Policy and Governance Dimensions of Circular Economy: Pathways to Sustainable Destination Competitiveness in Kenya's Coastal Tourism Circuit

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ABSTRACT

The circular economy has emerged as a strategic framework for advancing sustainable tourism development and enhancing destination competitiveness. Anchored on Ecological Modernization Theory, Stakeholder Theory, and Institutional Theory, this study investigated the effects of policy and governance aspects of the circular economy on sustainable destination competitiveness in Kenya's Coastal Tourism Circuit and assessed the mediating role of stakeholder collaboration on this relationship. A descriptive, cross-sectional survey design was employed, targeting managers and operators of accommodation facilities in Mombasa, Kwale, Kilifi, and Lamu Counties. Stratified and simple random sampling techniques yielded a sample of 346 respondents, of whom 309 provided valid responses, resulting in a response rate of 89.31%. Primary data were gathered through structured online questionnaires, while secondary data were sourced from peer-reviewed journals, books, and the Government of Kenya policy documents. Descriptive and inferential statistics were used to analyze data. The results indicated a high level of adoption of circular economy governance practices, particularly in compliance with waste-sorting and recycling guidelines ($M = 4.61, SD = 0.76$), as well as robust stakeholder collaboration with county governments on environmental sustainability initiatives ($M = 4.61, SD = 0.76$). Inferential analyses demonstrated significant positive associations between policy and governance dimensions of the circular economy and sustainable destination competitiveness ($\rho = .668, p < .001$), with stakeholder collaboration fully mediating this relationship ($Z = 9.955, p < .001$). The study recommends strengthening policy enforcement, institutional coordination, sustainability incentives, and community-focused stakeholder collaboration.

Keywords: Circular economy, tourism governance, destination competitiveness, Ecological modernization theory, coastal circuit, Kenya

INTRODUCTION

The global tourism industry is transitioning from the traditional linear "take-make-dispose" economic model to circular economy approaches that emphasize resource efficiency, environmental regeneration, sustainable consumption, and long-term destination resilience. This shift is driven by escalating concerns about climate change, biodiversity loss, overtourism, marine pollution, excessive waste generation, and unsustainable resource use linked to tourism development (Geissdoerfer et al., 2017; Rodríguez et al., 2020). In this context, the circular economy has emerged as a transformative sustainability paradigm, aiming to preserve the value of resources, products, and ecosystems through restorative and regenerative systems while enhancing socio-economic benefits for destinations and local communities (De Angelis et al., 2024). Consequently, tourism policymakers, destination management organizations, and governance institutions are increasingly adopting circular economy principles as strategic pathways to achieve sustainable destination competitiveness, environmental stewardship, and resilient governance frameworks. The circular economy in tourism is often operationalized through the 9R framework, i.e., Refuse, Rethink, Reduce, Repair, Refurbish, Remanufacture, Repurpose, Recycle, and Recover (Kirchherr et al., 2017). This framework provides a comprehensive hierarchy for minimizing waste, extending product life cycles, regenerating natural systems, and promoting sustainable production and consumption practices (Potting et al., 2017; Rodríguez et al., 2020). In tourism destinations, the 9R principles are reflected in

initiatives such as eliminating single-use plastics, rethinking tourism value chains, reducing energy and water consumption, repairing and refurbishing infrastructure, repurposing waste materials, recycling solid waste, and recovering energy and resources through circular systems (Strippoli et al., 2024). As a result, the circular economy has been recognized not only as an environmental management strategy but also as a governance-oriented development framework that can enhance destination resilience, innovation, competitiveness, and sustainability performance.

Globally, several leading tourism destinations have adopted the circular economy and integrated the 9R principles into governance and sustainable tourism development strategies. For instance, in Vietnam, Con Dao Island exemplifies a circular and regenerative tourism transition in Southeast Asia. In response to mounting environmental pressures from mass tourism, Con Dao implemented circular economy policies targeting plastic reduction, ecosystem restoration, renewable energy adoption, water recycling, composting, sustainable mobility, and community-based conservation initiatives (Tran, 2025). As noted by VOV World (2025), the destination operationalized the 9R framework by restricting single-use plastics ("Refuse"), minimizing resource consumption and waste ("Reduce"), transforming waste into reusable products ("Repurpose" and "Recycle"), and implementing organic waste composting and wastewater reuse systems ("Recover"). Additionally, Con Dao has prioritized "Rethink" by redesigning governance structures around regenerative tourism models that foster stakeholder collaboration, environmental stewardship, and circular value chains (Tran, 2025). These interventions have enhanced Con Dao's ecological sustainability, destination branding, and competitiveness. Similarly, Mediterranean destinations such as Italy, Spain, Greece, Malta, and Cyprus have incorporated circular economy approaches into broader sustainable tourism governance strategies. Initiatives such as the INCIRCLE Project and the European Union's circular tourism frameworks have promoted renewable energy transitions, circular waste management, sustainable mobility, local sourcing, water reuse technologies, and environmentally responsible tourism operations (European Commission, 2025). Italy, in particular, has advanced circular tourism through resource recovery, refurbishment of heritage infrastructure, sustainable building renovation, and reduction of tourism-related waste and emissions (Strippoli et al., 2024). These destinations apply the 9R framework by encouraging the refusal of environmentally harmful products, the reduction of resource-intensive activities, the repair and refurbishment of facilities, the repurposing of heritage spaces, and the recovery of resources through renewable energy and waste-to-energy systems. The Mediterranean experience underscores that successful circular transitions in the tourism sector rely on coordinated policy frameworks, institutional capacity, and collaborative governance among public authorities, tourism enterprises, local communities, and environmental stakeholders.

At the regional level, African tourism destinations are gradually acknowledging the significance of circular economy principles as pathways to sustainable tourism development and destination resilience. Rwanda, for instance, exemplifies environmental governance and sustainable tourism management through policies focused on plastic bans, environmental restoration, eco-tourism conservation, renewable energy adoption, and community participation (Nibigira, 2023; UNEP & UNWTO, 2020). Rwanda's sustainability model incorporates several 9R principles, including the strict prohibition of non-biodegradable plastics as part of its "Refuse" strategy, resource-efficient operations to "Reduce" waste, and initiatives designed to promote circular economy practices within its manufacturing sector (Ogutu et al., 2023). These measures contribute to Rwanda's reputation as a leader in sustainable tourism and reflect broader efforts to enhance environmental sustainability and competitiveness. Similarly, Ghana has promoted sustainable tourism in coastal destinations through community-centered waste management, sustainable coastal governance, recycling initiatives, and environmental awareness campaigns to reduce pollution and degradation (Mensah, 2019; Amankwah-Amoah et al., 2021). Moreover, circular economy practices in Ghana's tourism sector emphasize waste management, recycling, and mitigation of environmental impacts associated with unplanned urban expansion, which are essential for fostering environmental sustainability and supporting tourism development (Siakwah, 2018). These regional experiences demonstrate a growing recognition among African tourism destinations that sustainable competitiveness is inseparable from environmental sustainability, institutional coordination, and collaborative governance

Although circular economy principles have been adopted globally and regionally within the tourism sector, the literature remains fragmented and predominantly addresses micro-level operational sustainability practices in hospitality establishments, such as enterprise-specific waste management and energy efficiency (De Angelis et

al., 2024; Rodríguez et al., 2020). As a result, there is limited empirical research on macro-level policy and governance dimensions necessary for destination-wide circular transitions, including regulatory enforcement, institutional coordination, and structured stakeholder governance frameworks. Moreover, the mainstream discourse on the circular economy is geographically concentrated in European and Asian tourism contexts, denoting a significant empirical gap for African destinations, where institutional fragmentation, weak policy implementation, and uncoordinated governance structures create distinct barriers to circular tourism transitions (Dredge & Jamal, 2015; Rodríguez et al., 2020; Tosun, 2000). Additionally, the structural mechanisms through which stakeholder collaboration mediates the relationship between macro-governance frameworks and destination competitiveness remain underexplored in developing tourism economies.

Kenya's Coastal Tourism Circuit, which includes destinations such as Mombasa, Diani, Watamu, Malindi, Kilifi, and Lamu, is among the country's most strategic tourism regions due to its rich marine biodiversity, beach tourism assets, cultural heritage, and hospitality infrastructure (GoK, 2023). However, this region faces increasing sustainability challenges, including marine pollution, unmanaged solid waste, plastic contamination, ecosystem degradation, climate vulnerability, and unsustainable tourism consumption patterns (UNEP, 2021; NEMA, 2022). Although the Government of Kenya has introduced progressive frameworks, such as single-use plastic bans, national blue economy strategies, and sustainable tourism policies, the integration of these circular principles into local destination governance remains fragmented and weakly institutionalized (GoK, 2022, 2023). Further, current initiatives have often addressed sustainability as an operational environmental concern rather than as a strategic governance imperative, resulting in a lack of empirical evidence on how systematic policy measures and inter-sectoral collaboration enhance destination resilience. This study addressed these theoretical and contextual gaps by investigating the influence of policy and governance dimensions of the circular economy on sustainable destination competitiveness in Kenya's Coastal Tourism Circuit, with a specific focus on the mediating role of stakeholder collaboration.

This study was anchored on Ecological Modernization Theory (EMT), Stakeholder Theory, and Institutional Theory, which collectively provided a comprehensive framework for understanding how governance-oriented circular economy interventions can enhance sustainable destination competitiveness within tourism destinations. Ecological Modernization Theory, as articulated by Mol and Spaargaren (2000), posits that environmental sustainability and economic competitiveness are mutually reinforcing when supported by policy innovation, institutional reform, and sustainable production and consumption systems. In the tourism sector, this theory elucidates how circular economy practices, including waste reduction, renewable energy adoption, recycling systems, and resource efficiency, can simultaneously advance environmental sustainability and destination competitiveness (York & Rosa, 2003; Odhiambo et al., 2023). Thus, EMT is pertinent for understanding how policy and governance aspects of the circular economy facilitate sustainable tourism transitions within Kenya's coastal tourism circuit. Stakeholder Theory, developed by Freeman (1984), further informs this analysis by emphasizing the importance of collaboration, participation, and shared decision-making among diverse stakeholders to achieve sustainable outcomes. As such, effective implementation of circular economy practices in tourism destinations necessitates coordinated action among governments, tourism enterprises, local communities, environmental agencies, and destination management organizations. Stakeholder Theory, therefore, provided a valuable perspective for examining the mediating role of stakeholder collaboration in the relationship between circular economy governance and sustainable destination competitiveness. Given that empirical studies have shown that collaborative governance mechanisms strengthen sustainable tourism planning, environmental management, destination resilience, and long-term competitiveness, stakeholder theory supports the assertion that successful circular economy transitions within Kenya's coastal tourism circuit are contingent upon effective stakeholder engagement and institutional partnerships (Byrd, 2007). Institutional Theory complemented this framework by elucidating how regulatory frameworks, governance systems, institutional norms, and policy pressures shape organizational and destination-level adoption of sustainable practices (Scott, 2008). According to this theory, organizations and destinations respond to coercive, normative, and regulatory pressures by adopting practices that enhance legitimacy and institutional conformity (DiMaggio & Powell, 1983). In the context of tourism sustainability, Institutional Theory clarifies how environmental regulations, blue economy strategies, and sustainability governance frameworks can drive the adoption of circular economy practices within tourism destinations. Collectively, these three theories provided a robust

theoretical foundation for investigating how policy and governance dimensions of the circular economy influence sustainable destination competitiveness through stakeholder collaboration in Kenya's coastal tourism circuit.

METHODS

Research Design

A descriptive survey research design utilizing a cross-sectional approach was employed to examine the influence of policy and governance dimensions of the circular economy on sustainable destination competitiveness in Kenya's Coastal Tourism Circuit, as well as to determine the mediating role of stakeholder collaboration in this relationship. According to Saunders et al. (2019) and Kothari (2004), this design enables the systematic collection, description, and analysis of data from a target population to establish patterns, relationships, perceptions, and prevailing conditions related to specific study variables. Moreover, descriptive survey designs are widely used in social science and tourism research because they facilitate the collection of quantitative data from relatively large populations and enable the description of attitudes, behaviours, and organizational practices as they exist in natural settings (Creswell & Creswell, 2018). In addition, a cross-sectional research approach was specifically used, with data collected from respondents at a single point in time. According to Bryman (2016), cross-sectional designs are suitable for examining relationships among variables without manipulating the study environment, particularly when the objective is to generate empirical insights regarding current conditions, perceptions, and practices within a population. Thus, the selected research design was appropriate for generating empirical evidence regarding the governance pathways through which circular economy practices influence sustainable destination competitiveness within the tourism sector.

Population & Sample

The Yamane (1967) formula was applied to determine the appropriate sample size from a total population of 2,547 registered accommodation facilities within the coastal tourism circuit. With a 95% confidence level and a margin of error of 0.05, the resulting sample size was 346 facilities. This statistical method ensured that the sample was sufficiently large to reliably represent the tourism sector in the region. To achieve adequate representation across the circuit's distinct geographic areas, probability-proportional-to-size (PPS) sampling was employed, and the sample size for each county was determined as shown in Table 1. Subsequently, simple random sampling was conducted within each stratum to select specific participants. This two-stage sampling process, which combined proportional allocation with randomized selection, minimized sampling bias and ensured that the findings accurately reflect the diverse operational scales and policy environments across the four counties of the coastal tourism circuit.

Table 1: Sample Size Computation for Registered Accommodation Facilities in Kenya's Coastal Tourism Circuit

No.	Region/County	No. of registered Accommodation facilities	Sample size
1.	Kilifi	1,370	186
2.	Kwale	574	78
3.	Lamu	159	22
4.	Mombasa	444	60
	Total	**2,547**	**346**

Source: Tourism Regulatory Authority, 2025

Research Instruments

A structured questionnaire was administered to managers and operators of registered accommodation facilities in Mombasa, Kwale, Kilifi, and Lamu Counties within Kenya's Coastal Tourism Circuit to collect primary data. This approach facilitated the collection of standardized quantitative data from a large sample, thereby enhancing

the consistency, objectivity, and comparability of responses (Creswell & Creswell, 2018). The questionnaire consisted of closed-ended items measured on a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The instrument was designed to capture perceptions regarding policy and governance dimensions of the circular economy, stakeholder collaboration, and sustainable destination competitiveness. Questionnaire items were adapted from existing literature on circular economy practices, tourism governance, stakeholder collaboration, and sustainable tourism competitiveness, and contextualized to reflect the operational realities of tourism enterprises in Kenya's coastal region. Construct validity was assessed using Exploratory Factor Analysis (EFA), and reliability was established using Cronbach's alpha coefficient, which confirmed satisfactory internal consistency of the measurement items (Hair et al., 2019; Tabachnick & Fidell, 2019).

Data Collection Techniques

The study employed both primary and secondary data collection methods to gather comprehensive information on policy and governance aspects of the circular economy, stakeholder collaboration, and sustainable destination competitiveness within Kenya's Coastal Tourism Circuit. Primary data were obtained through structured online questionnaires created using Google Forms and administered to managers and operators of accommodation facilities in Mombasa, Kwale, Kilifi, and Lamu Counties. The questionnaires were distributed electronically via email and other online communication platforms from 4 August 2025 to 13 October 2025 to ensure broader coverage, increase accessibility, and improve response rates among participants across the geographically dispersed coastal tourism region. Secondary data were sourced from peer-reviewed journal articles, academic books, and Government of Kenya policy documents related to circular economy practices, tourism governance, sustainable tourism development, stakeholder collaboration, and destination competitiveness. These secondary sources offered theoretical, empirical, and policy-based insights that informed the conceptualization of study variables, the development of the research instrument, and the interpretation of findings. As noted by Saunders et al. (2019), secondary data sources are essential for strengthening research by providing contextual understanding, theoretical grounding, and comparative perspectives relevant to the study problem. The integration of primary and secondary data collection techniques enhanced the comprehensiveness and credibility of the study by enabling triangulation of empirical findings with existing theoretical and policy literature. This methodological approach further reinforced the capacity to generate contextually relevant insights regarding governance pathways through which circular economy practices influence sustainable destination competitiveness within Kenya's Coastal Tourism Circuit.

Data Analysis Techniques

Descriptive and inferential statistical techniques were employed to analyze the collected data in accordance with the study objective and hypothesis. Descriptive statistics, such as means and standard deviations, summarized respondents' perceptions of policy and governance dimensions of the circular economy, stakeholder collaboration, and sustainable destination competitiveness within Kenya's Coastal Tourism Circuit. Given that the data were ordinal in nature, having been collected using a five-point Likert scale, descriptive analysis was deemed appropriate because Likert scale data are typically analyzed using measures of central tendency and dispersion to determine the direction, magnitude, and variability of respondents' perceptions (Boone & Boone, 2012; Field, 2018). Prior to hypothesis testing, construct validity of the measurement instrument was evaluated using Exploratory Factor Analysis (EFA) with Principal Axis Factoring and Promax oblique rotation. EFA assessed whether the questionnaire items adequately represented the underlying latent constructs and established the dimensional structure of the instrument (Hair et al., 2019; Tabachnick & Fidell, 2019). The suitability of the data for factor analysis was determined using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. The reliability of the instrument was assessed using Cronbach's alpha coefficient to evaluate the internal consistency of the measurement items, which yielded a value above the recommended threshold of 0.70 and was therefore considered acceptable (Cronbach, 1951; Nunnally & Bernstein, 1994). Spearman's rank-order correlation coefficient (Spearman's rho) was used as a preliminary nonparametric analysis to assess the strength and direction of monotonic relationships among the variables, because the study variables had been measured using a Likert scale (Akoglu, 2018; Schober et al., 2018). Mediated multiple regression analysis was then conducted to examine the direct and indirect effects of policy and governance dimensions of the circular economy on sustainable destination competitiveness through

stakeholder collaboration. The mediation effect was further confirmed using the Sobel test to determine the statistical significance of the indirect effect within the mediation model (Baron & Kenny, 1986; Hayes, 2018). Statistical significance for all inferential analyses was evaluated at the 95% confidence level and the 5% significance level.

RESULT

Survey Response Rate

Out of the 346 questionnaires distributed to managers and operators of tourism enterprises within Kenya's Coastal Tourism Circuit, 309 were retrieved and deemed suitable for analysis, yielding a response rate of 89.31%. This rate was exceptionally high for social science research and exceeded the minimum 50% threshold generally considered adequate to minimize non-response bias and enhance the reliability and representativeness of survey findings (Babbie, 2020; Fowler, 2014; Mugenda & Mugenda, 2003). Further, Babbie (2020) asserts that response rates above 70% are very good for survey-based studies, while Fowler (2014) emphasizes that high response rates improve data quality and strengthen the credibility of statistical inferences. Consequently, the high response rate provided sufficient and reliable data for subsequent statistical analyses, including descriptive, factor, correlation, and mediated multiple regression analyses.

Construct Validity of the Survey Instrument

Construct validity of the survey instrument was evaluated using Exploratory Factor Analysis (EFA) with Principal Axis Factoring (PAF) extraction and Promax oblique rotation. EFA was deemed suitable because the objective was to determine whether the questionnaire items adequately represented the latent constructs of the circular economy's policy and governance dimensions, stakeholder collaboration, and sustainable destination competitiveness. As noted by Hair et al. (2019) and Tabachnick and Fidell (2019), EFA is widely employed in social science research to examine the dimensional structure of measurement instruments and to establish construct validity, particularly when scales are adapted or developed for specific research contexts. Principal Axis Factoring was chosen for its focus on identifying shared variance among variables and its appropriateness for uncovering latent constructs. Promax rotation was applied because the study constructs were theoretically expected to be correlated. Prior to factor extraction, the suitability of the data for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity presented in Table 2.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.740
Bartlett's Test of Sphericity	Approx. Chi-Square	13286.663
	df	276
	Sig.	.000

As indicated in Table 2, the KMO value was 0.740, exceeding the minimum threshold of 0.70 recommended by Kaiser (1974), indicating satisfactory sampling adequacy. Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 13286.663$, df = 276, $p < .001$), confirming that sufficient correlations existed among the variables to justify factor analysis. These results demonstrated that the dataset was appropriate for EFA and that the variables shared sufficient common variance to yield reliable factor solutions. The next piece of evidence considered was the total variance explained in Table 3.

Table 3: Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.887	41.197	41.197	9.662	40.258	40.258	8.359
2	5.562	23.176	64.373	5.385	22.440	62.697	7.646
3	4.012	16.716	81.089	3.856	16.067	78.764	4.723
4	.965	4.020	85.109				
5	.547	2.280	87.389				
6	.492	2.048	89.437				
7	.475	1.981	91.418				
8	.400	1.665	93.083				
9	.307	1.279	94.362				
10	.219	.911	95.273				
11	.198	.826	96.099				
12	.172	.715	96.814				
13	.155	.645	97.459				
14	.117	.489	97.948				
15	.111	.462	98.410				
16	.106	.440	98.850				
17	.101	.419	99.269				
18	.063	.261	99.530				
19	.043	.177	99.707				
20	.038	.158	99.865				
21	.017	.070	99.935				
22	.010	.040	99.975				
23	.005	.020	99.995				
24	.001	.005	100.000				
Extraction Method: Principal Axis Factoring.							
a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Table 3 presents the Total Variance Explained results, indicating that three factors with eigenvalues greater than 1.0 were retained according to Kaiser's criterion. Collectively, these three factors explained 78.76% of the total variance, surpassing the recommended minimum threshold of 60% for social science research (Hair et al., 2019). Factor 1 (policy & governance) accounted for 40.25% of the variance, Factor 2 (stakeholder collaboration) explained 22.44%, and Factor 3 (destination competitiveness) accounted for 16.07%. This high cumulative variance explained demonstrated that the extracted factors effectively represented the underlying dimensions of the study constructs and confirmed the multidimensional structure of the survey instrument. The next evidence considered was the communalities in Table 4.

Table 4: Communalities

No.		**Initial**	**Extraction**
1.	I am aware of tourism policies that support environmental sustainability	.987	.818
2.	Government agencies encourage my enterprise to reduce the use of single-use plastics	.939	.830
3.	My enterprise implements the sustainable waste management regulations to reduce waste	.884	.717
4.	Tourism regulations encourage the recycling and reuse of materials	.786	.714
5.	Environmental regulations are well enforced in the tourism sector	.780	.705

6.	My enterprise has a formal policy for reusing items (e.g., containers and linen) rather than disposing them	.801	.718
7.	My enterprise receives enough information on environmental compliance requirements	.836	.806
8.	My enterprise follows government guidelines for sorting and processing waste for recycling and energy recovery	.633	.563
9.	Government support encourages my enterprise to adopt environmentally friendly practices	.940	.674
10.	The County government supports my enterprise in implementing circular economy practices	.603	.556
11.	Incentives from the government encourage tourism enterprises to implement sustainable practices	.981	.655
12.	I collaborate with my suppliers to ensure they provide eco-friendly and sustainably packaged products.	.988	.869
13.	My business works with other tourism enterprises on environmental sustainability activities.	.967	.855
14.	My enterprise collaborates with county government agencies on waste management and environmental conservation.	.994	.910
15.	My enterprise participates in community environmental conservation activities.	.994	.849
16.	Tourism stakeholders in my area share information on sustainable tourism practices.	.996	.880
17.	Tourism enterprises in my area cooperate in reducing waste and pollution.	.982	.861
18.	My enterprise participates in tourism sustainability meetings or forums.	.996	.899
19.	There is good cooperation among tourism stakeholders in protecting coastal resources.	.891	.761
20.	My enterprise has gained a better reputation among tourists due to our sustainability practices.	.970	.953
21.	I believe our circular economy efforts make the Kenya Coast more attractive than other global beach destinations.	.919	.781
22.	I find that our circular practices lead to long-term cost savings for my enterprise	.685	.645
23.	I am confident that my business is more competitive because it aligns with global "green" travel trends.	.983	.960
24.	Circular economy practices in the coastal region have benefited local communities.	.970	.925
	Extraction Method: Principal Axis Factoring.		

Communality estimates were examined to assess the extent to which each variable shared variance with the retained factors. As indicated in Table 4, all extraction communalities exceeded the recommended minimum threshold of 0.50 after removing one item, which yielded a low communality value. Field (2018) states that communalities above 0.50 demonstrate sufficient representation of items within the factor solution. In this study, extraction communalities ranged from 0.556 to 0.960, suggesting that a substantial proportion of variance in each item was explained by the retained factors. The improved communalities following item removal contributed to enhanced construct validity and stability of the factor structure. The next evidence considered was the pattern matrix in Table 5.

Table 5: Table 5: Pattern Matrix[a]

No.		**Factor**		
		1	**2**	**3**
1.	Government agencies encourage my enterprise to reduce the use of single-use plastics	.952		
2.	My enterprise receives enough information on environmental compliance requirements	.937		

3.	My enterprise implements the sustainable waste management regulations to reduce waste	.886		
4.	My enterprise has a formal policy for reusing items (e.g., containers and linen) rather than disposing them	.861		
5.	I am aware of tourism policies that support environmental sustainability	.860		
6.	Environmental regulations are well enforced in the tourism sector	.798		
7.	Government support encourages my enterprise to adopt environmentally friendly practices	.779		
8.	Tourism regulations encourage the recycling and reuse of materials	.777		
9.	My enterprise follows government guidelines for sorting and processing waste for recycling and energy recovery	.772		
10.	Incentives from the government encourage tourism enterprises to implement sustainable practices	.743		
11.	The County government supports my enterprise in implementing circular economy practices	.727		
12.	Tourism stakeholders in my area share information on sustainable tourism practices.		.952	
13.	I collaborate with my suppliers to ensure they provide eco-friendly and sustainably packaged products.		.951	
14.	My enterprise participates in tourism sustainability meetings or forums.		.951	
15.	My enterprise collaborates with county government agencies on waste management and environmental conservation.		.933	
16.	Tourism enterprises in my area cooperate in reducing waste and pollution.		.925	
17.	My business works with other tourism enterprises on environmental sustainability activities.		.924	
18.	My enterprise participates in community environmental conservation activities.		.910	
19.	There is good cooperation among tourism stakeholders in protecting coastal resources.		.864	
20.	I am confident that my business is more competitive because it aligns with global "green" travel trends.			.979
21.	Circular economy practices in the coastal region have benefited local communities.			.967
22.	My enterprise has gained a better reputation among tourists due to our sustainability practices.			.961
23.	I believe our circular economy efforts make the Kenya Coast more attractive than other global beach destinations.			.891
24.	I find that our circular practices lead to long-term cost savings for my enterprise			.808
	Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.			
	a. Rotation converged in 4 iterations.			

The pattern matrix in Table 5 revealed a distinct three-factor structure aligned with the theoretical constructs underpinning the study, after rotation using Promax with Kaiser Normalization. The rotation converged after four iterations, indicating that the factor solution stabilized efficiently and produced a clear, interpretable structure for the study constructs. Items related to regulatory frameworks, environmental governance, policy enforcement, institutional support, incentives, and compliance systems loaded strongly on Factor 1, representing the policy and governance dimensions of the circular economy, with factor loadings ranging from 0.727 to 0.952. Items assessing stakeholder collaboration loaded strongly on Factor 2, with loadings ranging from 0.864 to 0.952, while items evaluating sustainable destination competitiveness loaded strongly on Factor 3, with loadings ranging from 0.808 to 0.979. All factor loadings exceeded the minimum acceptable threshold of 0.50 recommended by Hair et al. (2019), indicating strong relationships between the observed variables and their

respective latent constructs. Moreover, the absence of problematic cross-loadings further supported construct clarity and discriminant validity among the three study variables. Overall, the exploratory factor analysis (EFA) results confirmed that the survey instrument demonstrated satisfactory construct validity. As such, the acceptable Kaiser-Meyer-Olkin (KMO) statistic, significant Bartlett's Test of Sphericity, high cumulative variance explained, strong communalities, and substantial factor loadings collectively indicated that the questionnaire items effectively measured the intended constructs of policy and governance dimensions of the circular economy, stakeholder collaboration, and sustainable destination competitiveness within Kenya's Coastal Tourism Circuit.

Reliability of the Survey Instrument

Reliability and internal consistency of the survey instrument were assessed by computing Cronbach's alpha coefficients for the measurement items representing the study constructs. This analysis assesses the extent to which items measuring the same latent variable yield consistent results, which is critical for ensuring data stability prior to conducting inferential statistical analyses (Cronbach, 1951; Taber, 2018). The reliability analysis indicated that the questionnaire achieved a raw Cronbach's alpha coefficient of 0.804 and a standardized item alpha coefficient of 0.860 as presented in Table 6, both of which exceeded the conventional minimum threshold of 0.70 recommended for behavioral and exploratory social science research (Hair et al., 2019; Nunnally & Bernstein, 1994). In addition, as noted by George & Mallery (2020), coefficients above 0.80 are considered good indicators of internal consistency, thereby confirming that the instrument's items were stable and robust. The instrument was therefore considered sufficiently reliable for subsequent multivariate statistical analyses.

Table 6: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.804	.860	24

Analysis of the Study Objective

The study sought to examine the influence of policy and governance dimensions of the circular economy on sustainable destination competitiveness in Kenya's Coastal Tourism Circuit, and to determine the mediating role of stakeholder collaboration in this relationship. Descriptive statistics were utilized to analyze and summarize respondents' perceptions of policy and governance dimensions of the circular economy, stakeholder collaboration, and sustainable destination competitiveness within Kenya's Coastal Tourism Circuit. Given that the study used a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), descriptive analysis was deemed appropriate, as Likert scale data are typically analyzed using measures of central tendency and dispersion to capture respondents' attitudes and agreement levels with specific statements (Boone & Boone, 2012; Joshi et al., 2015). To this end, means and standard deviations were calculated to interpret the data, with mean scores indicating the direction and magnitude of perceptions, and standard deviations assessing the degree of variability or consensus among responses (Field, 2018; Hair et al., 2019). Higher mean scores signified stronger agreement with statements on circular economy governance, stakeholder collaboration, and sustainable destination competitiveness. Lower standard deviation values indicated greater consistency in respondents' views. Thus, descriptive statistics provided a robust foundation for interpreting the extent to which the study constructs were practiced within registered accommodation facilities in Kenya's Coastal Tourism Circuit. The results of the descriptive analysis are presented in Tables 7 to 9.

Regarding the policy and governance aspects of the circular economy, respondents were asked to indicate their level of agreement with eleven statements concerning policies, regulations, and government support for circular economy practices in tourism. The results are summarized in Table 7.

Table 7: Descriptive Statistics for Policy and Governance Dimensions of the Circular Economy

No		N	Mean	Std. Deviation
1.	I am aware of tourism policies that support environmental sustainability	309	4.60	.56

2.	Government agencies encourage my enterprise to reduce the use of single-use plastics	309	4.59	.54
3.	My enterprise implements the sustainable waste management regulations to reduce waste	309	4.60	.56
4.	Tourism regulations encourage the recycling and reuse of materials	309	4.08	1.14
5.	Environmental regulations are well enforced in the tourism sector	309	3.77	1.47
6.	My enterprise has a formal policy for reusing items (e.g., containers and linen) rather than disposing them	309	4.26	.63
7.	My enterprise receives enough information on environmental compliance requirements	309	4.13	1.47
8.	My enterprise follows government guidelines for sorting and processing waste for recycling and energy recovery	309	4.61	.76
9.	Government support encourages my enterprise to adopt environmentally friendly practices	309	3.96	.55
10.	The County government supports my enterprise in implementing circular economy practices	309	3.89	1.52
11.	Incentives from the government encourage tourism enterprises to implement sustainable practices	309	3.83	1.56
	Valid N (listwise)	309		

Source: Survey findings,2025

The findings in Table 7 show that respondents reported the highest compliance alignment with government guidelines for sorting and processing waste for recycling and energy recovery *(M = 4.61, SD = 0.76),* closely followed by a high awareness of tourism policies that support environmental sustainability (*M = 4.60, SD = 0.560)* and active implementation of sustainable waste management regulations to reduce waste (*M = 4.60, SD = 0.56).* Similarly, strong agreement was observed regarding institutional encouragement to reduce single-use plastics (M = 4.59, SD = 0.54) and the existence of formal enterprise-level policies for reusing items such as containers and linen *(M = 4.26, SD = 0.63).* Conversely, variables associated with enforcement, institutional support systems, and structural incentives showed lower mean scores and higher standard deviations, indicating greater dispersion and divergence in responses. The lowest level of agreement was recorded for the enforcement of environmental regulations in the tourism sector *(M = 3.77, SD = 1.47),* provision of government incentives to implement sustainable practices (M = 3.83, SD = 1.56), direct county government support in implementing circular economy practices (*M = 3.89, SD = 1.52),* and national government support encouraging environmentally friendly practices (*M = 3.96, SD = 0.55).*

Regarding stakeholder collaboration, respondents were asked to indicate their level of agreement with eight indicators touching on collaboration among stakeholders in implementing circular economy practices. The results are shown in Table 8.

Table 8: Descriptive Statistics for Stakeholder collaboration in circular economy practices

No.		N	Mean	Std. Deviation
1.	I collaborate with my suppliers to ensure they provide eco-friendly and sustainably packaged products.	309	3.97	.528
2.	My business works with other tourism enterprises on environmental sustainability activities.	309	4.57	.629
3.	My enterprise collaborates with county government agencies on waste management and environmental conservation.	309	4.61	.768
4.	My enterprise participates in community environmental conservation activities.	309	3.69	.891

5.	Tourism stakeholders in my area share information on sustainable tourism practices.	309	4.61	.768
6.	Tourism enterprises in my area cooperate in reducing waste and pollution.	309	3.62	.978
7.	My enterprise participates in tourism sustainability meetings or forums.	309	4.57	.629
8.	There is good cooperation among tourism stakeholders in protecting coastal resources.	309	4.25	.798
	Valid N (listwise)	309		

Source: Survey Findings, 2025

Descriptive statistics presented in Table 8 demonstrate that the highest levels of consensus were observed for enterprise collaboration with county government agencies on waste management and environmental conservation *(M = 4.61, SD = 0.76),* as well as for the active sharing of information on sustainable tourism practices among regional stakeholders *(M = 4.61, SD = 0.76).* High mean scores were also recorded for business cooperation with other tourism enterprises on environmental sustainability activities *(M = 4.57, SD = 0.62*) and for organizational participation in tourism sustainability meetings or forums *(M = 4.57, SD = 0.62).* Respondents also reported a strong positive perception of general cooperation among tourism stakeholders in protecting coastal resources *(M = 4.25, SD = 0.79).* In contrast, items related to practical, localized implementation and community-level engagement received lower mean scores and exhibited greater response variance. In particular, moderate agreement was found regarding supplier-level collaboration to secure eco-friendly, sustainably packaged products (*M = 3.97, SD = 0.52).* The lowest agreement within this construct was observed for direct enterprise participation in community environmental conservation activities *(M = 3.69, SD = 0.89)* and for localized cooperation among regional tourism enterprises to reduce waste and pollution *(M = 3.62, SD = 0.978).*

Regarding destination competitiveness, respondents were asked to indicate their level of agreement on five indicators. The findings are displayed in Table 9.

Table 9: Descriptive Statistics for Destination Competitiveness

No.		N	Mean	Std. Deviation
1.	My enterprise has gained a better reputation among tourists due to our sustainability practices.	309	4.60	.636
2.	I believe our circular economy efforts make the Kenya Coast more attractive than other global beach destinations.	309	4.24	.669
3.	I find that our circular practices lead to long-term cost savings for my enterprise	309	4.55	.740
4.	I am confident that my business is more competitive because it aligns with global "green" travel trends.	309	4.26	.621
5.	Circular economy practices in the coastal region have benefited local communities.	309	4.56	.645
	Valid N (listwise)	309		

Source: Survey findings,2025

The findings presented in Table 9 demonstrate a strong positive consensus across all dimensions of competitiveness, as all mean scores exceeded the 4.00 threshold on the five-point scale. The highest agreement was observed for the assertion that enterprises have enhanced their reputation among tourists as a result of sustainability practices (*M = 4.60, SD = 0.63).* This was closely followed by the perception that circular economy practices in the coastal region have provided tangible benefits to local communities *(M = 4.56, SD = 0.64),* as

well as the finding that the adoption of circular practices results in long-term cost savings for individual enterprises (*M = 4.55, SD = 0.74).* Slightly lower, but still substantial, levels of agreement were reported for items related to global market positioning, in which respondents indicated strong confidence that their businesses are more competitive due to alignment with global green travel trends *(M = 4.26, SD = 0.62).* The lowest mean within this construct, with a relatively narrow distribution of responses, pertained to the belief that regional circular-economy initiatives enhance the attractiveness of the Kenya Coast relative to other global beach destinations *(M = 4.24, SD = 0.66).*

Hypothesis Testing

To evaluate the hypothesis that stakeholder collaboration does not statistically significantly mediate the relationship between the policy and governance dimensions of the circular economy and sustainable destination competitiveness in Kenya's Coastal Tourism Circuit, the data were first subjected to preliminary assumption testing. While parametric mediation analysis, such as ordinary least squares regression, is commonly employed, social science research utilizing Likert scales often produces ordinal data that may violate key parametric assumptions, including multivariate normality and interval scaling (Harpe, 2015; Sullivan & Artino, 2012). According to Ghasemi & Zahediasl (2012), applying parametric tests to such data without appropriate validation can result in inflated Type I error rates and misleading conclusions. Consequently, using a nonparametric correlation matrix as an initial diagnostic step is warranted to assess monotonic baseline relationships among the latent constructs without assuming normality (Field, 2018). To this end, a preliminary bivariate analysis was conducted using Spearman's rank correlation coefficient (ρ). The results are presented in Table 10.

Table 10: Correlations

			policy	collaboration	competitiveness
Spearman's rho	policy	Correlation Coefficient	1.000	.597*	.668*
		Sig. (2-tailed)	.	.018	.000
		N	309	309	309
	collaboration	Correlation Coefficient	.597*	1.000	.533*
		Sig. (2-tailed)	.018	.	.002
		N	309	309	309
	competitiveness	Correlation Coefficient	.668*	.533*	1.000
		Sig. (2-tailed)	.000	.002	.
		N	309	309	309
*. Correlation is significant at the 0.05 level (2-tailed).					

The results presented in Table 10 indicate strong, positive, and statistically significant monotonic relationships across all conceptualized pathways in the mediation model, thereby confirming the statistical viability of the framework. The association between the independent variable, representing policy and governance dimensions of the circular economy, and the dependent variable, sustainable destination competitiveness, was both strong and highly significant ($\rho = .668, p < .001$). Akoglu (2018) notes that a coefficient of this magnitude reflects a robust association, indicating that higher levels of circular economy governance are closely linked with increased destination competitiveness. The mediation hypothesis was further supported, as the pathways involving the mediating variable were fully validated by the data. As such, the independent variable (policy and governance) exhibited a moderate and statistically significant positive correlation with the mediator, stakeholder collaboration ($\rho = .597, p = .018$). Additionally, the relationship between the mediator (stakeholder collaboration) and the dependent variable (sustainable destination competitiveness) was positive and statistically significant ($\rho = .533, p = .002$). According to classical and contemporary mediation theory, significant baseline correlations among the independent variable, mediator, and dependent variable are essential for establishing the structural validity of an indirect effect framework (Baron & Kenny, 1986; Hayes, 2018). Given that all three interconnected pathways were statistically significant, the preliminary nonparametric analysis justified proceeding to a mediated multiple regression to formally assess the size, direction, and significance of the direct and indirect effects of the

study variables within Kenya's Coastal Tourism Circuit. Subsequently, the mediating relationship was modeled using the following mediated multiple regression equation:

$Y = a + \beta_1 X + \beta_2 W + \beta_3 (X * W) + e$

Where;

Y=Destination Competitiveness

a= Constant/ Intercept

X= Mean-centred policy and governance dimensions of the circular economy

W=Mean-centred stakeholder collaboration

(X*W) =The interaction product term (mediation effect)

β_1 =The linear effect of Policy on Competitiveness when Collaboration is at its mean

β_2=The linear effect of Collaboration on Competitiveness when Policy is at its mean.

β_3=The change in the slope of Policy on Competitiveness for every one-unit change in Collaboration.

e= residual error term

The mediated multiple regression analysis was executed following the classic causal steps approach outlined by Baron and Kenny (1986) alongside a formal Sobel (1982) test to verify the significance of the indirect effect. The mediation analysis was systematically structured across three distinct ordinary least squares (OLS) regression models using the sample size of 309 completed responses. The results of the mediated multiple regression analysis are detailed in Tables 11-13.

Table 11: Coefficients[a] for Policy and destination competitiveness (direct effect - path c)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	6.322	1.183		5.343	.000	3.994	8.651
	policy	.408	.024	.698	17.070	.000	.361	.455
a. Dependent Variable: competitiveness								

In the first model, the total effect of the independent variable on the dependent variable (*Path c)* was evaluated by regressing sustainable destination competitiveness directly on the policy and governance dimensions of the circular economy. As presented in Table 11, the findings indicated a strong, positive, and statistically significant total linear relationship (β = .698, B = 0.408, t = 17.070, p < .001). This confirmed that in the absence of the mediator, enhanced circular economy governance structures are highly effective predictors of destination competitiveness within the coastal tourism sector.

Table 12: Coefficients[a] for policy and Collaboration (indirect effect -path a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	10.125	1.495		6.772	.000	7.183	13.066
	policy	.481	.030	.673	15.960	.000	.422	.541
a. Dependent Variable: collaboration								

From the second model in Table 12, the relationship between the independent variable and the hypothesized mediator (*Path a*) was tested by regressing stakeholder collaboration on policy and governance. These empirical results revealed a significant and highly pronounced positive association (β = .673, B = 0.481, t = 15.960, p < .001). This established that robust institutional policy frameworks and compliance guidelines serve as powerful structural catalysts that significantly drive and enhance stakeholder collaboration across the regional circuit.

Table 13: Coefficients[a] for policy, collaboration and competitiveness (indirect path b &c')

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	6.021	1.270		4.742	.000	3.522	8.519
	policy	.030	.045	.036	.659	.510	-.059	.119
	collaboration	.393	.032	.673	12.164	.000	.330	.457
a. Dependent Variable: competitiveness								

In the third and final model in Table 13, both the independent variable (policy and governance) and the mediating variable (stakeholder collaboration) were entered simultaneously into the regression equation to predict sustainable destination competitiveness to isolate the direct effect (*Path c'*) and the mediator effect (*Path b*). The results indicated that the link between stakeholder collaboration and destination competitiveness (*Path b*) was positive and highly statistically significant (B = 0.393, β= .673, t = 12.164, p < .001), demonstrating that continuous collaborative engagement directly translates into elevated competitive advantages. Importantly, when controlling for the presence of stakeholder collaboration, the direct effect of policy and governance on sustainable destination competitiveness (*Path c'*) was substantially reduced from its original total effect (B = 0.408) down to a negligible value (B = 0.030, β= 0.036) and completely lost its statistical significance (t = 0.659, p = .510). According to the standard requirements established by Baron and Kenny (1986), when the direct effect of an independent variable becomes non-significant upon the introduction of a mediator, it provides strong empirical evidence of a full or complete mediation mechanism. To statistically validate the strength and transmission capacity of this full mediation pathway, a formal Sobel test was performed using the unstandardized coefficients (B) and standard errors (SE) from the regression models (a = 0.481, s_a = 0.030; b = 0.393, s_b = 0.032). The Sobel test evaluates whether the indirect pathway mathematically carries the independent variable's effect to the outcome variable with statistical significance (Sobel, 1982). The structural test yielded a highly significant Z-statistic of 9.955 with a standard error of 0.016 and an associated p-value of less than .001 (p = 0.000). Given that the test statistic substantially exceeded the critical threshold of ±1.96, the null hypothesis was confidently rejected and the alternative accepted. These mathematical findings formally confirmed that the indirect path was highly robust, proving that stakeholder collaboration acts as the primary underlying vehicle through which the policy and governance dimensions of the circular economy successfully convert into sustainable destination competitiveness across Kenya's Coastal Tourism Circuit. The resultant model was a shown in Figure 1.

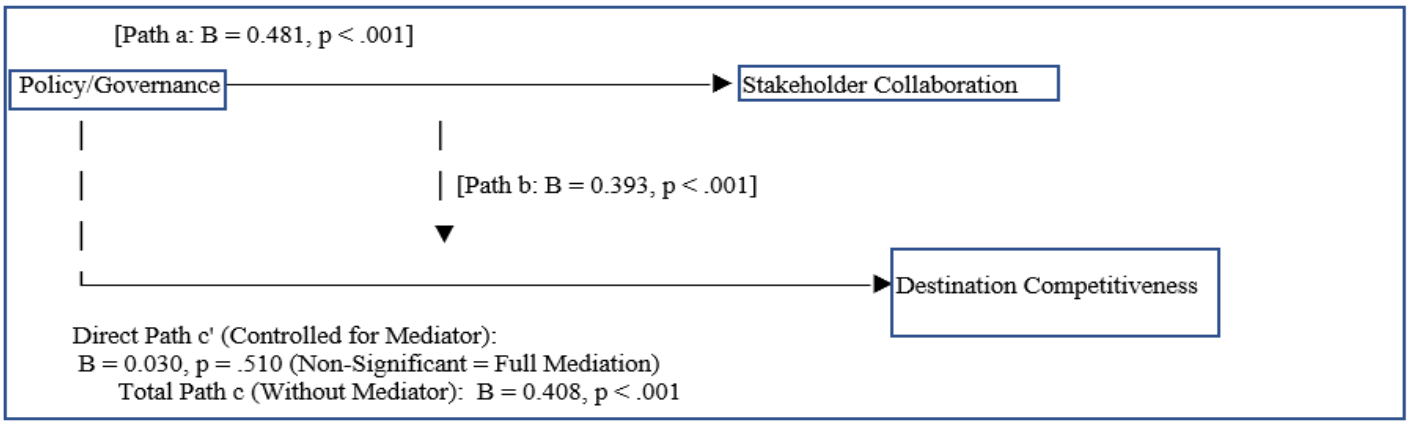

Figure 1: Mediated Multiple Regression Model: Source, Survey findings 2025

DISCUSSION

Descriptive findings indicated that tourism enterprises within Kenya's Coastal Tourism Circuit exhibit high levels of alignment with environmental sustainability policies and circular economy practices, particularly in waste sorting, recycling, energy recovery, reduction of single-use plastics, and enterprise-level reuse initiatives. The high mean scores for compliance with government waste management guidelines and awareness of tourism sustainability policies suggest that environmental sustainability is progressively being institutionalized within tourism operations along the Kenyan coast. These results align with previous studies asserting that circular economy principles are central to sustainable tourism management due to mounting environmental pressures, climate change concerns, and evolving tourist preferences for environmentally responsible destinations (Geissdoerfer et al., 2017; Rodríguez et al., 2020). The findings further indicate that tourism enterprises are recognizing resource efficiency, recycling, and waste minimization as strategic operational practices that enhance destination image, operational sustainability, and market competitiveness, rather than viewing them solely as regulatory obligations. The emphasis on waste sorting, recycling, reuse policies, and reduction of single-use plastics demonstrates the practical application of several dimensions of the circular economy 9R framework, particularly "Reduce," "Reuse," "Recycle," and "Recover." This suggests a gradual transition among tourism enterprises in Kenya's Coastal Tourism Circuit from traditional linear consumption systems to more circular and resource-efficient operational models. Comparable findings have been reported in European tourism destinations, where circular economy practices have contributed to improved destination sustainability, enhanced environmental governance, and increased tourism resilience (Ellen MacArthur Foundation, 2019; Camilleri, 2018). However, in contrast to many advanced tourism destinations where circular economy implementation is supported by integrated policy incentives and institutional coordination, the present study revealed that Kenya's coastal tourism sector continues to face significant structural and governance limitations.

Despite strong operational implementation of circular economy practices among respondents, lower mean scores were observed for policy enforcement, government incentives, institutional support systems, and county-level implementation support. Notably, environmental regulation enforcement received the lowest level of agreement. This suggests that, although tourism enterprises are progressively adopting sustainability practices internally, broader governance systems responsible for facilitating, enforcing, and supporting circular economy transitions remain weak or inconsistent. This partially contrasts with findings from highly institutionalized tourism destinations such as Italy, the Netherlands, and Scandinavian countries, where robust environmental governance systems, sustainability incentives, and coordinated institutional frameworks have significantly accelerated circular economy transitions (Camilleri, 2018; Dredge & Jamal, 2015). The relatively weak perception of policy enforcement and institutional support is a significant and contextually relevant finding within the African tourism governance landscape. It indicates that circular economy transitions in developing tourism destinations depend not only on the existence of sustainability policies but also on the effectiveness of institutional implementation, enforcement capacity, inter-agency coordination, and resource availability. This finding is consistent with Institutional Theory, which posits that organizational behaviour is shaped by institutional pressures, regulatory systems, and governance structures (Scott, 2008). Therefore, while Kenya has made progress through initiatives such as plastic bag bans, sustainable tourism policies, and blue economy strategies, institutional fragmentation and uneven implementation continue to constrain the full realization of circular economy governance within tourism destinations.

Findings related to stakeholder collaboration revealed strong inter-organizational cooperation among tourism enterprises, county governments, and other stakeholders in environmental sustainability, information sharing, and participation in sustainability forums. These results reinforce existing literature that highlights the critical role of collaborative governance in promoting sustainable tourism development and destination resilience (Hall, 2011; Byrd, 2007). The observed collaboration between tourism enterprises and county governments on waste management and environmental conservation initiatives indicates growing recognition that sustainability challenges require collective, multi-stakeholder approaches rather than isolated efforts. However, the study also identified lower levels of localized collaboration involving community environmental conservation and direct operational cooperation among tourism enterprises to reduce pollution and waste. This represents a significant and somewhat unexpected finding in that, while institutional-level collaboration is relatively strong, grassroots

and community-centered collaboration mechanisms remain weak. This is particularly important because sustainable tourism literature consistently identifies local community participation as a fundamental pillar of destination sustainability and resilience (Jamal & Getz, 1995; Tosun, 2000). The findings suggest a disconnect between higher-level institutional collaboration and localized operational participation within Kenya's Coastal Tourism Circuit. Multiple contextual factors may explain this outcome. In developing destinations, tourism sustainability initiatives are typically policy-driven and institutionally coordinated, with minimal direct involvement of local communities and small-scale tourism operators in implementation processes (Tosun, 2000; Hall, 2011). In addition, resource limitations, inadequate coordination mechanisms, and disparities in organizational capacity among tourism enterprises may further restrict localized collaborative action and hinder effective sustainability governance (Jamal & Getz, 1995; Dredge & Jamal, 2015). Moreover, tourism enterprises often emphasize compliance-oriented sustainability practices that enhance operational efficiency and regulatory adherence, while devoting less attention to broader community-focused environmental initiatives (Byrd, 2007; Tosun, 2000). This finding underscores a governance gap that has received limited empirical investigation within circular economy tourism research, especially in African coastal tourism destinations.

The findings demonstrated consistently high levels of agreement regarding the positive contribution of circular economy practices to sustainable destination competitiveness. Respondents agreed that sustainability practices enhance enterprise reputation, benefit local communities, generate long-term operational cost savings, and strengthen alignment with global green tourism trends. These results support previous studies suggesting that environmentally sustainable tourism destinations gain a competitive advantage by appealing to environmentally conscious travelers, thereby strengthening destination branding, and improving long-term resilience in international tourism markets (Dwyer et al., 2009; Pulido-Fernandez et al., 2019). The findings confirm that circular economy practices are perceived not only as environmental protection mechanisms, but also as strategic tools for enhancing destination attractiveness, enterprise performance, and tourism sustainability. Notably, tourism enterprises perceive sustainability practices as significantly enhancing destination reputation among tourists. This reflects the growing influence of global sustainability consciousness in tourism markets, where tourists currently prefer destinations regarded as environmentally responsible and socially sustainable. The findings suggest that circular economy practices contribute to both environmental conservation and destination differentiation and market positioning in highly competitive global tourism markets.

The mediation analysis produced one of the study's most significant contributions. The findings revealed that stakeholder collaboration fully mediated the relationship between policy and governance dimensions of the circular economy and sustainable destination competitiveness. Specifically, the direct effect of policy and governance on destination competitiveness became statistically insignificant after introducing stakeholder collaboration into the model, while the indirect effect remained highly significant. This provided strong empirical evidence that policy and governance frameworks alone are insufficient to generate sustainable destination competitiveness without effective stakeholder collaboration mechanisms. This represents a notable theoretical and empirical contribution to the tourism governance and circular economy literature, as previous studies have typically examined governance systems, sustainability practices, and stakeholder participation in isolation rather than within an integrated mediation framework. The findings introduce new empirical insight by demonstrating that stakeholder collaboration is the critical mechanism through which circular economy governance influences destination competitiveness. In practical terms, sustainability policies, environmental regulations, and circular economy governance frameworks are most effective when tourism enterprises, governments, communities, and other stakeholders actively collaborate during implementation. The mediation findings strongly support Stakeholder Theory, which posits that organizational and societal outcomes depend on the quality of relationships and collaboration among diverse stakeholder groups (Freeman, 1984). The results empirically confirm that collaborative stakeholder relationships are essential for translating sustainability governance into tangible destination competitiveness outcomes. Similarly, the findings support Ecological Modernization Theory, which argues that environmental sustainability and economic competitiveness can be achieved simultaneously through institutional reform, governance innovation, and sustainable production systems (Mol & Spaargaren, 2000). The observed positive relationships among circular economy governance, stakeholder collaboration, and destination competitiveness demonstrate that environmental sustainability initiatives can generate both ecological and economic benefits within tourism destinations. Additionally, the findings extend

Institutional Theory by demonstrating that institutional effectiveness alone does not guarantee sustainable tourism competitiveness (Scott, 2008). Inextricably linked, institutional governance structures are effective when they facilitate cooperation, shared responsibility, and collective action among tourism stakeholders. This represents a significant theoretical refinement by highlighting the interactive relationship between institutional governance and collaborative stakeholder systems in circular economy transitions. This study provided substantial empirical evidence that policy and governance dimensions of the circular economy significantly influence sustainable destination competitiveness within Kenya's Coastal Tourism Circuit, both directly and indirectly through stakeholder collaboration. Overall, the results demonstrated that circular economy governance is emerging as a strategic pathway for tourism destinations to pursue environmental sustainability, economic resilience, destination attractiveness, and long-term competitiveness simultaneously. These findings contribute to the international discourse on sustainable tourism transitions by empirically linking circular economy governance, collaborative stakeholder systems, and destination competitiveness in the context of a developing coastal tourism destination.

The study yielded several important implications for policy and practice. First, national and county governments should strengthen institutional enforcement mechanisms for environmental sustainability in tourism destinations by improving monitoring systems, regulatory coordination, and compliance frameworks. Second, tourism policy frameworks should include stronger financial and technical incentives to encourage tourism enterprises to adopt circular economy innovations, such as green certification programs, tax incentives, sustainability grants, and technical capacity-building initiatives. Third, tourism governance systems should prioritize localized, community-centered collaboration by actively integrating local communities, small tourism enterprises, environmental groups, and informal sector actors into sustainability initiatives and destination governance processes. Fourth, the findings indicated that sustainability practices are associated with improved reputation, competitiveness, and tourist attraction, suggesting that implementing the circular economy can serve as a strategic market-positioning tool in global tourism markets. Therefore, tourism enterprises should integrate circular economy principles into long-term strategic planning and destination branding initiatives. Finally, policymakers should recognize stakeholder collaboration as a central governance mechanism in sustainable tourism transitions, rather than merely a supportive administrative process. As such, strengthening collaborative governance structures is essential for enhancing resilience, sustainability, and long-term competitiveness within Kenya's Coastal Tourism Circuit and other emerging tourism destinations across Africa.

CONCLUSION

This study investigated the impact of policy and governance aspects of the circular economy on sustainable destination competitiveness in Kenya's Coastal Tourism Circuit, focusing on the mediating role of stakeholder collaboration. The results indicated that circular economy governance practices, particularly those involving waste management regulations, recycling initiatives, environmental sustainability policies, and the reduction of single-use plastics, were integrated into the operations of registered accommodation facilities in the region. These practices were found to enhance sustainable destination competitiveness by improving enterprise reputation, aligning with global green tourism trends, thereby generating long-term operational benefits, and supporting community well-being. Nevertheless, the research identified significant governance and implementation gaps, including challenges in environmental policy enforcement, institutional support systems, government incentives, and localized collaborative engagement. Although the accommodation facilities exhibited high compliance with sustainability-oriented practices, institutional mechanisms for implementing circular economy principles were perceived as weak and inconsistently enforced. Furthermore, localized and community-centered collaboration initiatives were found to be underdeveloped, despite strong institutional and inter-organizational cooperation among stakeholders in the tourism sector. Overall, the findings suggested that successful circular economy transitions in tourism destinations require robust policy frameworks, coordinated governance systems, institutional capacity, and inclusive stakeholder participation mechanisms.

The study found that stakeholder collaboration fully mediates the relationship between the policy and governance dimensions of the circular economy and sustainable destination competitiveness. The results indicated that policy and governance frameworks alone are insufficient to achieve sustainable competitiveness without effective

collaboration among tourism enterprises, governments, communities, and other stakeholders. The research contributed to the literature on sustainable tourism and the circular economy by providing empirical evidence that collaborative governance mechanisms are a critical pathway through which circular economy policies affect destination sustainability and competitiveness in developing coastal tourism destinations. The study also supported Ecological Modernization Theory, Stakeholder Theory, and Institutional Theory, demonstrating that environmental sustainability, institutional governance, and stakeholder collaboration are mutually reinforcing elements of sustainable tourism competitiveness. From a practical perspective, the findings highlighted the need for stronger policy enforcement, improved institutional coordination, enhanced sustainability incentives, and greater integration of local communities into the implementation of the circular economy within Kenya's Coastal Tourism Circuit. In conclusion, strengthening circular-economy governance and collaborative stakeholder systems is essential to advancing environmental sustainability, destination resilience, and long-term tourism competitiveness in Kenya and other emerging tourism destinations.

Limitation

While this study advanced the understanding of circular economy governance and sustainable destination competitiveness in Kenya's Coastal Tourism Circuit, the following five limitations should be taken into account when applying the findings. First, although the cross-sectional research design, which involved collecting data at a single point in time, was suitable for examining relationships among variables, it restricted the ability to establish causality or observe changes in circular economy practices and stakeholder collaboration over time (Bryman, 2016; Creswell & Creswell, 2018). Future research should therefore consider longitudinal designs to assess how circular economy governance and destination competitiveness develop over time. Second, because the independent, mediating, and dependent variables were collected from the same respondents using a single survey instrument at a single point in time, the study may have been susceptible to common method bias (CMB). Common method bias occurs when measurement error attributable to the data collection method artificially inflates or deflates observed relationships among variables (Podsakoff et al., 2003). Although procedural remedies such as clear questionnaire design, assurances of anonymity, and careful item wording were implemented to minimize this risk, the possibility that common method variance may have influenced the observed relationships cannot be entirely ruled out. Future research could address this limitation by employing multiple data sources, collecting data from different respondent groups, or adopting longitudinal and mixed-method approaches to reduce potential method-related bias (Podsakoff et al., 2003; Podsakoff et al., 2012). Third, the study focused on registered accommodation facilities in Mombasa, Kwale, Kilifi, and Lamu Counties, which may not reflect the experiences of other tourism subsectors, such as tour operators, transport providers, restaurants, marine tourism operators, and informal tourism actors within Kenya's coastal tourism economy. Therefore, the generalizability of the findings is limited to regulated accommodation establishments in these counties. Future studies should broaden the analysis to include multiple tourism subsectors and a wider range of destination stakeholders. Additionally, the study focused on policy and governance aspects of the circular economy, as well as stakeholder collaboration, as primary explanatory factors for sustainable destination competitiveness. However, according to Dwyer & Kim (2003), destination competitiveness is influenced by additional factors, including infrastructure development, tourism innovation, political stability, market dynamics, climate change adaptation, and destination marketing strategies. Given that these factors were beyond the scope of this study, future research should incorporate further contextual and structural variables to achieve a more comprehensive understanding of sustainable tourism competitiveness in coastal destinations. Finally, although this study provided valuable empirical evidence on circular economy governance in an African tourism context, research on circular economy practices in tourism destinations within developing countries remains limited. This limitation reduced the availability of context-specific empirical studies for comparison, particularly in African coastal tourism destinations. Nonetheless, this study established a foundation for future research on circular economy transitions, collaborative governance, and sustainable tourism competitiveness in emerging tourism economies.

REFERENCES

1. Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interactions. SAGE Publications.
2. Akoglu, H. (2018). User's guide to correlation coefficients. Turkish Journal of Emergency Medicine, 18(3), 91–93. https://doi.org/10.1016/j.tjem.2018.08.001
3. Amankwah-Amoah, J., Adomako, S., & Boso, N. (2021). Circular economy and sustainable tourism practices in emerging economies: Insights from Africa. Tourism Review International, 25(4), 289–304.
4. Babbie, E. R. (2020). The practice of social research (15th ed.). Cengage Learning.
5. Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173
6. Boone, H. N., Jr., & Boone, D. A. (2012). Analyzing Likert data. Journal of Extension, 50(2), Article 48. https://doi.org/10.34068/joe.50.02.48
7. Bryman, A. (2016). Social research methods (5th ed.). Oxford University Press.
8. Byrd, E. T. (2007). Stakeholders in sustainable tourism development and their roles: Applying stakeholder theory to sustainable tourism development. Tourism Review, 62(2), 6–13. https://doi.org/10.1108/16605370780000309
9. Camilleri, M. A. (2018). The tourism industry: An overview. In Travel marketing, tourism economics and the airline product (pp. 3–27). Springer. https://doi.org/10.1007/978-3-319-49849-2_1
10. Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.
11. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297–334 https://doi.org/10.1007/BF02310555
12. Dawson, J. F. (2014). Moderation in management research: What, why, when, and how. Journal of Business and Psychology, 29(1), 1–19. https://doi.org/10.1007/s10869-013-9308-7
13. De Angelis, R., Reynolds, L., Koenig-Lewis, N., & Bosangit, C. (2024). Conceptualising circular tourism: Taking a place-based eco-system perspective. Journal of Circular Economy, 3(1), 1–18. https://doi.org/10.55845/TVUZ5672
14. DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. American Sociological Review, 48(2),147–160. https://doi.org/10.2307/2095101
15. Dredge, D., & Jamal, T. (2015). Progress in tourism planning and policy: A post-structural perspective on knowledge production. Tourism Management, 51, 285–297. https://doi.org/10.1016/j.tourman.2015.06.002
16. Dwyer, L., & Kim, C. (2003). Destination competitiveness: Determinants and indicators. Current Issues in Tourism, 6(5), 369–414. https://doi.org/10.1080/13683500308667962
17. Dwyer, L., Edwards, D., Mistilis, N., Roman, C., & Scott, N. (2009). Destination and enterprise management for a tourism future. Tourism Management, 30(1), 63–74. https://doi.org/10.1016/j.tourman.2008.04.002
18. Ellen MacArthur Foundation. (2019). Completing the picture: How the circular economy tackles climate change. Ellen MacArthur Foundation. https://www.ellenmacarthurfoundation.org/completing-the-picture
19. European Commission. (2025). INCIRCLE: Advancing circular economy in Mediterranean tourism. European Union Tourism Platform. https://tourism.ec.europa.eu/incircle-advancing-circular-economy-mediterranean-tourism
20. Field, A. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). Sage Publications.
21. Fowler, F. J. (2014). Survey research methods (5th ed.). Sage Publications
22. Freeman, R. E. (1984). Strategic management: A stakeholder approach. Pitman. https://doi.org/10.1017/CBO9781139192675
23. Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The circular economy: A new sustainability paradigm? Journal of Cleaner Production, 143, 757-768. https://doi.org/10.1016/j.jclepro.2016.12.048

24. George, D., & Mallery, P. (2020). IBM SPSS statistics 26 step by step: A simple guide and reference (16th ed.). Routledge. https://doi.org/10.4324/9780429056765
25. Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. International Journal of Endocrinology and Metabolism, 10(2), 486-489. https://doi.org/10.5812/ijem.3505
26. GoK. (2022). Kenya blue economy strategy and implementation plan 2022-2027. Government Printer.
27. GoK. (2023). Kenya sustainable tourism agenda and policy framework. Ministry of Tourism and Wildlife.
28. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage Learning. https://www.cengage.com/c/multivariate-data-analysis-8e-hair/9781473756540/
29. Hall, C. M. (2011). Policy learning and policy failure in sustainable tourism governance: From first- and second-order to third-order change? Journal of Sustainable Tourism, 19(4-5), 649-671. https://doi.org/10.1080/09669582.2011.555555
30. Harpe, S. E. (2015). How to analyze Likert and other rating scale data. Currents in Pharmacy Teaching and Learning, 7(6), 836-850. https://doi.org/10.1016/j.cptl.2015.08.001
31. Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). Guilford Press.
32. Jamal, T. B., & Getz, D. (1995). Collaboration theory and community tourism planning. Annals of Tourism Research, 22(1), 186–204. https://doi.org/10.1016/0160-7383(94)00067-3
33. Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. British Journal of Applied Science & Technology, 7(4), 396-403. https://doi.org/10.9734/BJAST/2015/14975
34. Kaiser, H. F. (1974). An index of factorial simplicity. Psychometrika, 39(1), 31-36. https://doi.org/10.1007/BF02291575
35. Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. Resources, Conservation and Recycling, 127, 221-232. https://doi.org/10.1016/j.resconrec.2017.09.005
36. Kothari, C. R. (2004). Research methodology: Methods and techniques (2nd ed.). New Age International Publishers.
37. Mensah, I. (2019). Waste management practices of small hotels in Ghana: An application of the waste management hierarchy model. Journal of Global Business Insights, 4(1), 42-57.
38. Mol, A. P. J., & Spaargaren, G. (2000). Ecological modernization theory in debate: A review. Environmental Politics, 9(1), 17–49. https://doi.org/10.1080/09644010008414511
39. National Environment Management Authority (NEMA). (2022). State of the coast report for Kenya. NEMA.
40. Mugenda, O. M., & Mugenda, A. G. (2003). Research Methods: Quantitative and Qualitative Approaches. African Centre for Technology Studies (ACTS) Press.
41. Nibigira, C. (2023). Sustainable tourism governance and environmental conservation in Rwanda. African Journal of Hospitality, Tourism and Leisure, 12(2), 512–526.
42. Njoroge, J. M., Atieno, L., & Do Valle, P. O. (2023). Sustainable tourism governance and stakeholder collaboration in coastal destinations in Kenya. African Journal of Hospitality, Tourism and Leisure, 12(4), 1187-1203.
43. Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.
44. Odhiambo, G. O., Akivaga, G., & Okeyo, D. O. (2023). Circular economy practices and environmental sustainability of star-rated hotels in Kenya. Journal of Tourism and Sustainable Development, 5(1), 45–62.
45. Ogutu, M. O., Akor, J., Mulindwa, M. S., Heshima, O., & Nsengimana, C. (2023). Implementing circular economy and sustainability policies in Rwanda: Experiences of Rwandan manufacturers with the plastic ban policy. Frontiers in Sustainability, 4, Article 1092107. https://doi.org/10.3389/frsus.2023.1092107
46. Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

47. Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. Annual Review of Psychology, 63, 539–569. https://doi.org/10.1146/annurev-psych-120710-100452
48. Potting, J., Hekkert, M., Worrell, E., & Hanemaaijer, A. (2017). Circular economy: Measuring innovation in the product chain (Policy Report No. 2544). PBL Netherlands Environmental Assessment Agency. https://www.pbl.nl/en/publications/circular-economy-measuring-innovation-in-product-chains
49. Pulido-Fernández, J. I., Cárdenas-García, P. J., & Espinosa-Pulido, J. A. (2019). Does environmental sustainability contribute to tourism growth? An analysis at the country level. Journal of Cleaner Production, 213, 309-319. https://doi.org/10.1016/j.jclepro.2018.12.151
50. Rodríguez, C., Florido, C., & Jacob, M. (2020). Circular economy contributions to the tourism sector: A critical literature review. Sustainability, 12(11), 4338. https://doi.org/10.3390/su12114338
51. Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students (8th ed.). Pearson Education.
52. Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. Anesthesia & Analgesia, 126(5), 1763-1768. https://doi.org/10.1213/ANE.0000000000002864
53. Scott, W. R. (2008). Institutions and organizations: Ideas and interests (3rd ed.). Sage Publications.
54. Siakwah, P. (2018). Tourism geographies and spatial distribution of tourist sites in Ghana. African Journal of Hospitality, Tourism and Leisure, 7(1), 1-19. https://www.ajhtl.com/uploads/7/1/6/3/7163688/article_9_vol_7__1__2018.pdf
55. Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. Sociological Methodology, 13, 290–312. https://doi.org/10.2307/270723
56. Strippoli, R., Gallucci, T., & Ingrao, C. (2024). Circular economy and sustainable development in the tourism sector: An overview of the truly-effective strategies and related benefits. Heliyon, 10(17), Article e36801. https://doi.org/10.1016/j.heliyon.2024.e36801
57. Sullivan, G. M., & Artino, A. R., Jr. (2013). Analyzing and interpreting data from Likert-type scales. Journal of Graduate Medical Education, 5(4), 541–542. https://doi.org/10.4300/JGME-5-4-18
58. Tabachnick, B. G., & Fidell, L. S. (2019). Using multivariate statistics (7th ed.). Pearson.
59. Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. Research in Science Education, 48(6), 1273-1296. https://doi.org/10.1007/s11165-016-9602-2
60. Tosun, C. (2000). Limits to community participation in the tourism development process in developing countries. Tourism Management, 21(6), 613–633. https://doi.org/10.1016/S0261-5177(00)00009-1
61. TRA (2025). Registered Accommodation Facilities in Kenya's Coastal Counties. Tourism Regulatory Authority
62. Tran, T. (2025). Applying circular economy to regenerative tourism on island: Insights from Con Dao, Vietnam. International Journal of Qualitative Research, 4(3), 274-284. https://doi.org/10.47540/ijqr.v4i3.1771
63. United Nations Environment Programme, & UN Tourism. (2020). Sustainable tourism governance and destination management. UNEP; UNWTO.
64. United Nations Environment Programme. (2021). Marine litter and plastic pollution in East Africa: Regional overview and policy recommendations. UNEP.
65. VOV World. (2025). Con Dao embraces circular economy to protect nature, drive sustainable tourism. Voice of Vietnam. https://vovworld.vn/economy/con-dao-embraces-circular-economy-to-protect-nature-drive-sustainable-tourism-2239585.vov5
66. World Bank. (2022). Rwanda economic update: Leveraging tourism for sustainable growth. World Bank Group.
67. Yamane, T. (1967). Statistics: An introductory analysis (2nd ed.). Harper and Row.
68. York, R., & Rosa, E. A. (2003). Key challenges to ecological modernization theory: Institutional efficacy, case study evidence, units of analysis, and the pace of eco-efficiency. Organization & Environment, 16(3), 273-288. https://doi.org/10.1177/1086026603256299