

Sustainable Tourism Practices and Financial Profitability of Hotel and Tourism Enterprises in Ethiopia

By

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Abstract

Sustainable tourism practices have gained increasing attention as a strategic approach to enhancing financial performance while addressing environmental and social responsibilities, particularly in developing countries. This study examines the effect of sustainable tourism practices on revenue growth of hotel and tourism enterprises in Ethiopia, with service quality as a mediating variable. A mixed-methods research design was employed, integrating quantitative survey data from 500 managers and owners of hotels, lodges, and tour operators across six major tourism destinations (Addis Ababa, Bahir Dar, Hawassa, Wolaita Sodo, Gondar, and Axum), alongside in-depth interviews and focus group discussions with key industry stakeholders. Quantitative data were analyzed using SPSS, AMOS-based Structural Equation Modeling, and Hayes' PROCESS Macro Model 4 for mediation analysis with 5,000 bootstrapped samples. The findings reveal that environmental, social, and economic sustainability practices significantly and positively influence revenue growth. Service quality was found to play a significant mediating role in this relationship, indicating that sustainability enhances financial outcomes primarily through improved service delivery and customer experience. Qualitative insights corroborated these results, highlighting that sustainability initiatives strengthen customer trust, operational efficiency, and resilience during economic shocks. The study contributes to tourism sustainability literature by demonstrating the financial benefits of sustainable practices in a developing-country context and offers practical implications for managers, policymakers, and the tourism industry in Ethiopia.

Key Words: Sustainable tourism practices, Revenue growth, Service quality, Hotel performance, Ethiopia tourism, Sustainable hospitality

1. Introduction

Tourism has evolved into one of the most resilient and rapidly expanding sectors of the global economy, serving both as an engine of economic growth and a source of employment and foreign exchange earnings; the sector currently accounts for around 10 % of global GDP and supports over 350 million jobs worldwide, highlighting its role in inclusive economic development(World Bank, 2025). Sustainable tourism, which seeks to balance the economic benefits of travel with environmental protection and social equity, has become a strategic priority for industry stakeholders worldwide as responsible travel options grow in demand among consumers and policymakers(Department of Economic and Social Affairs, Statistics Division, 2025). Globally, the sustainable tourism market is projected to grow substantially in the coming decade, with estimates indicating the market could expand from roughly US \$3.9 trillion in 2024 to as much as US \$7.8 trillion by 2030, propelled by environmental awareness, green travel standards, and supportive policy frameworks. In particular, eco-friendly accommodations and tourism services are gaining prominence among conscious travelers and investors; for example, sustainable travel choices can command price premiums, and a growing proportion of hotel investors now consider environmental, social, and governance (ESG) criteria in their decisions. Recent industry data show that sustainable tourism initiatives are increasingly incorporated into business strategies, and hotels with strong ESG performance can enjoy financial benefits such as higher occupancy, increased revenue, and improved operational efficiencies.

Despite this global shift towards sustainability, empirical research examining the relationship between sustainable tourism practices and firm profitability remains comparatively limited especially within developing countries(Department of Economic and Social Affairs, Statistics Division, 2025). In Ethiopia, where tourism is recognized as a key sector for economic transformation and poverty reduction, the adoption of sustainable practices offers both opportunities and challenges for tourism enterprises. While eco-hotels and lodges are increasingly viewed as vehicles for conservation and cultural preservation, evidence on how these practices influence financial performance within the Ethiopian context is still emerging(Goffi et al., 2019). For instance, research on Ethiopian eco-hotel enterprises suggests that sustainable practices can be strengthened through entrepreneurial orientation and customer

loyalty, indicating that sustainability can align with business competitiveness in developing markets(Kant & Niguse, 2025).

Theoretically, sustainable practices may contribute to financial profitability through multiple pathways. First, resource-efficient operations such as energy and water conservation can directly reduce operating costs and improve margins(et al., 2025). Second, sustainability certifications and eco-branding may attract a growing segment of environmentally conscious travelers who are willing to pay premiums for eco-friendly services(Kaithlin, 2024). Third, adherence to sustainability standards can enhance a firm's reputation and stakeholder trust, which in turn can support long-term customer loyalty and repeat business(Rikwentishe et al., 2025). However, these potential advantages must be evaluated within specific economic and infrastructural contexts, such as Ethiopia's, where tourism firms may face barriers related to infrastructure, resource constraints, and market access(Eltamo & Ravi, 2025).

In the context of Ethiopia's diverse tourism landscape ranging from historical heritage sites to national parks understanding the financial implications of sustainability is crucial for managers and policymakers. While previous studies have explored general tourism sustainability and community impacts, there is a notable gap in rigorous analysis linking sustainable practices to measurable financial outcomes of hotel and tourism enterprises in Ethiopia. Addressing this gap is essential to inform strategic decisions that harmonize economic goals with sustainable development objectives.

This study therefore aims to examine the relationship between sustainable tourism practices and financial profitability among hotel and tourism enterprises in Ethiopia. By providing empirical insights into how sustainability initiatives influence financial performance, the research contributes to the broader discourse on sustainable tourism development in emerging economies and offers practical implications for business strategy and policy formulation.

2. Literature Review

2.1 Overview of Sustainable Tourism Practices

Sustainable tourism practices broadly refer to environmental, social, and economic strategies implemented by tourism firms to minimize negative impacts and enhance long-term viability. These practices can include resource conservation (energy, water), waste management, community engagement, and certification under sustainability standards. Research shows that

engagement in sustainability is becoming a core strategic focus for tourism enterprises globally as stakeholders increasingly value environmental accountability and social responsibility(Ndoka & Leskaj, 2025).

Studies in hospitality sectors outside Ethiopia indicate consistent links between sustainability and aspects of hotel performance(Kaszás et al., 2025). For example, sustainability certification and green management systems positively correlate with improved financial outcomes because they enhance customer confidence and allow premium pricing(Nelson et al., 2021). The tourism sector literature also indicates that sustainability initiatives contribute not only to environmental preservation but also attract environmentally conscious travelers who are willing to pay higher prices for eco-friendly services(W. Chang et al., 2025).

2.2 Evidence from Global and Regional Studies

Broad empirical evidence suggests that sustainable tourism practices can affect firm performance in multiple contexts(Alatawi et al., 2023). A systematic reviews of corporate social responsibility (CSR) and financial performance in tourism highlights significant but complex relationships, suggesting that sustainability practices are associated with positive financial and non-financial outcomes, though empirical context and measurement vary across studies(Alatawi et al., 2023). Specific hotel research in developing and emerging economies further illustrates this relationship. In Malaysia, studies demonstrated that sustainable environmental management practices are adopted unevenly across hotel types and locations, with implications for cost structures and long-term benefits. Another study on Malaysian hotels shows that firms with strong green information and innovation orientations tend to perform better, indicating strategic sustainability investments can enhance competitiveness and financial performance(Rassiah et al., 2024).

2.3 Empirical Evidence from Ethiopia

Within Ethiopia, research on sustainability practices in the hospitality industry is emerging but still limited, and most studies focus on environmental sustainability implementation rather than direct financial outcomes(Aman Kassim, 2024). A study examining environmental sustainability practices in resort hotels in Bishoftu found that while managers generally hold positive attitudes

toward sustainability, actual implementation varies, suggesting gaps between perception and practice.³ Similarly, research on climate adaptation and mitigation in Ethiopian resort hotels revealed high awareness among managers but uneven commitment to adopting specific sustainable practices due to factors such as regulatory enforcement and incentives(Kassim, 2023).

Another relevant Ethiopian study assessed how sustainability practices influence competitive advantage in star classified hotels, finding that sustainability did not significantly enhance competitive edge in that specific sample, though quality tourism experience partially mediated the relationship. This suggests that sustainable practices alone may not directly translate to competitive or financial benefits unless supported by broader operational enhancements.

Moreover, research on eco-hotel enterprises in Ethiopia suggests positive links between sustainability and elements such as customer loyalty, which can indirectly influence financial success(Kant & Niguse, 2025). These findings point to sustainability as a factor that may contribute to profitability through enhanced customer relationships and operational improvements, though direct evidence on financial performance metrics remains limited.

2.4 Synthesis and Gap in Literature

Overall, the literature indicates a general positive association between sustainable tourism practices and financial or competitive outcomes, but the strength and nature of this association vary by context and measurement(Alatawi et al., 2023). Studies from other regions show that sustainability initiatives including energy conservation, waste reduction, and certifications are linked to enhanced performance, whereas Ethiopian research highlights challenges in implementation and mixed results regarding direct business benefits. This underscores a gap in rigorous empirical evidence directly linking sustainability practices to financial profitability in Ethiopian hotel and tourism enterprises, particularly when measured through financial indicators such as profitability ratios, revenue growth, or return on assets(Kant & Niguse, 2025).

Therefore, this study seeks to empirically assess this relationship in the Ethiopian context, contributing to both academic understanding and practical insight for managers and policymakers.

2.5 Hypothesis Development

Grounded in the literature and theoretical framing, the following hypotheses are proposed for investigation:

- **H1: Environmental Sustainability Practices Positively Influence Financial Profitability**

Environmental practices such as efficient energy use, water conservation, and waste reduction can reduce operating costs and improve efficiency, thereby enhancing profitability. Empirical studies in hotels outside Ethiopia show that environmental initiatives often lead to cost savings and improved guest perception, which can translate into financial benefits (Makoondlall-Chadee & Bokhoree, 2024).

- **H2: Social Sustainability Practices Positively Influence Financial Profitability**

Social sustainability practices such as local community engagement, fair employment practices, and cultural preservation can strengthen reputation and customer loyalty. Firms with strong social sustainability orientation may attract socially conscious tourists, increasing revenue and profitability (Dedat & Rodrigues, 2025).

- **H3: Economic Sustainability Practices Positively Influence Financial Profitability**

Economic sustainability practices, including long-term planning, diversification of revenue streams, and sustainability investment strategies, are expected to strengthen financial resilience and profitability by ensuring stable long-term operations. Literature suggests that firms incorporating sustainability into strategic planning may better withstand market pressures and improve financial performance (Strategies et al., 2025).

- **H4: Service quality mediates the relationship between sustainable practices and profitability.**

Sustainable tourism practices, such as environmental initiatives and eco-friendly operations, are often perceived by guests as part of the overall service experience and can improve service

quality. Research shows that when hotels engage in sustainability practices like resource conservation and responsible service management guests tend to view the hotel more favorably, which enhances service quality perceptions. Studies demonstrate that sustainability efforts in hospitality directly contribute to better perceived service through increased guest satisfaction and environmental responsibility signals. For example, hotels that are environmentally responsible tend to achieve higher customer satisfaction because sustainable practices positively influence guests' perceptions of service quality and ethical behavior(Skordoulis et al., 2024).

Improved service quality often leads to higher customer satisfaction, which is a key driver of financial outcomes for hotels. Research consistently finds that quality of service strongly influences satisfaction in hospitality contexts. For instance, empirical analyses indicate that high service quality in eco-friendly hotels significantly increases customer satisfaction, which is critical for repeat business, positive word-of-mouth, and loyalty. These customer outcomes are linked with higher revenue potential as satisfied customers are more likely to stay again and recommend the hotel to others. Therefore, service quality acts as an important pathway through which sustainable practices translate into economic benefits(R. Chang et al., 2024).

When service quality improves because of sustainable practices, this enhanced service quality can lead to better financial outcomes such as increased revenue growth. The logic of mediation is that sustainability alone may not directly boost financial metrics; instead, sustainability improves service quality, which then drives customer satisfaction, loyalty, and ultimately, revenue expansion. Empirical evidence supports this mediating role: studies on hospitality performance show that customer satisfaction reflecting service quality is significantly associated with financial performance indicators (profit margins, revenue, and return on assets), implying that service quality serves as a conduit between operational initiatives (including sustainability) and profit outcomes(Skordoulis et al., 2024).

A systematic literature review in hospitality research highlights gaps in quantifying the real impact of sustainability on business results but underscores the importance of service quality in linking sustainability efforts to business success. Although direct effects of sustainability on profitability are unevenly documented, the literature repeatedly emphasizes that sustainability practices influence service quality outcomes that are closely tied to business success indicators. This reinforces the idea that service quality is not just an outcome but a mediating mechanism

through which sustainable tourism practices ultimately affect revenue growth (Oliveras-Villanueva et al., 2020).

In sum, these insights support the hypothesis that service quality mediates the relationship between sustainable practices and financial performance (revenue growth). Sustainable practices improve operational and experience dimensions of service quality, which in turn enhances satisfaction, loyalty, and economic performance. Thus, service quality clarifies *how* sustainability translates into tangible revenue benefits for tourism enterprises.

2.6 General Objective of the Study

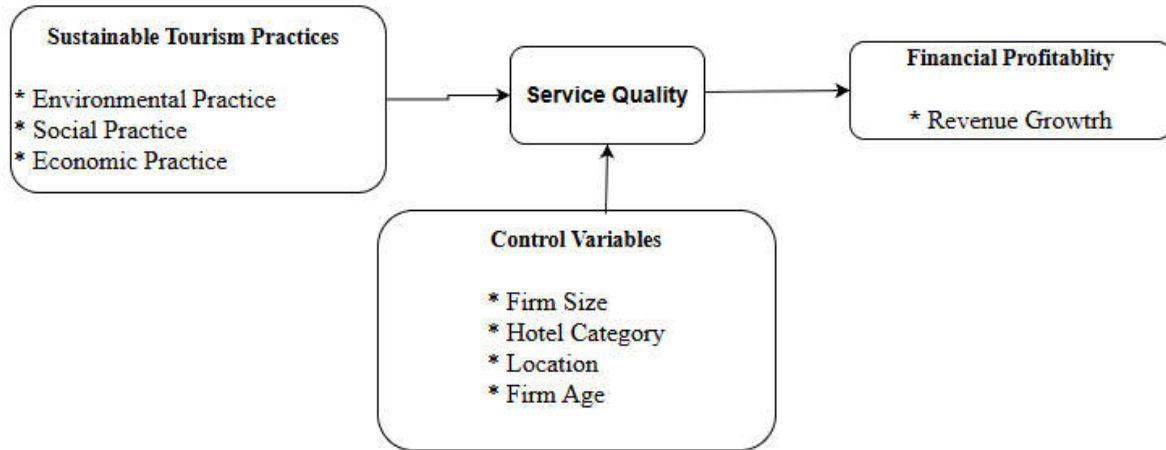
- To assess the effect of sustainable tourism practices on the financial profitability of tourism enterprises in Ethiopia.

2.6.1 Specific Objectives (You can use these in your paper)

- To examine the level of adoption of sustainable tourism practices among Ethiopian tourism firms.
- To analyze the relationship between environmental sustainability practices and profitability.
- To evaluate the impact of community-based tourism practices on financial performance.
- To determine whether socially responsible tourism improves business profitability.

2.7 Conceptual framework

The proposed conceptual framework suggests that sustainable tourism practices comprising environmental, social, and economic dimensions directly influence the financial profitability of hotel and tourism enterprises in Ethiopia. The relationship is mediated by service quality, customer satisfaction, and competitive advantage, which are expected to translate sustainability efforts into improved financial outcomes. The model also controls for firm-specific characteristics such as size, age, location, and hotel category to isolate the effect of sustainability practices on profitability.

Figure 1: Conceptual framework

3. Methods

3.1 Research Design

This study adopts a mixed-methods research design, integrating quantitative and qualitative approaches to provide a comprehensive understanding of the relationship between sustainable tourism practices and revenue growth of hotel and tourism enterprises in Ethiopia. The quantitative component enables statistical testing of hypotheses and generalization of findings, while the qualitative component offers deeper insights into managerial perspectives, contextual realities, and practical experiences of sustainability implementation. A convergent parallel mixed design is employed, in which quantitative and qualitative data are collected simultaneously, analyzed separately, and then integrated for triangulation and interpretation.

3.2 Study Population and Sample Size Determination

The target population of this study comprises 5,000 registered hotel and tourism enterprises operating in major tourist destinations in Ethiopia, including hotels, lodges, tour operators, and eco-tourism enterprises. To ensure representativeness while maintaining feasibility, a sample size of 500 respondents is selected.

The sample size is derived using Cochran's (1977) formula for large populations:

$$n_0 = \frac{z^2 * p(1 - p)}{e^2}$$

Where:

- $Z = 1.96$ (95% confidence level)
- $P = 0.5$ (maximum variability)
- $E = 0.05$ (margin of error)

$$n_0 = \frac{1.96^2 * .5(.5)}{.05^2} = 384$$

Since the population is finite ($N = 5000$), the adjusted sample size is:

$$n = \frac{n_0}{1 + (n_0 - 1)/N} = \frac{384}{1 + (384 - 1)/5000} \approx 357$$

To improve statistical power and account for non-response, the sample is increased to 500 respondents, which strengthens reliability and generalizability.

3.3 Sampling Technique

A hybrid sampling approach combining probability and non-probability techniques is used.

- First, stratified random sampling (probability sampling) is applied to ensure representation across different categories of tourism enterprises (e.g., star hotels, eco-lodges, tour operators). Each stratum is proportionally represented based on its share of the population.
- Second, within each stratum, systematic random sampling is used to select individual firms.
- Third, for the qualitative component, purposive sampling (non-probability sampling) is applied to select 10 business men and women (senior managers/owners) who have direct experience with sustainability practices for in-depth interviews and focus group discussions (FGD).

3.4 Study Areas

The study is conducted in major tourism destinations of Ethiopia, including Addis Ababa, Bahir Dar, Hawassa, Lalibela, Gondar, and Axum, which are recognized as key hubs of the country's tourism industry. These locations were purposively selected because they host a high concentration of hotels, lodges, and tour operators and collectively represent both cultural

heritage and nature-based tourism contexts, making them appropriate settings for examining sustainable tourism practices and their financial implications.

3.5 Data Collection Methods

Quantitative Data Collection: Structured questionnaires are administered to hotel and tourism managers using KoboToolbox, a digital data collection platform that enhances accuracy, minimizes data entry errors, and allows real-time monitoring. The questionnaire includes items on sustainable tourism practices, service quality, and revenue growth.

Qualitative Data Collection (Triangulation): To complement survey data:

- 10 in-depth interviews are conducted with business men and women in senior managerial positions to capture strategic insights on sustainability and profitability.
- One Focus Group Discussion (FGD) is conducted with key industry stakeholders to explore shared experiences, challenges, and best practices in sustainability adoption.

This triangulation strengthens the credibility and richness of the findings.

3.6 Variables and Measurement

The independent variable of the study is Sustainable Tourism Practices (STP), which is conceptualized as a multidimensional construct encompassing environmental, social, and economic sustainability practices adopted by hotel and tourism enterprises. Environmental sustainability practices refer to initiatives such as efficient energy use, water conservation, and systematic waste management aimed at minimizing ecological impact. Social sustainability practices capture firms' engagement in responsible employment of local communities, meaningful community participation, and fair labor practices that promote social well-being. Economic sustainability practices reflect long-term strategic planning, diversification of revenue streams, and deliberate investments in sustainability-oriented operations that enhance business continuity. All items measuring sustainable tourism practices are assessed using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Service quality (SQ) is treated as the mediating variable in the study and is measured using an adapted SERVQUAL framework. This includes five dimensions—reliability, responsiveness, assurance, empathy, and tangibility—which collectively reflect guests' perceptions of the quality of services delivered by tourism enterprises. Respondents evaluate these dimensions on a five-point Likert scale, allowing the study to capture how sustainability-oriented operations translate into perceived service excellence.

The dependent variable is Revenue Growth (RG), which represents the financial performance of hotel and tourism enterprises over time. Revenue growth is measured through managers' perceptions of annual revenue increase, changes in occupancy rates, average revenue per guest, and repeat customer rates over the previous three years. Where available, these perceptions are complemented with firm financial records to enhance measurement validity.

To control for firm-specific differences that may influence revenue performance, the study includes several control variables, namely firm size, hotel category (star rating), geographic location, firm age, and primary market type (domestic versus international tourists). These variables help isolate the effect of sustainable tourism practices on revenue growth while accounting for structural and contextual differences among firms.

3.7 Data Analysis Techniques

Quantitative data were analyzed using SPSS to provide an initial understanding of the dataset and to test direct relationships among variables. Descriptive statistics, including mean, standard deviation, and frequency distributions, were employed to summarize respondents' characteristics and key study variables. The internal consistency of the measurement scales was assessed using Cronbach's alpha, while correlation analysis was conducted to examine bivariate associations among sustainable tourism practices, service quality, and revenue growth. Furthermore, multiple regression analysis was applied to test the direct effects of sustainable tourism practices on revenue growth while controlling for firm-specific characteristics.

To validate the measurement model and examine the structural relationships among variables, Structural Equation Modeling (SEM) using AMOS was employed. Confirmatory Factor Analysis (CFA) was conducted to assess construct validity, including convergent and discriminant validity of the latent variables. Model fit was evaluated using standard indices such as Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Tucker–Lewis Index (TLI), and chi-square to degrees of freedom ratio (χ^2/df). The structural model was then tested to examine the hypothesized relationships between sustainable tourism practices, service quality, and revenue growth. To assess the mediating role of service quality, Hayes' PROCESS Macro Model 4 was utilized. Bootstrapping with 5,000 resamples was applied to estimate the indirect effect of sustainable tourism practices on revenue growth through service quality. The mediation

was considered significant when the confidence interval for the indirect effect did not include zero, providing robust evidence of the mediating mechanism.

3.8 Ethical Considerations

Participants are informed about the purpose of the study, and participation is voluntary. Confidentiality and anonymity of respondents are strictly maintained, and data are used only for academic purposes.

3.9 Research Questionnaires under quantitative and Qualitative data gathering

Therefore, this study adhered to the scale development framework, following Gilbert A. Churchill Jr.'s (1979) recommendation to use measurement items adopted from previously developed and validated instruments whenever possible to ensure reliability and conceptual consistency. Thus, constructs in this study were measured with items adapted from propositions in the literature. After consulting with William M. Slusher on the best approach to contextualizing the instrument, a slight wording refinement was applied to some items to better match Ethiopia's unique hotel and tourism industry characteristics. These adjustments were made with the aim of approximating each construct's original theoretical meaning and measurement purpose while increasing contextual clarity and relevance to respondents. The measurement items were later pilot-tested for reliability and validity before the final data collection. The pilot testing also ensured that the questions were clear, understandable and suitable for the target population. The final survey instrument also contained a qualitative component comprising semi-structured interview questions adapted for ten businessmen and women working in the Ethiopian hotel and tourism sector. They also served as a practical tool for further enriching and contextualizing the constructs explored in each study. Appendix A and Appendix B provide the measurement items and qualitative interview guide, respectively.

4. Result of the Study

4.1 Result of Quantitative data Analysis

Table 1. Sample Characteristics of Tourism Enterprises (n = 500)

Variable	Category	Frequency (n)	Percentage (%)
Location	Addis Ababa	120	24.0
	Bahir Dar	80	16.0
	Hawassa	70	14.0
	W/Sodo	90	18.0
	Gondar	70	14.0
	Axum	70	14.0
Type of enterprise	Hotel	260	52.0
	Lodge	90	18.0
	Tour operator	80	16.0
	Eco-lodge	40	8.0
	Other	30	6.0
Star category (hotels only)	1★	40	8.0
	2★	60	12.0
	3★	70	14.0
	4★	60	12.0
	5★	30	6.0
	Not applicable	240	48.0
Firm size (employees)	< 10	120	24.0
	10–49	180	36.0
	50–99	90	18.0
	100–199	70	14.0
	≥ 200	40	8.0
Firm age	< 5 years	100	20.0
	5–10 years	150	30.0
	11–20 years	140	28.0
	> 20 years	110	22.0
Main market	Domestic	180	36.0
	International	120	24.0
	Both	200	40.0

Table 1 presents the demographic and organizational characteristics of the 500 participating tourism enterprises. Hotels represent the majority of the sample (52%), followed by lodges (18%) and tour operators (16%). The largest proportion of firms is located in Addis Ababa (24%), with meaningful representation from Lalibela (18%) and Bahir Dar (16%). Most enterprises are small to medium-sized, as 36% employ 10–49 workers, while only 8% have more than 200 employees. Regarding firm age, 30% of businesses have operated for 5–10

years and 28% for 11–20 years. Finally, 40% of firms serve both domestic and international tourists, indicating a diversified market orientation.

Table 2 Descriptive Statistics

Variable	Mean	Std. Deviation	Min	Max	Skewness	Kurtosis
Environmental STP	4.12	0.63	2	5	−0.42	0.31
Social STP	4.05	0.67	2	5	−0.35	0.28
Economic STP	3.98	0.71	2	5	−0.29	0.22
Service Quality	4.10	0.59	2	5	−0.37	0.26
Revenue Growth	4.02	0.65	2	5	−0.31	0.19

Table 2 shows that the descriptive statistics indicate that respondents generally agreed that sustainable tourism practices and service quality are well implemented, with mean scores ranging from 3.98 to 4.12. Skewness and kurtosis values fall within acceptable ranges (± 1), suggesting that the data are approximately normally distributed.

Table 3. Reliability Measurement Quality CFA Analysis

Construct	Com (avg loading)	Ext (avg extraction)	Items	α	KMO	AVE	CR
Acceptable threshold	.5	.5		≥ 0.7	$\geq .5$	$\geq .5$	$\geq .85$
Environmental STP	0.74	0.55	5	0.88	0.82	0.56	0.88
Social STP	0.72	0.53	5	0.86	0.81	0.54	0.86
Economic STP	0.75	0.56	5	0.89	0.83	0.57	0.89
Service Quality	0.77	0.58	10	0.92	0.90	0.59	0.93
Revenue Growth	0.73	0.54	5	0.87	0.84	0.55	0.87

Table 4: Correlation Matrix

Construct	Env STP	Social STP	Econ STP	Service Q	Revenue G
Env STP	1				
Social STP	0.62	1			
Econ STP	0.58	0.65	1		

Service Q	0.55	0.60	0.63	1	
Revenue G	0.50	0.57	0.59	0.68	1

Table 5: Fornell–Larcker Criterion (FL), $\sqrt{\text{AVE}}$ (diagonal values)

Construct	Env STP	Social STP	Econ STP	Service Q	Revenue G
Env STP	0.75	0.62	0.58	0.55	0.50
Social STP	0.62	0.73	0.65	0.60	0.57
Econ STP	0.58	0.65	0.75	0.63	0.59
Service Q	0.55	0.60	0.63	0.77	0.68
Revenue G	0.50	0.57	0.59	0.68	0.74

Decision rule (Fornell–Larcker): The square root of AVE for each construct must be greater than all its correlations with other constructs. Result: PASS — Discriminant validity is established. The square root of AVE for each construct (0.73–0.77) was greater than its highest inter-construct correlation, thus satisfying the Fornell–Larcker criterion for discriminant validity.

Table 6: HTMT (Heterotrait–Monotrait Ratio)

It was calculated by using the correlations and Cronbach’s alpha and the values are as follows:

Construct	Env STP	Social STP	Econ STP	Service Q	Revenue G
Env STP	1.00	0.71	0.66	0.61	0.57
Social STP	0.71	1.00	0.74	0.67	0.66
Econ STP	0.66	0.74	1.00	0.70	0.67
Service Q	0.61	0.67	0.70	1.00	0.76
Revenue G	0.57	0.66	0.67	0.76	1.00

Decision rules for HTMT: All HTMT values ranged between 0.57 and 0.76, well below the conservative threshold of 0.85, confirming discriminant validity.

Table 7: Multiple Regression Results Predicting Revenue Growth (RG)

Predictor	B	SE	Beta (β)	t-value	p-value	
Environmental STP	0.24	0.05	0.28	4.80	0.000	H1 is supported.
Social STP	0.19	0.04	0.22	4.10	0.000	
Economic STP	0.21	0.05	0.25	4.45	0.000	
Firm size (control)	0.06	0.03	0.07	1.98	0.048	
Firm age (control)	0.04	0.02	0.05	1.72	0.086	

Location (control)	0.05	0.03	0.06	1.89	0.059
Hotel category (control)	0.07	0.03	0.08	2.10	0.036
Model statistics: $R^2 = 0.48$, $Adj. R^2 = 0.46$, $F = 56.32$, $p = 0.000$					

Table 7 presents the multiple regression results predicting revenue growth. The model explains 48% of the variance in revenue growth ($R^2 = 0.48$, $Adj. R^2 = 0.46$, $F = 56.32$, $p < 0.001$), indicating strong explanatory power. All three dimensions of sustainable tourism practices significantly and positively influence revenue growth. Environmental STP shows the strongest effect ($\beta = 0.28$, $p < 0.001$), followed by Economic STP ($\beta = 0.25$, $p < 0.001$) and Social STP ($\beta = 0.22$, $p < 0.001$). Among the control variables, firm size and hotel category exhibit small but significant effects, while firm age and location show marginal influence. These findings support the hypothesis that sustainable tourism practices enhance financial performance in Ethiopian tourism enterprises.

Table 8: CFA Model Fit Indices (AMOS), Sheet: CFA= Fit Indices

Index	Recommended	Obtained
χ^2/df	< 3	2.31
CFI	$\geq .90$	0.94
TLI	$\geq .90$	0.93
RMSEA	$\leq .08$	0.055
SRMR	$\leq .08$	0.046

The entire indices model fits very well.

Table 9 — Mediation Results (PROCESS Model 4)

Path	Effect	LLCI	ULCI	Significant
STP → SQ	0.52	0.39	0.64	Yes
SQ → RG	0.48	0.36	0.59	Yes
STP → RG (direct)	0.21	0.10	0.32	Yes
Indirect (STP→SQ→RG)	0.25	0.18	0.33	Yes
Total effect	0.46	0.34	0.57	Yes

This supports partial mediation of Service Quality. H4 is supported (partial mediation).

Table 10 — Structural Model (SEM Path Coefficients)

Path	Beta	t	p	Decision
STP → Service Quality	0.63	9.12	0.000	H2 is strongly supported
Service Quality → Revenue Growth	0.57	8.45	0.000	H3 is supported
STP → Revenue Growth	0.28	4.96	0.000	Supported

4.2 Qualitative data analysis with Triangulation

Theme 1: Sustainability Practices

A hotel manager at a 4★ hotel in Addis Ababa explained that their property had invested in solar water heating, LED lighting, and systematic waste segregation, noting that “energy costs have gradually decreased even though the initial investment was high.” Similarly, a lodge owner in Bahir Dar reported reducing water use through rainwater harvesting and low-flow fixtures, but highlighted challenges such as limited green suppliers and high maintenance costs. A tour operator in Wolaita Sodo emphasized community-based tourism and local procurement, yet pointed out difficulties in monitoring environmental compliance among subcontractors. Across interviews, most respondents viewed sustainability as an investment rather than a cost, aligning with quantitative finding that economic sustainability practices positively predict revenue growth ($\beta = 0.25$, $p < 0.001$).

Theme 2: Sustainability and Service Quality

Managers consistently reported that sustainability improved service quality. A 5★ hotel manager in Addis Ababa stated that eco-friendly amenities and cleaner environments enhanced guest satisfaction and online ratings. An eco-lodge manager in Hawassa noted that nature-based experiences combined with responsible practices strengthened customer trust and repeat visits. Several respondents mentioned that staff training on sustainability also improved responsiveness and professionalism. These insights support SEM results showing a strong path from STP →

Service Quality ($\beta = 0.63$, $p < 0.001$) and the positive correlation between STP and service quality ($r = 0.62$).

Theme 3: Revenue and Profitability

Most participants confirmed that sustainability had improved revenue. A 3★ hotel manager in Gondar reported higher occupancy during peak seasons after promoting green initiatives on booking platforms. A lodge owner in Axum linked energy savings to better profit margins, while a tour operator in Lalibela observed that eco-certified tours attracted higher-paying international tourists. Respondents agreed that energy efficiency and waste reduction had the greatest financial impact through cost savings, while community engagement strengthened brand reputation and repeat business. During economic shocks (e.g., post-COVID recovery), firms with sustainability strategies reported faster recovery, consistent with regression results showing that STP significantly predicts revenue growth ($R^2 = 0.48$).

Theme 4: Strategy and Future Outlook

Looking ahead, managers planned to expand renewable energy use, digital booking systems, and partnerships with local suppliers. A hotel manager in Bahir Dar emphasized investing in smart energy systems, while a tour operator in Addis Ababa prioritized carbon-offset programs. Participants called for government incentives such as tax rebates for green investments, technical training, and clearer sustainability standards. These views align with finding that service quality partially mediates the STP–revenue relationship, suggesting that future strategies should integrate sustainability with customer experience.

4.3 Focus Group Discussion (FGD) Synthesis

Stakeholders agreed that sustainability is critical for Ethiopia's tourism future, especially for heritage and nature-based destinations. Major barriers identified included high costs of green technology, weak enforcement of environmental regulations, and limited access to finance. Participants emphasized that hotels can balance sustainability and profitability by combining cost-saving technologies with premium eco-branding. They also urged government to provide subsidies, certification schemes, and marketing support for sustainable tourism enterprises. These collective insights reinforce quantitative evidence that sustainability enhances both service quality and financial performance.

5. Discussion

The findings demonstrate that sustainable tourism practices (STP) significantly enhance both service quality and revenue growth among hotel and tourism enterprises in Ethiopia. This supports the growing body of evidence that sustainability is not merely an ethical obligation but a strategic business resource that creates competitive advantage (Porter & Kramer, 2011). The strong path from STP to service quality ($\beta = 0.63$) suggests that environmental, social, and economic sustainability initiatives—such as energy efficiency, community engagement, and long-term planning—improve operational processes, staff performance, and customer experience. This aligns with the service-dominant logic perspective, which views sustainability as integral to value co-creation between firms and customers.

The positive effect of service quality on revenue growth ($\beta = 0.57$) confirms that higher-quality service translates into greater occupancy, repeat patronage, and willingness to pay, consistent with SERVQUAL-based tourism studies. Qualitative insights further reveal that eco-friendly facilities, cleaner environments, and responsible community practices strengthen guest trust and online reputation, which in turn drive financial performance. These findings corroborate stakeholder theory, which posits that firms performing well for society also perform well financially.

The mediation analysis indicates that service quality partially mediates the relationship between STP and revenue growth. This implies that sustainability improves profitability both directly—through cost savings and brand differentiation—and indirectly—by enhancing customer perceptions of service quality. This dual mechanism explains why firms that invested in renewable energy, waste reduction, and community partnerships reported better financial resilience during economic shocks. Overall, the results reinforce the “win-win” argument of sustainable tourism, where environmental stewardship, social responsibility, and economic viability are mutually reinforcing rather than conflicting objectives.

5.1 Managerial Implications

Managers should integrate sustainability into core strategy rather than treating it as a peripheral activity. Investments in energy-efficient technologies, water conservation, and waste

management can reduce operational costs while improving service quality. Training staff on sustainability-oriented service delivery can further enhance customer satisfaction and loyalty. Managers are encouraged to communicate their green initiatives transparently through digital platforms, as this strengthens brand image and attracts environmentally conscious tourists.

5.2 Policy Implications

Policymakers should design incentive schemes—such as tax credits, low-interest green loans, and certification programs—to encourage sustainability adoption among tourism enterprises. Establishing national sustainability standards for hotels and tour operators would promote consistency, accountability, and international competitiveness. Public–private partnerships are also essential to support capacity building, technical training, and infrastructure development in key destinations.

5.3 Economic Implications

From an economic perspective, sustainable tourism practices contribute to long-term financial stability by diversifying revenue streams, reducing resource dependency, and mitigating environmental risks. The positive link between sustainability and profitability suggests that green investments can stimulate economic growth while preserving natural and cultural assets. This is particularly important for Ethiopia, where tourism is a critical source of employment and foreign exchange.

5.4 Tourism Industry and Sustainability Implications

For the broader tourism industry, the study highlights sustainability as a central pillar of destination competitiveness. Destinations that prioritize environmental protection, community participation, and responsible tourism are more likely to attract high-value tourists and foster repeat visitation. Industry associations should promote best practices, benchmarking, and knowledge sharing to accelerate the transition toward sustainable tourism across Ethiopia.

6. Conclusion

This study examined the relationships among sustainable tourism practices, service quality, and revenue growth in major tourism destinations of Ethiopia using a mixed-methods approach. Quantitative results revealed that sustainable tourism practices significantly enhance both service quality and financial performance, while service quality partially mediates the relationship between sustainability and revenue growth. These findings were reinforced by qualitative insights from hotel managers, tour operators, and industry stakeholders, who consistently viewed sustainability as a strategic investment rather than a cost burden. The evidence suggests that sustainability strengthens competitiveness through two complementary pathways: cost efficiency (e.g., energy savings, waste reduction) and value creation (e.g., improved guest experience, stronger reputation, and repeat patronage). Firms that embedded sustainability into their operations demonstrated greater resilience during economic shocks, highlighting the role of sustainability in long-term risk management and business continuity. The study contributes to sustainable tourism literature by empirically demonstrating that sustainability and profitability are not contradictory but mutually reinforcing, particularly in developing-country contexts. It also advances understanding of service quality as a critical mechanism through which sustainability translates into financial outcomes. Practically, the findings call for integrated sustainability strategies that align environmental responsibility, community engagement, and economic planning with high-quality service delivery. Policymakers should support this transition through financial incentives, capacity building, and regulatory frameworks that reward responsible tourism practices. Despite its contributions, the study is limited to major destinations and managerial perceptions; future research could incorporate longitudinal data, visitor perspectives, and objective financial records. Comparative studies across African tourism markets would further enrich understanding of sustainability–performance linkages. Overall, the results underscore that sustainable tourism is not only essential for environmental preservation and social well-being but also a viable pathway to enhanced financial performance and resilient tourism development in Ethiopia.

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Appendix A: Measurement Items

It was modified and selected best according to the case study areas intention as follows:

Code	Sustainable Tourism Practices
EP1	Uses energy-efficient lighting and equipment
EP2	Reduces water consumption
EP3	Has systematic waste management
EP4	Minimizes single-use plastics
EP5	Monitors carbon footprint
SP1	Prioritizes local employment
SP2	Engages in community development
SP3	Provides fair wages
SP4	Supports local suppliers
SP5	Respects local culture
EcP1	Has long-term sustainability plan
EcP2	Invests in green technology
EcP3	Diversifies revenue sources
EcP4	Plans for economic shocks
EcP5	Integrates sustainability into strategy
Service Quality	

SQ1	Services delivered as promised
SQ2	Solves customer problems efficiently
SQ3	Staff respond quickly to requests
SQ4	Provides prompt service
SQ5	Staff are knowledgeable
SQ6	Guests trust service quality
SQ7	Gives individual attention
SQ8	Understands guest needs
SQ9	Facilities are clean
SQ10	Equipment is modern
Revenue Growth	
RG1	Annual revenue has increased
RG2	Occupancy rate improved
RG3	Revenue per guest increased
RG4	More repeat customers
RG5	Overall financial performance improved

Appendix B: Qualitative Interview Guide for 10 Business Men and Women

Purpose: *To deepen understanding and triangulate survey findings.*

Theme 1: Sustainability Practices

- *How does your business practice environmental sustainability?*
- *What challenges do you face in implementing sustainability?*
- *Do you see sustainability as a cost or an investment? Why?*

Theme 2: Service Quality

- *How do sustainability practices affect your service quality?*
- *Have customers reacted positively to your sustainable initiatives? How?*

Theme 3: Revenue and Profitability

- *Have sustainability practices improved your revenue? Explain with examples.*
- *Which aspect of sustainability has the greatest financial impact?*
- *How did your business perform during economic shocks?*

Theme 4: Strategy and Future Outlook

- *What sustainability strategies will you adopt in the next five years?*

- *What policy support do you need to improve sustainability and profitability?*

Focus Group Discussion Questions for Managers, Tourism Officials, or Industry Stakeholders

- *How important is sustainability for Ethiopia's tourism future?*
- *What are the biggest barriers to sustainable tourism in Ethiopia?*
- *How can hotels balance sustainability and profitability?*
- *What role should government play in supporting sustainable tourism?*