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Development of Integrated Financial Performance Measurement Model for Community-Based Tourism in Southern Thailand

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Abstract

This study aims (1) to develop indicators contextualized for the community-based tourism enterprises in Southern Thailand (Songkhla, Krabi, Trang, and Phang Nga), (2) to examine the structural relationships among Community Participation, Sustainability Performance, Tourist Satisfaction, and Financial Performance, and (3) to propose strategic guidelines for enhanced financial efficiency. A mixed-methods design combining qualitative and quantitative research was employed. The qualitative approach utilized semi-structured interviews with 25 experts, including local accountants, community leaders, and tourism policymakers, to validate and enrich the statistical findings. The quantitative analysis evaluated the integrated model using survey data from 250 community enterprises and 800 tourists through covariance-based Structural Equation Modeling (SEM). The model demonstrated acceptable empirical fit ($CFI = 0.943$, $TLI = 0.930$, $RMSEA = 0.045$), confirming the validity of the four core constructs. SEM analysis revealed that Sustainability Performance positively influences Tourist Satisfaction ($\beta = 0.256$, $p < 0.05$), which subsequently enhances Financial Performance ($\beta = 0.324$, $p < 0.01$). Community Participation did not have a statistically significant direct effect on Financial Performance. To address microenterprise constraints, the developed indicators extend beyond conventional corporate metrics by establishing non-traditional indicators, such as cash flow predictability, community-based cost efficiency, and localized internal accounting monitoring tools. The study proposes strategic development guidelines focusing on establishing community sustainability accounting, enhancing local governance structures, and elevating the quality of service to secure long-term financial health. This framework effectively connects grassroots participation with sustainable regional development. These guidelines can be applied both academically and practically.

Keywords: *financial performance, sustainability accounting, community-based tourism, structural equation modeling, sustainability performance, Southern Thailand*

1. Introduction

The tourism industry constitutes a critical mechanism for driving the global economy and establishing international connectivity in the service-based economic era, generating an economic value exceeding USD 9.9 trillion, equivalent to 9.1% of global gross domestic product, and creating over 330 million employment positions worldwide (World Travel and Tourism Council (WTTC), 2024). The tourism sector thus plays a strategic role in the economic and social development of developing nations, particularly those with economic structures dependent on natural and cultural resources as primary capital, such as Thailand, which has been ranked among the world's leading tourism destinations.

Thailand possesses substantial geographical and cultural diversity, enabling the attraction of over 40 million international tourists in 2019, with tourism revenue historically accounting for approximately 20% of its gross domestic product (OECD, 2018); projections indicate this economic contribution could reach 30% by 2030. The tourism sector provides employment for over 4.2 million people nationwide, reflecting the industry's potential as an "economic engine" influencing both macroeconomic and local economic dimensions.

At the regional level, Southern Thailand represents the area with the highest tourism potential, characterized by diverse natural resources and cultural diversity, particularly in the provinces of Phuket, Krabi,

Phang Nga, Trang, and Songkhla. During January to April 2025, the southern region generated cumulative tourism revenue exceeding THB 302.96 billion, with Phuket generating the highest revenue of THB 188.99 billion, followed by Surat Thani at THB 49.16 billion and Krabi at THB 36.41 billion (The Nation Thailand, 2025). Despite the southern region's diverse resources, revenue remains heavily concentrated in primary tourism hotspots, while other provinces with significant potential, such as Trang and Songkhla, have not achieved optimal tourist attraction capacity. This issue reflects a stark imbalance in tourism revenue distribution and highlights a critical operational vulnerability: local CBTs in these emerging destinations often lack tailored financial management models, leaving them unable to balance immediate survival with long-term sustainable planning. This underscores the necessity for establishing Financial Performance (FP) measurement systems that can facilitate sustainable development approaches for small-scale tourism enterprises and communities.

Community-Based Tourism (CBT) has gained recognition as an essential instrument for grassroots economic development and sustainable advancement. Centered on the community as its focal point, this paradigm shifts away from conventional commercial tourism by emphasizing Community Participation (CP) throughout all management processes, from planning and operations to benefit allocation (Aref et al., 2009; Simpson, 2008). Theoretically, the core execution of CBT operates across three interrelated domains: the economic dimension (income and employment generation), the socio-cultural dimension (cultural conservation and local pride), and the environmental dimension (sustainable resource utilization) (Kontogeorgopoulos et al., 2014). According to the World Tourism Organization (UNWTO) (2020), this community-centric model serves as a strategic framework for achieving the United Nations' Sustainable Development Goals (SDGs), specifically Goal 8 (Decent Work and Economic Growth) and Goal 11 (Sustainable Cities and Communities). In Thailand, this approach has evolved into a core governmental policy through the "Sustainable Community Tourism" program supported by the Ministry of Tourism and Sports and the Tourism Authority of Thailand (TAT). Operational initiatives in communities such as Ban Koh Klang (Krabi Province) and Ban Laem (Songkhla Province) demonstrate that CBT can successfully generate supplementary income and promote local conservation (Balen et al., 2024).

However, despite this recognized economic potential, a critical gap remains in the empirical literature regarding Financial Performance (FP) measurement within community-managed enterprises. Evidence from the Thai CBT context suggests that performance criteria are predominantly framed around broad developmental, social, or cultural outcomes rather than systematic accounting indicators, leaving financial sustainability underrepresented (Abdel-Kader & Wadongo, 2011; Auksondee & Darawong, 2024; National Tourism Policy Committee, 2019; Hasseno, 2023). Similarly, Jaramillo-Moreno et al. (2020) reported that many CBT enterprises in developing economies operate without standardized financial reporting, which contributes to persistent liquidity constraints. This systemic lack of financial focus within the sustainable CBT domain is further confirmed by Krittayaruangroj et al. (2023) in a bibliometric review of Scopus-indexed studies, highlighting the severe underrepresentation of financial metrics relative to environmental and social dimensions.

This systemic financial challenge prompts the conceptualization of an integrated framework drawing on Elkington and Rowlands (1999) Triple Bottom Line (TBL) framework, which balances economic, social, and environmental sustainability, and Choi and Sirakaya's (2006) Community-Based Sustainable Tourism (CBST) model, which positions CP as the central mechanism to achieve TBL equilibrium. Theoretically, establishing this equilibrium creates a complex dynamic between sustainability efforts and financial outcomes. Many researchers affirm a direct, positive relationship between a firm's sustainability orientation and its financial performance, whereas others demonstrate that this link is neither direct nor inevitable. For instance, Li et al. (2022) argued that sustainability practices do not automatically guarantee financial success; instead, they enhance FP primarily when mediated by operational factors such as quality of service and customer satisfaction.

The assessment of these specific financial dynamics within community enterprises, where conventional indicators (e.g., return on equity) are largely inapplicable, requires modified metrics inspired by Kaplan and Norton's (1992) Balanced Scorecard (BSC) framework. Directly transplanting conventional corporate metrics into community-based settings remains a significant challenge, despite the fundamental utility of this performance framework being well-established in global hospitality literature and localized sustainable tourism studies. Therefore, this alignment echoes Aujirapongpan and Pattanasing (2020), who demonstrated that financial metrics in Thai local hospitality contexts must explicitly connect to stakeholder relationships and community integration to reflect operational realities.

Furthermore, the model incorporates Oliver's (1980) Expectation-Confirmation Theory (ECT) to establish the role of Tourist Satisfaction. In a CBT setting, satisfaction is heavily driven by localized social and cultural attributes, which subsequently trigger positive post-visitation behaviors, repeat visitation, and word-of-mouth recommendations (Han et al., 2019). Thus, TS acts as a critical mediating variable bridging sustainable destination operations with an enterprise's FP.

Aiming to resolve this significant literature gap and develop a model that empirically connects CP, multi-dimensional Sustainability Practices (SP), and Tourist Satisfaction directly to the FP of CBTs, this study examines the unique socio-economic landscape of Southern Thailand, specifically focusing on community tourism enterprises in Songkhla, Krabi, Trang, and Phang Nga provinces. Given that unobservable latent constructs such as satisfaction, sustainability, and FP cannot be directly measured, conventional regression analysis falls short because it focuses solely on prediction without explaining the underlying theoretical data structure (Hair et al., 2021; Kline, 2016). This study, therefore, employs covariance-based Structural Equation Modeling (CB-SEM), which integrates Confirmatory Factor Analysis (CFA) with multiple regression analysis to simultaneously identify direct effects, indirect effects, and mediating mechanisms within a single analytical framework. This approach is mathematically superior for theory confirmation and grounding frameworks in established conceptual structures (Byrne, 2016), thereby validating all indicators against the empirical realities of Southern Thai CBT enterprises. Ultimately, this research establishes a localized framework that integrates immediate community development goals with long-term financial sustainability.

2. Objectives

- 1) To develop Financial Performance indicators tailored to the unique characteristics and contexts of community-based tourism enterprises in Songkhla, Krabi, Trang, and Phang Nga provinces.
- 2) To examine the structural relationships and the mediating roles of multi-dimensional Sustainability Performance and Tourist Satisfaction in explaining the relationship between Community Participation and Financial Performance within the community-based tourism sector.
- 3) To formulate strategic guidelines for enhancing the Sustainability Performance and financial efficiency of these grassroots enterprises based on the validated structural framework.

3. Materials and Methods

This research employs a mixed-methods approach with a causal relationship design to examine the relationships among integrated FP, SP, and TS within the context of CBT enterprises in Southern Thailand. The Structural Equation Modeling (SEM) technique is employed to test causal relationships among variables according to the research conceptual framework.

3.1 Population and Sample

The target population consists of two main components aligned with the mixed-methods approach to ensure comprehensive data triangulation:

3.1.1 Qualitative Sample

The qualitative sample consists of 25 purposively selected key informants and domain experts, classified into three major expert groups: academic experts in management accounting and community development, successful CBT entrepreneurs, and local government officials supervising regional economic systems.

3.1.2 Quantitative Sample

The target population for CBT enterprises comprises 485 registered entities across Songkhla, Krabi, Trang, and Phang Nga provinces, operating under local CP according to the Department of Agricultural Extension (2025) database. Yamane's (1973) formula with a 95% confidence level and a 5% margin of error yielded a minimum required sample size of 219 enterprises. The final sample size was expanded to 250 CBT enterprises selected through stratified random sampling based on province and enterprise categories to prevent potential data loss and enhance SEM estimation efficiency. An infinite population framework was applied to

tourists visiting these specified areas, where a non-probability convenience sampling technique was implemented to obtain a final sample of 800 tourists for model verification.

3.2 Research Instruments

The research instruments were designed using a mixed-methods approach to facilitate data triangulation from both qualitative and quantitative components, ensuring a comprehensive validation of the model.

3.2.1 Qualitative Instrument

A semi-structured interview protocol was developed to capture localized socio-economic dynamics and informal accounting challenges. The protocol targeted the purposively selected key informants, stratified into academic experts in accounting and community development, successful CBT entrepreneurs, and local government officials.

3.2.2 Quantitative Instruments

Two structured questionnaires were derived from the literature on management accounting and strategic implementation, both utilizing a 5-point Likert scale to capture survey responses:

- **CBT Enterprise Questionnaire:** This instrument was administered to CBT leaders, comprising six core sections: General enterprise profile, FP and internal control data, CP, SP under the Triple Bottom Line framework, Perceived accounting and control practices, and Qualitative open-ended recommendations.

- **TS Questionnaire:** This instrument was distributed to assess TS.

3.2.3 Instrument Validation and Reliability Test

The instruments underwent content validity evaluation by five academic experts, yielding a satisfactory average Item-Objective Congruence (IOC) index of 0.80. Subsequently, a pilot test was executed with a trial group of 50 CBT enterprises and 100 tourists to verify internal consistency. The reliability analysis demonstrated high internal consistency across all latent constructs; specifically, the tourist questionnaire achieved a Cronbach's Alpha coefficient of 0.91, which is interpreted as excellent according to George and Mallery (2003). The alpha coefficients for all structural dimensions across both instruments exceeded the universally accepted academic threshold of 0.70 (Nunnally, 1978), thereby confirming the readiness of the instruments for data collection.

3.3 Data Collection and Analysis Procedures

The procedural workflow of this research was systematically executed through four progressive stages aligned with the sequential mixed-methods framework, with total fieldwork and data collection span completed over a six-month period:

Stage 1: Qualitative Data Collection and Synthesis

Semi-structured interviews were conducted with the 25 purposively selected experts and stakeholders to gather foundational contextual insights. This process was complemented by direct field observations to assess the physical, operational, and financial contexts of the target areas. The qualitative interview transcripts and field notes were systematically organized, verified for accuracy, and synthesized through thematic analysis to capture localized operational and financial structures.

Stage 2: Instrument Refinement and Field Preparation

The finalized research instruments were refined based on the synthesized qualitative insights to ensure contextual validity. Following this instrument refinement, the researcher initiated formal coordination with relevant local agencies in the target provinces (Songkhla, Krabi, Trang, and Phang Nga) and conducted comprehensive training for eight research assistants to ensure standardized data administration in the field.

Stage 3: Quantitative Fieldwork through Structured Inquiries and Data Cleaning

Research assistants conducted quantitative inquiries within the designated tourism areas through an inquirer-administered questionnaire approach, orally inquiring each question item and directly recording the

participants' verbal responses onto the questionnaires. Through this structured inquiry process, the CBT enterprise questionnaire was completed for CBT leaders (250 sets), while the TS questionnaire was completed for visitors (800 sets). Upon completing fieldwork, the quantitative dataset was subjected to statistical data cleaning to identify and omit unusable data, including incomplete responses and multivariate outliers, preparing the final data matrix for software estimation.

Stage 4: Integrated Data Analysis and Synthesized Discussion

In the final stage, qualitative and quantitative data were comprehensively analyzed using their textual and respective statistical methods. Methodological triangulation was systematically applied by integrating the qualitative thematic findings to enrich, validate, and contextualize the empirical paths and statistical variances derived from the CB-SEM model.

3.4 Data Analysis

Data analysis comprises two primary components:

3.4.1 Descriptive Analysis

Employs fundamental statistics, including mean, standard deviation, and percentage, to describe general characteristics of the sample and variable trends.

3.4.2 Inferential Analysis

Utilizes hypothesis testing to examine differences and relationships among variables, including t-test, One-way ANOVA, and Chi-square test. Additionally, the researcher employs the Structural Equation Modeling (SEM) technique using AMOS software to test causal relationships among latent variables, evaluated through key goodness-of-fit indices, such as Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Standardized Root Mean Square Residual (SRMR).

4. Results

4.1 Empirical Validation and Model Development

The development of an integrated Financial Performance measurement model constitutes the primary objective of this study. The developed model encompasses four core components: CP, SP, TS, and FP. To evaluate the quality of the research instrument before performing structural testing, a comprehensive reliability analysis was conducted based on the methodological criteria recommended by Nunnally (1978), which mandates that both Cronbach's Alpha and Composite Reliability (CR) values should exceed the 0.700 threshold. The internal consistency and reliability metrics for each latent construct, which fully satisfy these established criteria, are summarized and presented in Table 1.

Table 1 Reliability analysis results of the integrated Financial Performance measurement model

Component	Number of Items	Cronbach's Alpha	Composite Reliability
Community Participation (CP)	4	0.782	0.791
Sustainability Performance (SP)	3	0.748	0.759
Tourist Satisfaction (TS)	4	0.856	0.863
Financial Performance (FP)	5	0.823	0.835

Note: All reliability coefficients exceed the acceptable threshold of 0.70, indicating satisfactory internal consistency across all constructs in the measurement model.

The empirical results presented in Table 1 demonstrate the reliability assessment of the measurement model, which represents a critical step in evaluating research instrument quality. Utilizing Cronbach's Alpha coefficient and Composite Reliability (CR) as primary indicators for assessing the internal consistency of the constructs, the data indicate that the integrated Financial Performance measurement model achieves good to excellent reliability levels. Specifically, Tourist Satisfaction exhibits the highest reliability ($\alpha = 0.856$, CR = 0.863), followed by Financial Performance ($\alpha = 0.823$, CR = 0.835), Community Participation ($\alpha = 0.782$, CR = 0.791), and Sustainability Performance ($\alpha = 0.748$, CR = 0.759), respectively. All reliability values exceed the 0.70 threshold, thereby meeting the widely accepted criteria for survey research. The marginally higher Composite Reliability values compared to

Cronbach's Alpha represent a normal phenomenon, as CR considers the individual factor loadings of each observed variable, providing a more accurate representation within the SEM context. Furthermore, the subsequent CFA demonstrated a close fit with the collected empirical data, as detailed in Table 2.

Table 2 Overall measurement model fit indices for the integrated Financial Performance (FP) measurement model

Fit Index	Value	Acceptance Criteria
Chi-square (χ^2)	146.661	-
Degrees of Freedom (df)	98	-
p -value	0.001	> 0.050
χ^2/df	1.496	< 3.000
CFI	0.943	> 0.900
TLI	0.930	> 0.900
RMSEA	0.045	< 0.050
RMSEA 90% CI	0.029-0.059	-
SRMR	0.057	< 0.080

Note: CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = Confidence Interval; SRMR = Standardized Root Mean Square Residual. The model demonstrates acceptable to good fit across multiple indices, with RMSEA meeting excellent criteria and incremental fit indices (CFI, TLI) satisfying the widely accepted > 0.900 threshold for field research.

The empirical model fit indices presented in Table 2 demonstrate the overall measurement model analysis, confirming robust discriminant validity among the four latent constructs. The model displays strong fit indices (CFI = 0.943, TLI = 0.930, RMSEA = 0.045, SRMR = 0.057). Although the Chi-square value was significant ($\chi^2 = 146.661$, $df = 98$, $p < 0.05$), this outcome was expected given its known sensitivity to sample size ($n = 250$). According to Hair et al. (2021), fit indices greater than 0.90 indicate an acceptable fit for empirical research. Collectively, the CFA results mathematically validate the construct validity of the integrated model, proving its readiness for subsequent structural equation modeling to test hypotheses. Consequently, this rigorous statistical validation establishes a solid baseline for investigating the structural relationships and directional paths among the core variables.

4.2 Examining Relationships Among FP, SP, and TS

The structural equation modeling (SEM) analysis confirmed significant causal relationships among the core constructs. SP positively and significantly affects TS ($\beta = 0.256$, $p = 0.019$), which in turn positively influences FP ($\beta = 0.324$, $p = 0.005$). This empirical evidence demonstrates that the primary mechanism for enhancing financial efficiency operates through the indirect, loyalty-driven pathway of $SP \rightarrow TS \rightarrow FP$. Conversely, the direct path from CP to FP did not reach statistical significance, the detailed decomposition of this relationship is discussed in the subsequent sections, as illustrated in the structural path diagram (Figure 1).

Figure 1 shows the structural path estimates of the integrated FP framework for CBTAs. The structural model demonstrates acceptable empirical validity and robust data fit, which is fully supported by the overall goodness-of-fit indices ($\chi^2/df = 1.496$, CFI = 0.943, TLI = 0.930, RMSEA = 0.045, and SRMR = 0.057). To examine the individual direct, indirect, and total effects alongside the statistical significance of each specific path represented in this framework, the comprehensive SEM estimates, including path coefficients (β) and their respective significance levels, are summarized and presented in Table 3.

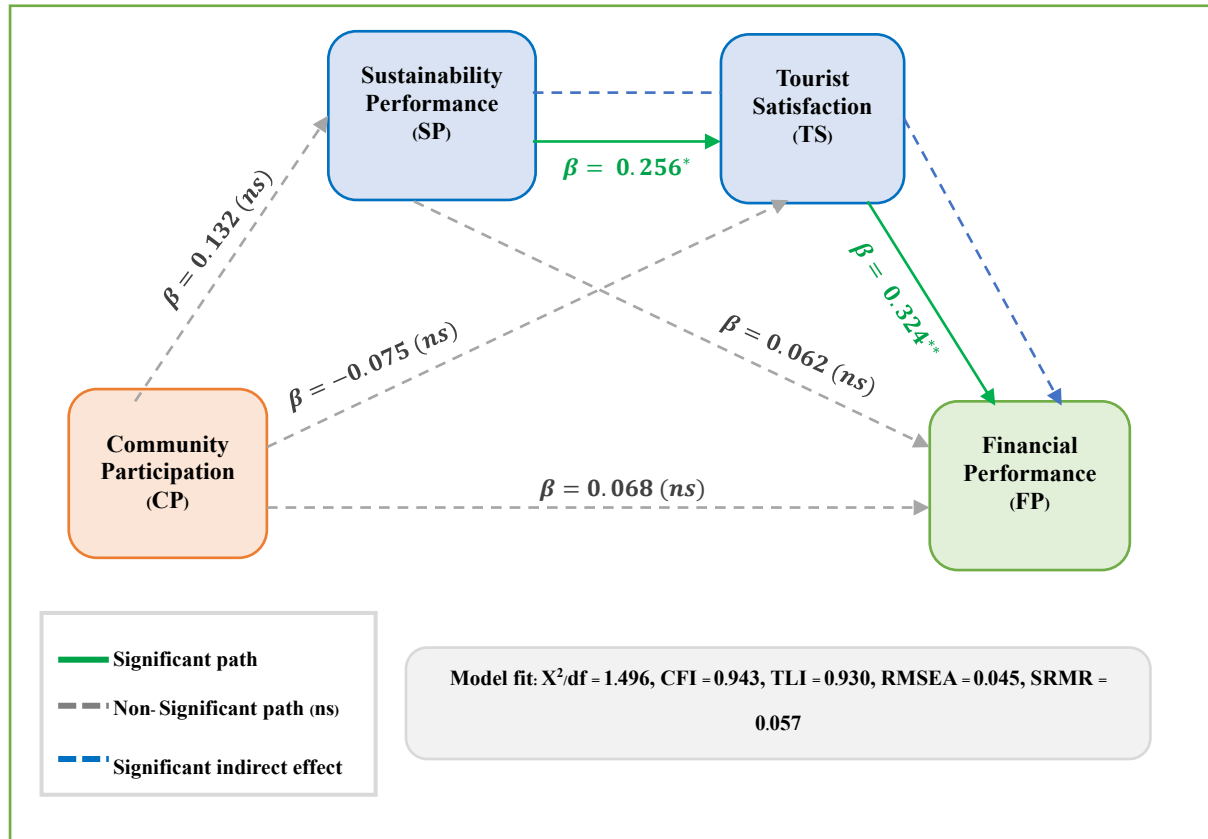


Figure 1 Structural path estimates of the integrated FP framework for CBT

Table 3 Results of the analysis of the partial mediation model for the integrated Financial Performance framework

Path	Coefficient (β)	S.E.	z-value	p-value
CP → SP	0.132	0.082	1.604	0.109
SP → TS	0.256*	0.103	2.346	0.019
CP → TS	-0.075	0.086	-0.825	0.409
TS → FP	0.324**	0.129	2.833	0.005
SP → FP	0.062	0.105	0.624	0.533
CP → FP	0.068	0.093	0.774	0.439

Note: * $p < 0.05$, ** $p < 0.01$; CP = Community Participation; SP = Sustainability Performance; TS = Tourist Satisfaction; FP = Financial Performance.

Model fit indices: $\chi^2 = 146.661$, $df = 98$, $p = 0.001$, CFI = 0.943, TLI = 0.930, RMSEA = 0.045, SRMR = 0.057.

The empirical results presented in Table 3 validate that sustainable practices primarily drive FP by first enhancing visitor satisfaction, a mechanism that strongly resonates with the Service-Profit Chain theory. Conversely, the pathways originating from CP, including CP → SP ($\beta = 0.132$, $p = 0.109$), CP → TS ($\beta = -0.075$, $p = 0.409$), and CP → FP ($\beta = 0.068$, $p = 0.439$), failed to reach statistical significance ($p > 0.05$). Similarly, the direct path from SP to FP ($\beta = 0.062$, $p = 0.533$) was also statistically non-significant. This indicates that CP does not automatically manifest itself in immediate sustainable or financial upgrades within the current framework. To definitively test whether these internal dynamics alter or confirm the overall mediation mechanism, a formal statistical verification of all combined indirect pathways through the bootstrap resampling method is performed, with the results summarized in Table 4.

Table 4 Indirect effects using the bootstrap method for the integrated Financial Performance framework

Indirect Path	Coefficient	Bootstrap S.E.	95% CI Lower	95% CI Upper	p-value
CP → SP → TS	0.031	0.023	-0.014	0.076	0.187
SP → TS → FP	0.086*	0.046	0.008	0.185	0.046
CP → SP → TS → FP	0.011	0.009	-0.005	0.031	0.211

Note: * $p < 0.05$; CI = Confidence Interval; CP = Community Participation; SP = Sustainability Performance; TS = Tourist Satisfaction; FP = Financial Performance. Results are based on a 2,000-replication bootstrap resampling procedure.

Table 5 Explained variance of the Structural Equation Model for the integrated Financial Performance framework

Latent Variable	R ²	Evaluation of Explanatory Power
Sustainability Performance (SP)	0.017	Weak / Negligible
Tourist Satisfaction (TS)	0.066	Weak
Financial Performance (FP)	0.115	Moderate

The bootstrap mediation results presented in Table 4 statistically validate the proposed mediation effects within the framework. The indirect effect of the SP → TS → FP pathway is confirmed to be statistically significant ($\beta = 0.086$, $p = 0.046$), with its 95% confidence interval (0.008 to 0.185) completely excluding zero. In contrast, the indirect pathways originating from CP, specifically CP → SP → TS ($p = 0.187$) and CP → SP → TS → FP ($p = 0.211$), both capture zero within their respective 95% confidence intervals, mathematically confirming their lack of statistical significance. To evaluate the overall predictive capability of the model, the explanatory power (R^2), representing the proportion of variance explained within the endogenous constructs, is summarized and presented in Table 5.

As summarized in Table 5, the explanatory power of the model was evaluated using the coefficient of determination (R^2) for the endogenous latent variables. The structural model accounts for 11.5% of the variance in FP ($R^2 = 0.115$), which represents a moderate and practically meaningful explanatory power considering the inherent complexity and uncontrollable external factors in CBT environments. Conversely, the model accounts for only 6.6% of the variance in TS ($R^2 = 0.066$) and a negligible 1.7% in Sustainability Performance ($R^2 = 0.017$). Critically, these low R^2 values reveal the limitations of relying purely on a closed managerial logic within CBT frameworks. In the specific context of Southern Thailand, these variables are heavily constrained by broader exogenous and structural forces rather than internal enterprise management alone. For instance, SP is largely dependent on volatile local government policies, budget allocations, and territory-specific geographical challenges (such as seasonal monsoons or environmental degradation). Similarly, TS is driven by macro-level tourism dynamics and regional infrastructure rather than isolated community efforts. Acknowledging these values underscores the statistical validity of the internal strategic pathway (SP → TS → FP), though its real-world efficacy remains highly contingent upon wider socio-political and environmental ecosystems that are beyond traditional organizational control.

4.3 Strategic Guidelines for Thai CBT Enterprises

Based on the structural equation modeling (SEM) analysis, a sequential “value creation chain” is clearly demonstrated within CBT. Financial success is not an isolated outcome but rather the final product of a strategic pathway that begins with robust sustainability practices, which directly enrich tourist experiences.

4.3.1 Causal Mechanisms and Empirical Pathways

The quantitative analysis reveals the specific structural mechanisms through which internal strategies evolve into tangible outcomes. SP exerts a statistically significant positive direct effect on TS ($\beta = 0.256$, $p < 0.05$). In turn, TS demonstrates a strong and statistically significant direct impact on FP ($\beta = 0.324$, $p < 0.01$). This validation confirms that TS successfully serves as a pivotal mediating variable ($\beta = 0.086$, $p < 0.05$). The detailed breakdown of the path coefficients, significance levels, and development implications for each empirical pathway is summarized in Table 6.

Table 6 Causal relationship pathways in the Performance Measurement Model

Causal Pathway	Coefficient (β)	Significance Level	Effect Type	Development Implications
SP $\rightarrow$ TS	0.256	$p < 0.05$	Direct Effect	Higher Sustainability Performance significantly elevates Tourist Satisfaction.
TS $\rightarrow$ FP	0.324	$p < 0.01$	Direct Effect	Elevated Tourist Satisfaction directly fosters superior Financial Performance.
SP $\rightarrow$ TS $\rightarrow$ FP	0.086	$p < 0.05$	Indirect Effect (Full Mediation)	Sustainability Performance indirectly yields financial growth, fully mediated by Tourist Satisfaction.
CP $\rightarrow$ SP	0.132	$p = 0.109$	Direct Effect (Non-Significant)	Community Participation requires structured capacity empowerment to effectively advance sustainability practices.
CP $\rightarrow$ TS	-0.075	$p = 0.409$	Direct Effect (Non-Significant)	Community involvement does not automatically yield short-term visitor satisfaction without operational quality.
CP $\rightarrow$ FP	0.068	$p = 0.439$	Direct Effect (Non-Significant)	Community Participation shows no direct conversion into immediate financial returns.
SP $\rightarrow$ FP	0.062	$p = 0.533$	Direct Effect (Non-Significant)	Sustainability practices require integration with visitor-centric experiences to generate financial outcomes.

Note: SP = Sustainability Performance; TS = Tourist Satisfaction; FP = Financial Performance; CP = Community Participation. Results are based on a 2,000-replication bootstrap resampling procedure.

In summary, the statistical evidence from the structural model clearly demonstrates a sequential “value creation chain” within CBT. Financial success is not an isolated event but rather the ultimate outcome of a strategic pathway that begins with robust sustainability practices, which directly cultivate TS. Based on these empirical pathways, the structural model serves as a foundation for designing targeted interventions. To translate these statistical findings into actionable managerial practices, the following section outlines specific development guidelines and strategies aimed at strengthening each link in this performance chain.

4.3.2 Structural Alignment of Actionable Strategic Pillars

The establishment of these findings into actual managerial structures shapes three core development pillars for Thai CBT enterprises:

1. Integrated Sustainability Management System: Focuses on balanced development across economic, social, and environmental dimensions. This framework ensures enterprise operations prioritize local resources, align with Sustainable Development Goals (SDGs), and promote equitable benefit distribution to strengthen grassroots economies.

2. Tourist Experience and Quality of Service Development: Emphasizes satisfaction through quality service standards, developing distinctive homestays and authentic cultural activities. This pillar advances local personnel skills in hospitality, cross-cultural communication, and digital technologies to meet modern tourist expectations.

3. Financial Management and Internal Control System: Promotes transparent, auditable financial management frameworks. This system tracks key performance indicators (KPIs) such as revenue growth, return on investment (ROI), and asset utilization efficiency, providing necessary data for continuous operational planning and managerial accountability.

4.3.3 Collaborative Ecosystems and Policy Alignment

The establishment of a sustainable competitive advantage requires collaborative networks among CBT enterprises both intra- and inter-provincially. Beyond internal enterprise management, these strategic guidelines dictate that sustainable CBT development functions within a collaborative macro-environment. Developing inter-enterprise networks among CBT initiatives within the same clusters facilitates the exchange of internal

auditing practices, collective resource management, and joint resource allocation strategies to increase bargaining power and expand market access to target tourist segments.

Human capital development serves as the foundational pillar to strengthen professional CBT management capabilities through targeted training and lifelong learning. Empowering local personnel with skills in modern hospitality, accounting controls, and cross-cultural communication ensures that collaborative frameworks remain resilient over the long term.

Additionally, digital transformation, including online booking engines, cloud-based accounting platforms, and social media data analytics, integrates with human capabilities to optimize financial tracking, internal controls, and overall management efficiency. These practical applications support the sustainable tourism principles of Choi and Sirakaya (2006) and the Triple Bottom Line equilibrium of Elkington and Rowlands (1999). Furthermore, as demonstrated by Agyei-Mensah (2016), strengthening internal control and management disclosure frameworks directly empowers grassroots enterprises to achieve long-term economic resilience.

5. Discussion

The development of the Integrated FP framework represents a critical advancement in contextualizing managerial accounting metrics for CBT micro-enterprises. By synthesizing grassroots community dynamics with corporate performance measurement standards, this framework offers a balanced evaluation system suitable for informal economic settings. The following sections discuss the empirical validity of the model and the theoretical implications of the hypothesized pathways.

5.1 Model Development and Empirical Validation

The empirical analysis demonstrates that the integrated performance measurement model possesses robust validity and reliability. All structural constructs exhibit Cronbach's Alpha and Composite Reliability (CR) values strictly above the 0.70 benchmark, successfully meeting the methodological criteria recommended by Hair et al. (2021) and Nunnally (1978). Furthermore, the Confirmatory Factor Analysis (CFA) establishes an excellent model fit with the collected empirical data ($CFI = 0.943$, $TLI = 0.930$, $RMSEA = 0.045$, $SRMR = 0.057$). This statistical alignment corroborates the findings of Aujirapongpan and Pattanasing (2020), who utilized a Balanced Scorecard (BSC) framework to evaluate financial efficiency in hospitality operations and concluded that multi-dimensional indicators effectively capture both financial and non-financial metrics. This structural integrity also aligns with Kaplan and Norton's (1992) core tenets, validating that an optimal performance measurement system conceptually connects immediate financial outcomes with long-term organizational sustainability drivers.

5.2 Hypothesized Relationships and Path Analysis

SEM results confirm that Sustainability Performance (SP) positively influences perceived TS ($\beta = 0.256$, $p < 0.05$), which in turn enhances FP ($\beta = 0.324$, $p < 0.01$). This structural path strongly supports Heskett et al. (1997) Service-Profit Chain framework, demonstrating that enterprise value creation links to profitability through customer satisfaction. This outcome is also consistent with Han et al. (2019), who argued that sustainable management triggers positive consumer value perceptions. Crucially, the significant indirect path ($SP \rightarrow TS \rightarrow FP$) underlines the pivotal role of satisfaction as a key mediator for repeat visitation intentions and sustained revenue generation (Baker & Crompton, 2000).

Conversely, as demonstrated in Table 6, the direct pathways originating from Community Participation (CP) to other endogenous constructs—specifically $CP \rightarrow SP$ ($\beta = 0.132$, $p = 0.109$), $CP \rightarrow TS$ ($\beta = -0.075$, $p = 0.409$), and $CP \rightarrow FP$ ($\beta = 0.068$, $p = 0.439$)—do not reach statistical significance. From a management accounting and governance perspective, this indicates that local participation remains largely confined to basic operational activities rather than strategic financial decision-making. This outcome directly aligns with Balen et al. (2024), who emphasized that community involvement only improves performance when stakeholders hold genuine administrative power, thereby contrasting with conventional tourism assumptions that view participation as an automatic driver of success. Critically, these non-significant paths expose institutional friction within Southern Thai CBT governance; top-down bureaucratic mandates and rigid socio-cultural power structures frequently reduce grassroots involvement to symbolic attendance. Without decentralized administration,

symbolic community presence cannot generate measurable accounting efficiency or sustainable performance. Furthermore, the non-significant direct path from SP $\rightarrow$ FP ($\beta = 0.062, p = 0.533$) empirically proves that sustainability practices do not automatically yield financial outcomes unless they are integrated into high-quality tourist experiences.

5.3 Strategic Development Guidelines

The synthesis of these findings underscores that sustainable CBT development requires a transition toward an integrated management approach. By addressing the socio-political constraints and statistical realities identified in Southern Thailand, these guidelines operationalize the sustainable tourism principles of Choi and Sirakaya (2006) and the Triple Bottom Line equilibrium of Elkington and Rowlands (1999). Ultimately, strengthening internal control frameworks through digital integration directly empowers grassroots enterprises to achieve long-term economic resilience.

6. Conclusion and Recommendations

6.1 Conclusion

This study successfully developed and validated an integrated Financial Performance (FP) measurement model tailored to the unique decentralized context of Community-Based Tourism (CBT) enterprises across Southern Thailand (Songkhla, Krabi, Trang, and Phang Nga). The empirical boundaries and practical outcomes of this research are summarized below.

6.1.1 Development and Validation of the Integrated Financial Performance (FP) Measurement Model

The findings reveal that the newly developed integrated framework encompasses four core latent constructs: CP, SP, TS, and FP. Quality assessment indicates robust instrument reliability, with all Cronbach's Alpha and Composite Reliability (CR) values strictly exceeding the 0.700 academic threshold, while TS exhibited the highest internal consistency ($\alpha = 0.856, CR = 0.863$). Furthermore, the Confirmatory Factor Analysis (CFA) demonstrates an acceptable model fit with the empirical data ($\chi^2/df = 1.496, CFI = 0.943, TLI = 0.930, RMSEA = 0.045, SRMR = 0.057$). All structural indicators exhibit statistically significant factor loadings, mathematically establishing the construct validity of the model and its readiness for grassroots accounting evaluation.

6.1.2 Relationships among Financial Performance, Sustainability Performance, and Tourist Satisfaction

The Covariance-Based Structural Equation Modeling (CB-SEM) analysis confirms that SP exerts a significant and positive influence on Perceived TS ($\beta = 0.256, p < 0.05$), which in turn enhances actual FP ($\beta = 0.324, p < 0.01$). Formal statistical validation utilizing the bootstrap resampling method (2,000 replications) confirms the significant indirect path of SP $\rightarrow$ TS $\rightarrow$ FP ($\beta = 0.086, p = 0.046$), proving that tourist satisfaction serves as a crucial mediator connecting sustainable field operations with long-term economic sustainability. Conversely, direct paths originating from Community Participation (CP $\rightarrow$ SP, CP $\rightarrow$ TS, CP $\rightarrow$ FP) and the direct path from SP to FP are not statistically significant ($p > 0.05$). The structural configuration accounts for 11.5% of the total variance in FP ($R^2 = 0.115$), demonstrating a practically meaningful explanatory power aligned with Heskett's Service-Profit Chain framework within complex community environments.

6.1.3 Guidelines and Strategies for Sustainable and Financially Efficient CBT Enterprises

To channel these empirical findings into practical implementation, the study establishes three interconnected strategic pillars: (1) Integrated Sustainability Management, advancing community operations simultaneously across economic, social, and environmental dimensions in line with the United Nations SDGs; (2) Quality of Service Optimization, focusing on converting cultural assets into high-satisfaction homestays and unique tourist experiences; and (3) Financial System Formalization, incorporating transparent internal controls, auditable cash monitoring tools, and micro-accounting tracking metrics. To sustain these pillars, CBT enterprises must actively participate in inter-provincial collaborative networks, accelerate digital transformation, including cloud-based accounting and digital booking engines, and foster human capital development to reinforce long-term competitive advantages.

6.2 Limitations, Future Research and Suggestions

6.2.1 Exclusion of Individual-Level Micro-Controls

A primary limitation of this study is the exclusion of individual-level internal control variables, such as the specific entrepreneurship capabilities, strategic leadership traits, or financial literacy levels of individual CBT community leaders. Since loose cash controls and informal accounting habits heavily restrict macro-policy execution at the ground level, future research should integrate these behavioral and managerial competencies as moderating variables to fully capture the unexplained variances in CBT financial success.

6.2.2 Geographical and Ecosystem Constraints

The current structural model operates within a closed managerial logic, explaining 11.5% of financial variance. Real-world financial resilience in Southern Thailand remains highly contingent upon wider socio-political and volatile environmental ecosystems, including seasonal monsoons, regional infrastructure changes, and shifting local government budget allocations. Future longitudinal research should incorporate these exogenous macro-environmental shocks into the structural framework to evaluate how community internal accounting controls interact with broader regional economic fluctuations over time.

6.2.3 Localized Suggestions for Southern Thai CBT Sector

To ensure that the statistical insights actively uplift regional communities, the following grounded suggestions are proposed specifically for the local contexts of Songkhla, Krabi, Trang, and Phang Nga:

1. Resolving the Financial Literacy Gap: Local government units and regional universities should co-create simplified, vernacular-language accounting handbooks and cloud-based cash monitoring applications customized for Southern Thai micro-entrepreneurs. This intervention will directly eliminate the loose cash controls and informal bookkeeping structures currently limiting village-level financial reporting.

2. Transitioning from Symbolic Attendance to Administrative Power: To resolve the institutional governance friction identified in the model, local tourism committees must shift from top-down bureaucratic mandates to a decentralized, collective-ownership structure. Local leaders and accountants must hold voting rights and actual administrative authority over budget allocations, ensuring that community participation actively advances sustainability rather than remaining a mere symbolic presence.

3. Capitalizing on Local Cultural Geography: Communities should strategically convert their unique socio-cultural and geographical identities, such as the coastal lifestyles, indigenous culinary arts, and hand-woven crafts specific to these Southern provinces, into high-quality, standardized tourist experiences. This specific conversion is imperative since the empirical data prove that grassroots sustainability efforts cannot generate financial survival unless they are successfully integrated into satisfaction-driven tourist activities.

7. References

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