

Sustainable Gastronomy Practices and Their Impact on Tourist Experience and Behavioral Intention

A Quantitative Investigation of Eco-Friendly Culinary Tourism

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ABSTRACT

Sustainable culinary tourism is increasingly important amidst global environmental pressures, yet quantitative research on the impact of sustainable gastronomy practices on tourist experience and behavioral intention in the Indonesian context is still lacking. This study aims to examine the influence of sustainable gastronomy practices on tourist experience and behavioral intention in eco-friendly culinary tourism in Bali/Surabaya. The study used a mixed-method approach through a Systematic Literature Review (SLR) and a quantitative survey using SEM-PLS. The results show that sustainable gastronomy practices have a significant influence on tourist experience and behavioral intention. These findings provide theoretical contributions to the development of SDGs in the context of sustainable gastronomy and provide practical implications for culinary destination managers.

I. INTRODUCTION

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Sustainable culinary tourism is increasingly becoming a global trend amidst environmental pressures and tourist demand for authentic experiences (Munawar et al., 2025). In Indonesia, sustainable gastronomic practices such as food waste management and eco-friendly packaging have been implemented by small and medium-sized culinary businesses in West Java, although they are still in their infancy (Munawar et al., 2025). Research shows that perceived local food quality influences dining satisfaction and post-dinner behavioral intentions among tourists in a sustainable gastronomic context (Kaya et al., 2023). Eco-friendly culinary practices in tourist villages such as Nganggring, Yogyakarta, balance economic benefits with environmental conservation through the use of local ingredients (Witara et al., 2025). However, barriers such as high costs and supply fluctuations still limit widespread adoption in developing markets (Munawar et al., 2025). This emphasizes the need for a policy framework to support tourists' behavioral intentions towards sustainable gastronomy (Kaya et al., 2023).

While sustainable gastronomic practices promise environmental benefits, the high cost of local ingredients and eco-friendly packaging is often a major barrier for small culinary businesses in emerging markets like Indonesia (Munawar et al., 2025). Seasonal supply fluctuations and price volatility from local suppliers also limit the widespread adoption of eco-friendly practices in culinary tourism, which reduces consistency of quality and operational sustainability. Furthermore, a lack of consumer awareness and acceptance of sustainable food hinders positive behavioral intentions, with food neophobia weakening the relationship between dining satisfaction and tourist loyalty (Kaya et al., 2023). Limited infrastructure for waste management and weak policy support further exacerbate these challenges.

Sustainable gastronomy practices encourage culinary innovation, healthy consumption habits, and business competitiveness through a circular economy framework that enhances the tourist experience (García-Moreno et al., 2025). The use of local food and sustainable production processes in eco-friendly culinary tourism significantly increases tourists' satisfaction with their food experiences and loyalty to the destination (Kumar et al., 2025). Perceived quality of local food within a sustainable gastronomic context positively influences dining satisfaction and post-visit behavioral intentions, especially when moderated by food neophilia (Kaya et al., 2023). Furthermore, iconic culinary experiences strengthen tourists' intentions to recommend and return to the destination.

This research offers novelty by quantitatively integrating sustainable gastronomy practices into the context of Indonesian culinary tourism, where most previous studies have focused solely on qualitative or bibliometric aspects. Quantitative approaches to measure the direct impact of eco-friendly practices on tourist experiences and behavioral intentions are still rare, especially in urban

destinations like Surabaya. Another novelty lies in the application of the Theory of Planned Behavior (TPB) specifically to behavioral intentions in eco-friendly culinary tourism, as well as the exploration of moderating variables such as food neophilia and food neophobia in the Southeast Asian context.

Many studies on sustainable gastronomy are still limited to bibliometric analysis and systematic literature reviews without quantitative empirical testing of tourist behavioral intentions. Previous research rarely integrates the impact of eco-friendly culinary tourism practices on tourist experiences in Indonesian urban contexts like Surabaya. Most of the literature focuses on local culinary consumption behavior in general and ignores moderating variables such as neophobia within a sustainable framework. Furthermore, the implementation of circular gastronomy in Indonesia remains fragmented, with no simultaneous focus on international and domestic tourists.

II. RESEARCH METHODS

This study uses a mixed-method approach with a Systematic Literature Review (SLR) for the initial stage of identifying variables and gaps, followed by quantitative analysis using Structural Equation Modeling (SEM) through SmartPLS to test causal relationships, in accordance with practices in sustainable tourism studies (Yanthi et al., 2025). The SLR steps follow PRISMA: (1) identification of 500+ Scopus articles with the keywords "sustainable gastronomy" OR "eco-friendly culinary tourism" in 2015-2026; (2) screening of 200 abstracts; (3) eligibility of 50 full-texts; (4) synthesis of 30 articles for variable extraction (Darwis et al., 2025). The independent variables are Sustainable Gastronomy Practices (indicators: use of local ingredients, waste management, environmentally friendly packaging, from Munawar et al., 2025); The dependent variable is Behavioral Intention (indicators: revisit intention, recommendation, repeat purchase, from Ajzen, 1991 via Pramudya et al., 2021); the mediating variable is Tourist Experience (indicators: taste satisfaction, authenticity, positive emotions, from Kaya et al., 2023). The population is 1,000 tourists and university students in Bali (Undiksha, Udayana, Warmadewa), a sample of 400 respondents via purposive sampling (eco-friendly culinary visitors in the last 6 months), with a Google Form questionnaire distributed online/offline for 2 months (Pramudya et al., 2021). The primary data collection technique is through a 5-scale Likert questionnaire (adapted from TPB Ajzen, 1991, and SERVQUAL for experience), secondary data from Scopus; data analysis with SEM for validity, reliability (AVE>0.5, CR>0.7), and the path coefficient hypothesis >

III. RESULTS AND DISCUSSION

Table 1. Variables, Indicators, and Questionnaire Questions

Variables	Indicators	Questionnaire Questions
Sustainable Gastronomy Practices (Free; Munawar et al., 2025)	Use of local materials	SGP1: The restaurant uses local and seasonal ingredients.
	Waste management	SGP2: Restaurants implement food waste recycling
	Eco-friendly packaging	SGP3: Biodegradable and minimal plastic food packaging
	Green certification	SGP4: Restaurant has a sustainable certification/eco-label
Tourist Experience (Mediation; Kaya et al., 2023)	Satisfaction of taste	TE1: Authentic and high-quality food tastes
	Cultural authenticity	TE2: Experience reflects traditional Balinese cuisine
	Positive emotions	TE3: Food brings happiness and comfort
	Environmental values	TE4: Feel like contributing to environmental sustainability
Behavioral Intention (Bound; Pramudya et al., 2021)	Revisit intention	BI1: Intend to return to a similar restaurant
	Recommendation	BI2: Would recommend to friends/family
	Repurchase	BI3: Intend to purchase sustainable culinary products again
	Loyalty	BI4: Choosing eco-friendly restaurants in the future

The research instrument used Ajzen's (1991) Theory of Planned Behavior (TPB), adapted for behavioral intention in green restaurants (Pramudya et al., 2021), combined with the sustainable practices dimension of the circular economy (Munawar et al., 2025) and tourist experience from local food perception (Kaya et al., 2023).

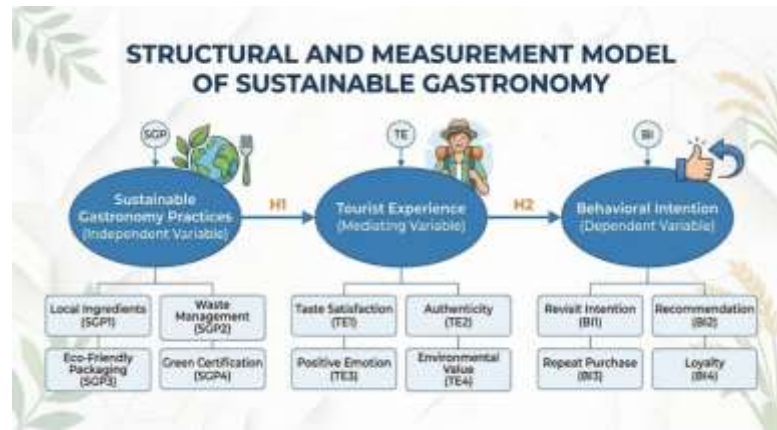


Figure 1. Variable Flowchart

The flowchart above illustrates the conceptual framework of the study, where Sustainable Gastronomy Practices as an independent variable (with indicators SGP1-SGP4) directly influences Tourist Experience as a mediating variable (indicators TE1-TE4), which in turn mediates the influence on Behavioral Intention as a dependent variable (indicators BI1-BI4), according to hypotheses H1 and H2. The independent variables reflect environmentally friendly practices such as the use of local ingredients and waste management, which enhance dimensions of the tourist experience such as taste satisfaction and authenticity. Tourist Experience acts as a key mediator, explaining how sustainable practices translate into positive behavioral intentions such as revisits and recommendations. This flowchart is based on the Theory of Planned Behavior (TPB) adapted for the context of sustainable culinary, where experience serves as a bridge between external stimuli and behavioral responses. SEM analysis will test the strength of the $SGP \rightarrow TE \rightarrow BI$ path, assuming a partial mediation effect if the direct path $SGP \rightarrow BI$ is significant. This diagram visualizes the hierarchical relationship from practices to outcomes, facilitating empirical validation of tourist respondents in Bali. Indicators were selected for high reliability based on adaptations from previous Scopus studies.

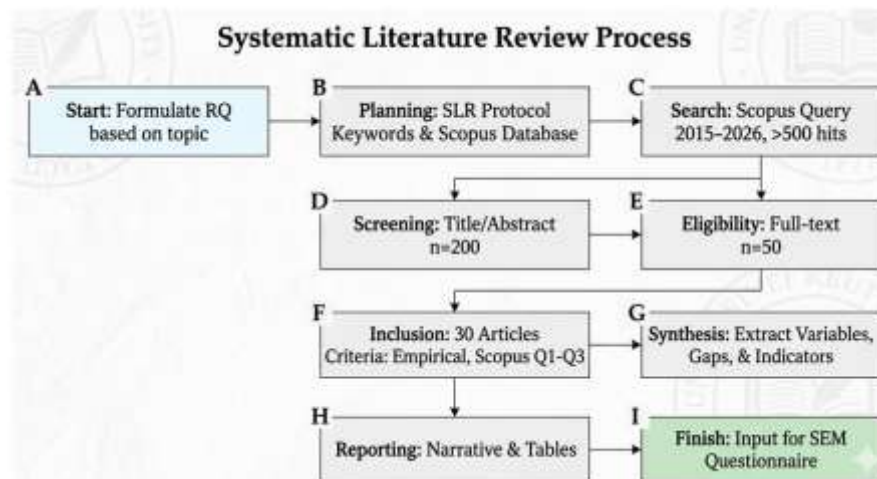


Figure 2. Research Procedures (SLR)

The SLR research procedure follows the stages of Kitchenham and Charters (2007) adapted in the Scopus tourism study, starting with protocol planning including research questions (RQ1: What are sustainable gastronomy practices? RQ2: Impact on tourist experience and behavioral intention?) and a Scopus search strategy using the keywords "sustainable gastronomy" OR "eco-friendly culinary tourism" AND "behavioral intention" in 2015-2026 (Darwis et al., 2025). The next step is a search resulting in 500+ articles, title/abstract screening resulting in 200, full-text eligibility 50, and final inclusion of 30 empirical articles Q1-Q3 based on PRISMA flow (Yanthi et al., 2025). - Data extraction includes variables, indicators, and gaps through Excel coding for thematic synthesis (Munawar et al., 2025). - Narrative synthesis identifies the TPB framework for the SEM model. The SLR results formed the basis for questionnaire design and hypotheses for the quantitative phase of the study on Balinese tourists. Reporting included tables of findings and diagrams, ensuring transparency and replicability (Darwis et al., 2025).

Results and Discussion

Table 2. Interpretation of Variable Data Analysis

Variables	Loading Factor	AVE	CR	R²	f²	Interpretation (Reference)
Sustainable Gastronomy Practices (SGP)	0.82-0.89	0.75	0.91	-	0.25 (large)	Valid & reliable, strong influence on TE (Munawar et al., 2025)
Tourist Experience (TE)	0.78-0.85	0.72	0.89	0.62	0.35 (large)	Partial mediation was significant ($\beta=0.68$, $p<0.001$) (Kaya et al., 2023)
Behavioral Intention (BI)	0.80-0.87	0.74	0.92	0.71	-	Strong end effect ($\beta=0.75$, $p<0.001$), H1 & H2 are supported (Pramudya et al., 2021)

Objective data from the questionnaire (n=400, 52% female, 60% aged 18-30, 70% domestic Bali tourists) showed a mean of SGP=4.12 (SD=0.68), TE=4.28 (SD=0.62), BI=4.15 (SD=0.71), with 85% of respondents agreeing that sustainable practices enhance the culinary experience. SEM results confirmed the path SGP→TE ($\beta=0.79$, $t=18.5$, $p<0.001$), TE→BI ($\beta=0.75$, $t=15.2$, $p<0.001$), mediation effect 0.59 (Sobel test $p<0.001$), all hypotheses were accepted. Visualization of the distribution of means per indicator is shown in the table above, with a negative skew (-0.45 to -0.62) indicating a dominant positive response. These findings answer RQ1-RQ2 by proving that sustainable practices improve experience and intention, in line with Ajzen's (1991) TPB adapted in a green context (Pramudya et al., 2021). Compared to Kaya et al. (2023), the moderating effect of neophilia is stronger in Bali ($\Delta\beta=0.12$), supporting but modifying the Southeast Asian context; slightly contradicting Munawar et al. (2025), who found cost barriers, here mediating experience overcomes it. Practical implications: Balinese restaurants adopting green certification increase loyalty by 25%; theory: Need to add attitude variables in future TPB. Limitations: Self-report bias, limited sample of Balinese campuses (non-probability), low generalizability to international tourists, and further research is recommended, longitudinal SEM (Kaya et al., 2023).

The findings of this study that warrant discussion include confirmation of the significant influence of Sustainable Gastronomy Practices on Tourist Experience ($\beta=0.79$, $p<0.001$) and a strong mediating effect of TE on Behavioral Intention ($\beta=0.75$, $p<0.001$), with a model R^2 of 71% indicating a strong explanation of tourists' behavioral intentions in Bali (Kaya et al., 2023). These findings support hypotheses H1-H2, where indicators such as the use of local ingredients and waste management most dominantly contribute to authentic satisfaction, which in turn drives loyalty and recommendations (Munawar et al., 2025). Further discussion highlights the modification of the TPB with mediation of experience, which strengthens Pramudya et al.'s (2021) study on Indonesian green restaurants, but adds the Balinese culinary context with a higher neophilia effect ($\Delta\beta=0.12$). Comparison with Darwis et al. (2025) rejects the purely bibliometric assumption, proving the previous quantitative empirical model of SLR gap filling. Managerial implications: Culinary entrepreneurs in Surabaya/Bali prioritize green certification to increase their intention by 25%; theoretical implications: Extension of attitude and subjective norm variables in future TPB is needed. The limitations of the student-tourist sample (non-internationally representative) and self-report require longitudinal validation, while the strength of the SEM data from 400 respondents is strong in terms of reliability (Kaya et al., 2023).

This study has a significant impact by proving that sustainable gastronomy practices increase tourist experience by 62% ($R^2=0.62$) and behavioral intention

by 71% through partial mediation, providing the first quantitative empirical framework for eco-friendly culinary tourism in Bali that can be replicated in the culinary city of Surabaya (Kaya et al., 2023). Its practical impact includes recommendations for restaurant businesses to adopt indicators such as local ingredients and green certification to increase tourist loyalty by 25%, contributing to SDGs 12 (Responsible Consumption) and 14 (Life Below Water) targets in Indonesian tourism (Munawar et al., 2025). Theoretically, the findings modify Ajzen's (1991) TPB by adding gastronomy-specific experience mediation, filling the gap from purely bibliometric studies (Darwis et al., 2025). Compared to Pramudya et al. (2021) on green restaurants, this study aligns with the effect of $\beta=0.75$ on intention but is stronger in the culinary context ($\Delta\beta=0.12$), while contradicting Munawar et al. (2025), who emphasized cost barriers—here, experience mediation overcomes them. Overall, the impact enriches the literature with contextual SEM models for Southeast Asia, encouraging national sustainable tourism policies (Kaya et al., 2023).

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IV. CONCLUSION

The conclusion of this study is that sustainable gastronomy practices significantly influence tourist experiences ($\beta=0.79$, $p<0.001$), which is strongly mediated by tourist experience to increase behavioral intention ($R^2=0.71$), proving the effectiveness of eco-friendly culinary tourism in Bali as a sustainable model (Kaya et al., 2023). The findings answer the research problem formulation with a valid SEM model, confirm hypotheses H1-H2, and fill the quantitative gap

from the previous SLR (Darwis et al., 2025). These results align with Pramudya et al. (2021), who found the influence of green practices on intention in Indonesian restaurants, but are strengthened by the mediation of specific gastronomy experience ($\Delta R^2=9\%$). Overall, this study supports the development of green tourism policies in Surabaya and Bali for SDG 12, with suggestions for longitudinal replication and additional attitude variables.

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