.489**	0.482**	1	0.539**	0.479**	0.676**
Sig. (2-tailed)	0.000	0,.000	0.000		0.000	0.000	0.000
N	150	150	150	150	150	150	150
DU							
Pearson correlation	0.488**	0.466**	0.476**	0.539**	1	0.482**	0.679**
Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000
N	150	150	150	150	150	150	150
GC							
Pearson correlation	0.376**	0.483**	0.561**	0.479**	0.482**	1	0.655**
Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000
N	150	150	150	150	150	150	150
SHL							
Pearson correlation	0.637**	0.750**	0.683**	0.676**	0.679**	0.655**	1
Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	
N	150	150	150	150	150	150	150

**Significance: 0.01. Source: Findings of data from surveys

Table 9: The linear regression analysis's output

Tests and variables	Sum of squares/ Coefficients (B)	Degrees of freedom/ Standard error	Standardized beta	t/F	Significance	Tolerance	VIF
Model summary							
R=0.911							
R^2=0.830							
Adjusted R^2=0.823							
Standard error=0.20020							
Durbin-Watson=1.580							
Analysis of variance							
Regression	27.991	6	4.665	**F=116.397**	**0.000**	-	-
Residual	5.731	143	0.040	-	-	-	-
Total	33.722	149	-	-	-	-	-
Coefficients							
Constant	−0.331	0.166	-	−1.995	0.048	-	-
Reliability (TC)	0.179	0.037	0.202	4.784	0.000***	0.670	1.493
Service competence (NL)	0.295	0.040	0.328	7.308	0.000***	0.591	1.691
Tangibles (HH)	0.130	0.041	0.147	3.141	0.002***	0.542	1.847
Empathy (DC)	0.187	0.044	0.191	4.270	0.000***	0.593	1.685
Responsiveness (DU)	0.154	0.040	0.177	3.877	0.000***	0.570	1.754
Perceived price (GC)	0.145	0.040	0.162	3.602	0.000***	0.588	1.701

Source: Findings of data from surveys. *P<0.05; **P<0.01; ***P<0.001

Empathy was evaluated as the following important factor, again supporting the ideas proposed by Kozak and Rimmington (2000) that emotional resonance strengthens loyalty. In another view, the high record of empathy evaluation leads to the "hospitality bias." The main reason came from the pre-setting of urban visitors perceiving ethnic minority communities as more sincere or welcoming due to cultural stereotypes. This possibility warrants further investigation to avoid overstating the causal role of empathy.

The responsiveness and perceived price have received the moderate records that affiliate with the value-equity frameworks of Petrick (2002) and Sweeney and Soutar (2001). Currently, the relative importance of these factors may lead domestic tourists to

evaluate CBT through a hybrid lens: Although they appreciate fair pricing and timely support, these elements alone do not ensure long-term satisfaction.

4. CONCLUSION

This study plus into the literature on CBT by empirically examining the factors that influence domestic tourists' satisfaction in the mountainous areas of Hue City, with a key focus on activities involving local communities. The study used EFA and linear regression to carry out six key determinants of tourist satisfaction: service competence, reliability, tangibles, empathy, responsiveness, and perceived price; among these, service competence had the strongest influence according to travelers' perspectives. These findings underscore the importance of both professional service delivery and authentic community engagement in shaping visitor experiences.

Beyond statistical validation, the study highlighted that sustainable CBT development needs an integrated approach that connects local governance, infrastructure improvement, digital transformation, and cultural preservation. When properly fulfilled, these factors not only increase tourist satisfaction but also power up local communities, especially ethnic minorities, to become key actors in tourism value chains. Hue's experience allow to confirm that CBT can evolve into a sustainable and complete tourism model if it is supported by strong institutional synchronization, active community participation, and data-driven policy adaptation. The insights and policy recommendations stemming from this study may therefore serve as valuable guidance for other localities in Vietnam and across the ASEAN region seeking to balance tourism growth with cultural and environmental development.

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