

Application of Soft Systems Methodology Approach to Find Sustainable Gastronomic Solutions in Bali, Indonesia

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The research described spans from December 2022 to September 2023, covering the application of Soft Systems Methodology (SSM) to understand stakeholder interactions and gastronomy tourism elements in Bali, Indonesia, and the subsequent exploration of sustainable gastronomic solutions within this timeframe. The study utilizes a case study approach to investigate the challenges and opportunities of gastronomy tourism development in Bali. Through interviews, document study, and observations, diverse stakeholder perspectives, including those of local communities, tourists, restaurateurs, and government bodies, are captured and modeled. The findings underscore preserving culinary traditions, supporting local businesses, and ensuring environmental sustainability for gastronomy tourism's positive impact. SSM proves effective in promoting inclusive and sustainable practices in gastronomy tourism development. Insights from the case study stress the need for context-specific strategies and engaging diverse stakeholders in decision-making processes. The study advocates for the widespread adoption of SSM in gastronomy tourism initiatives, fostering a harmonious blend of cultural heritage preservation, local economic growth, and ecological sustainability in Bali and similar destinations worldwide. It has value for ongoing discourse regarding the development of sustainable and culturally sensitive gastronomic tourism.

Keywords: Soft Systems Methodology, gastronomy tourism, Balinese cuisine



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Introduction

Gastronomy tourism, a rapidly growing niche within the broader tourism industry, has garnered significant attention in recent years due to its potential for sustainable local development and cultural preservation (Hall, 2008; Sharpley & Telfer, 2016). This paper delves into the complexities of gastronomy tourism develop-

ment in Bali, Indonesia, recognizing the island's rich culinary heritage and its significance as a global tourist destination. Moreover, by blending culinary experiences with cultural heritage, gastronomy tourism offers a unique opportunity to showcase a destination's authentic identity and create meaningful interactions between tourists and local communities (Santich, 2004).

The rise of gastronomy tourism can be attributed to travellers' growing desire to explore authentic flavours and culinary traditions (Long, 2016). Additionally, destinations worldwide have acknowledged the economic benefits of promoting gastronomy tourism, leading to concerted efforts to showcase local food and beverage offerings. However, effective development of gastronomy tourism requires a nuanced understanding of the intricate interplay between culture, heritage, economics, and sustainability (Pipan & Gaćnik, 2021; Razpotnik Visković & Komac, 2021).

Bali, renowned for its cultural richness and natural beauty, has embraced gastronomy tourism as a means to highlight its authentic culinary identity. However, the transition from an agrarian society to a tourism-centric one has brought about profound changes, shaping the island's societal fabric and culinary landscape (Mudana et al., 2021).

The transformation of Bali from an agrarian society to a tourist-oriented one has been profound, a phenomenon catalysed by anthropologists like Clifford Geertz who propagated the notion of Bali as the 'garden of Eden' during the 1970s up until the early 2000s. This period witnessed massive development that reshaped the societal fabric.

Bali, as a province consisting of more than 3,000,000 people, is often considered a remote island despite its significant population density. Geographically, Bali is divided into 8 regencies and 1 capital city, with 51 districts and 565 villages (Pendit, 2001). Each regency/city in Bali contributes its own chapter to the story of Balinese cuisine, preserving age-old traditions while embracing innovation and adaptation (Wijaya et al., 2022). Moreover, the gastronomic richness of Bali show in Table 1.

In exploring the culinary landscape across Bali's eight regencies and its capital city, Denpasar, one embarks on a journey through a mosaic of flavours, each reflecting the distinct character of its locale. From the lush greenery of Tabanan to the bustling streets of Badung, every region contributes its unique ingredients, techniques, and narratives to Bali's gastronomic tapestry. In Tabanan, nestled amidst verdant rice terraces, traditional dishes like *Bebek Betutu* (slow-cooked duck) and *Lawar* (a mixed vegetable salad) are emblematic

of the region's agrarian roots. Here, meals are often prepared with ingredients sourced directly from local farms, celebrating the land's bounty and the farmer's labour. Travelling eastward to Bangli, the landscape shifts to rugged mountains and pristine lakes, influencing a cuisine characterized by hearty soups and grilled meats. Dishes like *Sate Lilit* (minced meat skewers) and *Babi Guling* (suckling pig) reflect the resourcefulness of the highland communities, utilizing every part of the animal in flavourful concoctions. In Gianyar, renowned for its cultural heritage, culinary traditions are deeply intertwined with artistic expression.

Venturing to Klungkung, with its historical significance and coastal charm, seafood takes centre stage in the local cuisine. Fresh catches like *Ikan Bakar* (grilled fish) and *Pepes Ikan* (steamed fish in banana leaves) showcase the bounty of the sea, while subtle spice blends evoke the region's maritime influences. In Karangasem, where the majestic Mount Agung looms large, flavours are as bold and vibrant as the volcanic landscape. Signature dishes such as *Be Siap Mesanten* (chicken in coconut milk) and *Lawar Kacang* (bean salad) are infused with aromatic spices, reflecting the region's fertile soil and rich cultural heritage. The urban hub of Denpasar, bustling with activity, offers a melting pot of culinary influences from across the archipelago. Here, street food stalls and warungs (small eateries) serve up a diverse array of dishes, from *Nasi Campur* (mixed rice) to *Mie Goreng* (fried noodles), catering to the eclectic tastes of locals and visitors alike.

Ubud, which is a tourist destination in Gianyar Regency, was known for the art and richness of the culinary, in 2018 Ubud was proposed as a design prototype by the Ministry of Tourism and Creative Economy (Kemendparekraf). Following a comprehensive series of evaluations and processes conducted by the United Nations World Tourism Organization (UNWTO), Ubud was officially designated as a UNWTO Gastronomy Tourism Project in 2023 (UN Tourism, 2023). This designation signifies a pivotal achievement, highlighting Ubud's rich culinary heritage and its potential as a premier destination for gastronomy tourism. The recognition underscores the strategic importance of Ubud in promoting sustainable and culturally enriching tourism practices. Moreover, by delving into

Table 1 The Cuisine Among Regencies/Cities in Bali

Regency/city	Cuisine	Dish	
Denpasar	Denpasar cuisine can be referred to as 'Pasar Cuisine' or 'Market Cuisine', reflecting its association with the bustling markets and vibrant culinary scene of the capital city.	Nasi Jinggo Nasi Campur Ayam Betutu Nasi Kuning Sate Lembang Botok Peda Bandeng Bumbu Bali Bebek Goreng Bebek Betutu Lempet Lawar Kuwir	Lawar Gurita Gondo Plecing Jukut Ares Klepon Kue Putu Batun Bedil Sambal Embe Sambal Matah Jukut Urap
Gianyar	Gianyar cuisine can be termed 'Royal Cuisine' or 'Heritage Cuisine', highlighting its rich cultural heritage and traditional culinary practices passed down through generations.	Lawar Plek Tipat Kare Ayam Betutu Gianyar Topot	Nasi Tepeng Nasi Tahu Ayam Betutu Urutan
Badung	Badung cuisine can be known as 'Coastal Cuisine' or 'Beachside Cuisine', emphasizing its focus on fresh seafood and flavours influenced by its proximity to the coast.	Berengkes Nyawan Be Pasih Mesambel Matah	Nasi Be Genyol Nasi Lawar Tipat Kalas
Klungkung	Klungkung cuisine can be called 'Palace Cuisine' or 'Royal Court Cuisine', underscoring its association with the historic Klungkung Palace and the royal culinary traditions of the region.	Serombotan Ledok Nusa Penida Sate Languan Bulung Kuah	Ikan Bakar Lawar Ikan Pepes Ikan Opokan Rujak Bir
Karangasem	Karangasem cuisine can be referred to as 'Mountain Cuisine' or 'Volcanic Cuisine', reflecting its unique flavours and ingredients sourced from the fertile volcanic soil of Mount Agung and the surrounding highlands.	Nasi Sela Plecing Telengis Pepes Telengis Sate Serapah Blayag Pecok Sagu	Komoh Be siap mesanten Be siap kalasan Lawar kacang Es Salak
Jembrana	Jembrana cuisine can be known as 'Rural Cuisine' or 'Countryside Cuisine', highlighting its focus on simple, rustic dishes made with locally-sourced ingredients from the region's picturesque countryside.	Jaje Bendu Lawar Klungah	Loloan Kondo

Continued on the next page

Ubud's culinary landscape, one can unravel the stories woven into each dish, from the farmers' fields to the dining table, and gain a deeper appreciation for the cultural heritage that sustains Bali's culinary legacy.

Bali's allure as a tourist destination primarily stems from its rich cultural heritage. Within the realm of cultural traditions, one aspect that warrants particular attention in this research is the culinary culture,

where the concept of gastronomy holds sway. The Triangle Concept of Indonesian Gastronomy (Figure 1) is a conceptual framework that provides a comprehensive understanding of the intricate interplay between culture, spices, and storytelling within Indonesian cuisine. It serves as a guiding principle for exploring the depth and richness of culinary traditions across the Indonesian archipelago.

Table 1 Continued from the previous page

Regency/city	Cuisine	Dish	
Bangli	Bangli cuisine can be termed 'Temple Cuisine' or 'Spiritual Cuisine', acknowledging its connection to the sacred temples and religious ceremonies of the region, with dishes often prepared for ceremonial occasions.	Jukut Kara and Waluh Sambal Tuung Kanji Suna Cekuh Sate Kebek Oret	Kripik Bayam Bebean Sate Lilit Babi Guling Lawar Penyon
Buleleng	Buleleng cuisine can be called 'Northern Cuisine' or 'Highland Cuisine', showcasing its distinct flavours and culinary traditions influenced by the region's mountainous terrain and cooler climate.	Tipat Blayag Entil Bubuh Mengguh Siobak Tipat Cantok Jukut Undis Lodek Jukut Buangit Jukut Antug-Antugan	Jaje Uler Jaje Gambir Dodol Tuak Manis Don Pokat Kopi Munduk Es Bir Rujak Es Biu Klutuk
Tabanan	Tabanan cuisine can be referred to as 'Rice Terrace Cuisine' or 'Agricultural Cuisine', highlighting its reliance on rice cultivation and agricultural practices, with dishes often featuring locally-grown rice and fresh produce from the region's fertile fields.	Entil Sambel Bejek Laklak Pisang Kuwir Nyatnyat Bubuh Baas Tambusan	Nasi Bejek Bebek Betutu Lawar Teh Beras Merah Nasi Angin

Note Source Wijaya et al. (2022)

This conceptual framework elucidates how culture, including ritual/ceremony in food and the spices used to cook the food, connect with the history of how the food is made and served and the way of eating thro-



Figure 1 The Triangle Concept of Indonesian Gastronomy, (Akademi Gastronomi Indonesia, 2016)

ugh storytelling. Storytelling intertwines to elucidate the essence of a dish. In the context of Bali, this translates into a vibrant tapestry of flavours and narratives woven into its culinary landscape. Each dish becomes a vessel for cultural expression, steeped in traditions passed down through generations. Through the lens of gastronomy, Bali's culinary heritage becomes not merely sustenance but a portal into its rich cultural tapestry. The transition of Bali's society from agrarian to tourism-centric has undoubtedly shaped its culinary landscape. Traditional dishes once confined to local kitchens have now found global acclaim with the influx of tourists seeking authentic cultural experiences. However, this transformation has also brought about challenges, such as preserving authenticity amidst commercialization and adapting to evolving tastes and preferences. Therefore, understanding and documenting the nuances of Bali's gastronomic heritage are imperative, not only for the preservation of cultural identity but also for fostering sustainable tourism practices. By examining the dynamic inte-

raction between culture, spices, and storytelling within the Triangle Concept of Indonesian Gastronomy, one gains a deeper appreciation for the diversity and complexity of Indonesian cuisine. This framework not only highlights the importance of preserving culinary heritage but also underscores the role of gastronomy in fostering cultural exchange, promoting sustainable tourism, and celebrating Indonesia's rich cultural identity on the global stage.

This study delves into the development of gastronomy tourism in Bali, Indonesia by employing the Soft Systems Methodology (SSM) as a comprehensive approach to address the intricate challenges and opportunities within the domain. Previous works have provided valuable insights into successful gastronomy tourism initiatives worldwide and have examined various methods applied to investigate and address the challenges destinations face in this domain (Sio et al., 2021; Lozanski & Baumgartner, 2020). The literature survey reveals that while several research efforts have explored gastronomy tourism development, there is still a notable gap concerning comprehensive frameworks that integrate the diverse perspectives of stakeholders. Additionally, limited attention has been given to employing rigorous methodologies that facilitate collaboration among stakeholders and ensure sustainable outcomes (Adams, 2020; Andereck & Vogt, 2023).

The primary objective of this study is to conducting a comprehensive investigation, we aim to foster inclusive stakeholder engagement, preserve cultural heritage, promote local economic growth, and ensure environmental sustainability. This research endeavour contributes to advancing the understanding and practice of gastronomy tourism development, offering a holistic approach tailored to Bali's unique context. Moreover, employing SSM helps the authors' aim to create a detailed and dynamic model that captures the intricacies of Bali's gastronomy tourism landscape.

Literature Review

The authors required important and relevant literature studies related to the existing ontological phenomena to address the research questions. Leong et al. (2016) study supports the concept of gastronomic

tourism in destination development, emphasizing the importance of experience, engagement, knowledge, and the combined influence of gastronomy and destination attractiveness in creating meaningful satisfaction for gastronomic tourists. Their quantitative approach, utilizing cross-sectional surveys and structural equation modelling (SEM) analysis, revealed that prior experience is the most influential factor, highlighting the significance of destination quality and the combined effect of gastronomy and destination attractiveness on tourist satisfaction.

Yariş et al. (2019) research on gastronomic tourism in Turkey found that strategies focusing on gastronomic tourism development can enhance destination attractiveness, stimulate local community participation, and create unique tourism experiences. These findings align with Leong et al.'s earlier study in 2016, reinforcing the idea that gastronomic tourism provides new experiences and satisfaction for tourists. Yariş et al.'s overall research in 2019 supports previous findings emphasizing the importance of gastronomic tourism development in building the local economy, increasing community participation, and enhancing tourist experiences.

Kastenholz et al. (2012) explored the development of tourist villages in Portugal, emphasizing the active participation of the local community in conveying the history and culture to visitors. The study highlighted the crucial roles of tour guides and local communities in explaining the village's history and culture to visitors. The research also indicated that local gastronomic experiences can create new tourism experiences through souvenirs, cooking classes, and raw material education, ultimately extending the tourists' stay in the village. This aligns with research in Bali, Indonesia, demonstrating the significant potential of local gastronomy in developing village tourism and creating sustainable social, cultural, economic, and environmental changes.

Renko et al. (2010) evaluation of tourists' perceptions of local food and its promotion in Croatia supports previous findings that local food has potential as an attraction in gastronomic tourism. Emphasizing the importance of promoting and strengthening the image of local food, the study concluded that knowl-

Table 2 Research timeframe

Activity	Time Frame
Conducting semi-structured interviews with stakeholders	December 2022 until February 2023
Collecting observational data during site visits to Bali, Indonesia	February 2023 until May 2023 (twice a month for data triangulation)
Data Analysis and Compilation	June 2023 until September 2023
Additional data visualization	April 2024

edge of local gastronomy, regional identity, and easily accessible information about authentic food contribute to enhancing the gastronomic tourism experience.

Jecan and Chaigasem (2021) qualitative study in Maha Sarakham Province, Thailand, focused on heritage-based cultural gastronomy. Identifying the primary motivations of tourists and the unique experience as significant influences, the research highlighted the reinforcing role of gastronomic tourism in creating satisfying experiences for tourists. Reflecting on the research context of Bali, Indonesia, Jecan and Chaigasem's findings emphasized the importance of understanding local gastronomy as a foundation for gastronomic tourism development. The study also underscored the need to educate gastronomic tourists to enhance their experiences. Overall, the reflection on previous research highlights the importance of relevant literature reviews, diverse research approaches, the role of gastronomy in tourism development, local community involvement, and the promotion of and information about local food.

This literature review demonstrates the significance of developing gastronomic tourism in Bali, Indonesia. The coherence among the findings in the literature mutually reinforces each other and strengthens the argument for conducting research in Bali, Indonesia. This research is crucial for designing, implementing, evaluating, and maintaining a research model for the development of gastronomic tourism involving active community participation, such as culinary training, to create satisfying gastronomic experiences for tourists.

Methodology

This research employs a case study methodology to investigate the development of gastronomy tourism in Bali, Indonesia. A case study approach allows for an in-depth exploration of a real-life context, providing rich and context-specific insights into the complexities of gastronomy tourism development. In this case, semi-structured interviews were conducted with various stakeholders involved in gastronomy tourism development in Bali, Indonesia such as Forum Komunikasi Desa Wisata (Association of Tourism Villages), Perhimpunan Hotel dan Restaurant Indonesia (Indonesian Association of Hotels and Restaurants) and Bali Tourism Board (BTB) a private bodies for tourism and the Board of Tourism in Bali's Government. Observational data were collected during site visits to Bali, allowing the authors to gain first-hand knowledge of the village's gastronomy tourism practices, culinary offerings, and interactions between tourists and locals.

Based on the information provided in the paragraph above, the interviews and data collection for the research on gastronomy tourism development in Bali were conducted using a case study methodology. Here is an estimated timeline (see Table 2):

SSM is this study's guiding theoretical framework (Lewis, 1992). It is a participatory and qualitative methodology that facilitates the exploration of complex, real-world problems from multiple perspectives using Clients, Actors, Transformation, World View, Owner, and Environment, or CATWOE (Kurniawan & Maulana, 2022). It allows for the creation of models that capture the various elements and relationships in the system under study, enabling the identification of potential improvements and solutions (Checkland & Scholes, 1990).

Research Findings

The study's results reveal significant insights into the development of gastronomy tourism in Bali, Indonesia, obtained through stakeholder interviews, workshops, focus groups, and site observations. The findings are summarized below.

Challenges and Opportunities

The CATWOE analysis has provided valuable insights into the challenges and opportunities in gastronomy tourism development in Bali, Indonesia. By examining the Customers, Actors, Transformation Process, Weltanschauung (World View), Owner, and Environment, the authors have gained a holistic understanding of the complex dynamics and diverse perspectives surrounding these issues. Several challenges were identified using the SSM data analysis approach of CATWOE (Customers, Actors, Transformation Process, World-view, Owner, and Environment) (see Table 3).

Firstly, the challenges of striking a balance between commercialization and cultural authenticity, ensuring fair economic distribution among stakeholders, and addressing environmental sustainability concerns reflect the multifaceted nature of gastronomy tourism development (Naumov & Dutta, 2020). The CATWOE analysis has revealed the involvement of various stakeholders, ranging from local communities and restaurateurs to tourists and government bodies (Jamal & Stronza, 2009). Understanding the transformation process and worldview associated with these challenges is crucial to developing effective and context-specific solutions (Hsu et al., 2022).

Secondly, the identified opportunities for promoting local agricultural products, enhancing culinary training and infrastructure, and developing unique gastronomy tourism packages signify promising pathways for sustainable growth and enhancement of the tourism experience (Jecan & Chaigasem, 2021). The CATWOE analysis has emphasized the importance of collaboration between stakeholders, such as local communities, government bodies, and industry players, to capitalize on these opportunities successfully (Akmeşe et al., 2019).

Thirdly, the CATWOE analysis has highlighted the centrality of the local community as the primary owner and the critical role of government bodies and tourism authorities in shaping the development process (Jamal & Stronza, 2009). Recognizing the significance of environmental considerations and the aspirations of tourists and local communities is crucial to aligning the transformation process with sustainable

and culturally sensitive objectives (Secuk & Secim, 2023; Sorcaru, 2019).

Finally, the CATWOE analysis provides a comprehensive framework for understanding the challenges and opportunities in gastronomy tourism development and informs the need for inclusive and collaborative decision-making (Checkland & Poulter, 2006). By leveraging this understanding, stakeholders can devise targeted interventions to promote sustainable and authentic gastronomy tourism experiences in Bali by ensuring long-term benefits for all involved parties and preserving the destination's cultural heritage and natural resources (Stone et al., 2022; United Nations World Tourism Organization, 2012).

Interconnection and Intervention

The application of SSM led to creating a comprehensive model that captured the interactions and interdependencies of various elements influencing gastronomy tourism in Bali, Indonesia. The picture is divided into several sections, each representing a different aspect of gastronomy tourism development.

At the centre of the picture is the local community, which is connected to various other elements, including tourists, local SMEs, cultural heritage, culinary practices, economic factors, environmental sustainability, and government bodies. The local community is depicted as a central element because it is the foundation of gastronomy tourism development, and its involvement and engagement are crucial for the success of the industry.

Tourists are attracted to Bali because of its unique cultural heritage and culinary practices, which are closely tied to the local community, offering an immersive experience through traditional practices and culinary delights, by engaging the local community in tourism development, stakeholders can promote cultural heritage preservation and provide authentic culinary experiences for tourists.

Local SMEs are also closely connected to the local community and tourists. SMEs are often family-owned businesses that offer traditional culinary experiences and products. By supporting local SMEs, stakeholders can promote economic development and provide

Table 3 CATWOE Approach to Identify Challenges and Opportunities

	CATWOE attributes	Roles/Identify as
Challenge 1: Striking a balance between commercialization and cultural authenticity	Customers	Tourists, local community
	Actors	Local community, restaurateurs, tourists, government bodies, tourism authorities
	Transformation process	Developing gastronomy tourism offerings that attract tourists while preserving and promoting local cultural authenticity
	Worldview	Local communities value cultural heritage and authenticity, while tourists seek unique and memorable experiences.
	Owner	Local community, tourism authorities
Challenge 2: Ensuring fair economic distribution among stakeholders	Environment	Cultural heritage sites, local cuisine and culinary practices, tourist influx, economic factors
	Customers	Local community, restaurateurs, tourists
	Actors	Local community, restaurateurs, tourists, government bodies, tourism authorities
	Transformation process	Implementing strategies to ensure fair distribution of economic benefits among stakeholders involved in gastronomy tourism
	Worldview	Equity and fair economic opportunities are crucial for the sustainable development of the local community and the tourism industry.
Challenge 3: Addressing environmental sustainability concerns	Owner	Local community, government bodies, tourism authorities
	Environment	Local businesses, tourism revenue, employment opportunities, economic growth
	Customers	Local community, tourists, environmental organizations
	Actors	Local community, restaurateurs, tourists, government bodies, environmental organizations
	Transformation process	Integrating eco-friendly practices and initiatives into gastronomy tourism activities to minimize environmental impact
	Worldview	Emphasis on preserving natural resources and protecting the environment for future generations.
	Owner	Local community, government bodies, environmental organizations
	Environment	Natural resources, ecosystems, waste management, carbon footprint

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opportunities for the local community to benefit from gastronomy tourism.

Cultural heritage and culinary practices are depicted as interconnected elements, as they are often closely tied together in Bali. By promoting traditional culinary practices, stakeholders can help preserve cultural heritage and provide authentic experiences for tourists.

Economic factors and environmental sustainability are also closely connected. By promoting sustainable practices, stakeholders can minimize waste and

promote eco-friendly practices, which can help reduce the environmental impact of gastronomy tourism.

Government bodies are depicted as a separate element, as they play a crucial role in regulating and supporting gastronomy tourism development. By developing policies and regulations that support the local community, SMES, and cultural heritage preservation, government bodies can help promote sustainable gastronomy tourism development.

To conclude, the rich picture illustrates the complex relationships between the key elements of gastro-

Table 3 Continued from the previous page

	CATWOE attributes	Roles/Identify as
Opportunities 1: Promoting local agricultural products	Customers	Tourists, local community
	Actors	Local community, restaurateurs, tourists, government bodies, agriculture associations
	Transformation process	Developing marketing strategies to promote and utilize locally sourced agricultural products in gastronomy tourism offerings
	Worldview	It values and supports local farmers and agriculture for sustainable and authentic gastronomy experiences.
	Owner	Local community, restaurateurs, government bodies
	Environment	Local agriculture, food supply chain, culinary diversity
Opportunities 2: Enhancing culinary training and infrastructure	Customers	Local community, restaurateurs, tourists
	Actors	Local community, restaurateurs, tourists, government bodies, culinary schools, hospitality industry
	Transformation process	Investing in culinary training programmes and improving infrastructure to elevate the quality of gastronomy tourism experiences
	Worldview	We recognize the importance of skilled chefs and well-equipped culinary facilities to enhance tourism appeal.
	Owner	Local community, government bodies, culinary schools
	Environment	Culinary schools, hospitality establishments, culinary training facilities
Opportunity 3: Developing unique gastronomy tourism packages	Customers	Tourists, local community
	Actors	Local community, restaurateurs, tourists, government bodies, tour operators
	Transformation process	It creates distinctive gastronomy tourism packages offering diverse and authentic experiences to attract visitors.
	Worldview	It leverages cultural diversity and gastronomic uniqueness to differentiate Bali, Indonesia from other destinations.
	Owner	Local community, government bodies, tour operators
	Environment	Gastronomy tourism offerings, cultural events, tourism marketing

onomy tourism development in Bali, Indonesia. By visualizing these relationships, stakeholders can better understand the dynamics of gastronomy tourism development and develop more effective strategies for promoting sustainable and inclusive development. The system's complexities allowed for the identification of potential interconnection and interversions (see Table 4)

Table 3 presents a Table of the interactions and interdependencies of various elements influencing gastronomy tourism in Bali, Indonesia. The key elements, such as local community, tourists, restaurateurs,

and government bodies, are interconnected based on their relationships and influences on the gastronomy tourism system. The table highlights the collaborative activities, including workshops and information exchange, facilitating stakeholder engagement and collective decision-making.

The interventions are suggested actions or strategies to address challenges and improve the gastronomy tourism system. For instance, to promote cultural heritage preservation, the intervention includes promoting traditional culinary practices and engaging locals in tourism development. Similarly, the intervention

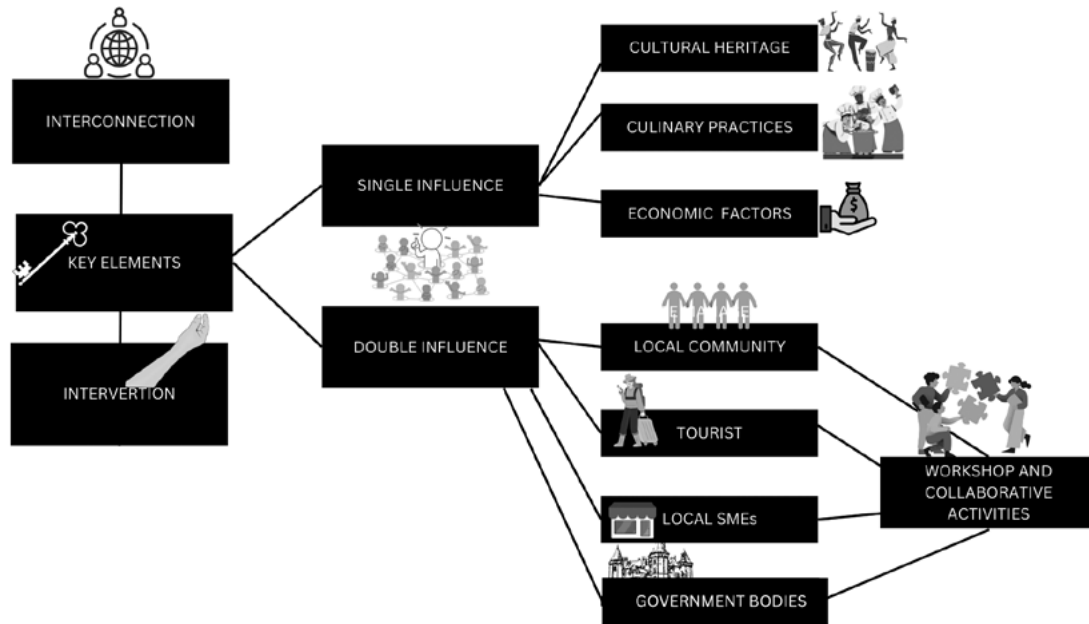


Figure 2 Key Element Relationship

encourages sustainable tourism practices to enhance authentic gastronomy tours.

Overall, the table provides a comprehensive visual snapshot of the complexities of gastronomy tourism in Bali, Indonesia and enables a better understanding of the potential improvements and interventions that can be implemented for sustainable and culturally sensitive development.

The Effectiveness of Soft Systems Methodology

This study was designed to assess the effectiveness of ssm in addressing the challenges of gastronomy tourism development, even though specific hypotheses still need to be formulated. The research objectives focused on evaluating the utility of ssm as a valuable approach to foster inclusive stakeholder engagement and generate context-specific solutions. The compelling findings affirm the hypothesis that ssm is a powerful tool for promoting collaborative problem-solving and tailored interventions within the context of gastronomic tourism (Scarpato & Danielle, 2003; Sormaz et al., 2016). The successful application of ssm in this study demonstrates its efficacy as a practical

and adaptable framework that facilitates a comprehensive understanding of complex systems (Pavlidis & Markantonatou, 2020) and facilitates the co-creation of sustainable solutions in gastronomy tourism development (Razpotnik Visković & Komac, 2021).

The absence of specific hypotheses in the study design aligns with ssm, which is described as a learning for action’ methodology. The focus on evaluating the utility of ssm highlights its value in engaging with stakeholders (Jamal & Stronza, 2009) and addressing multifaceted challenges in gastronomy tourism. The approach’s flexibility and adaptability resonate with Sukerti and Marsiti (2020) and Holwell (2010) notion of systems approaches as practical tools for managing change.

The successful application of ssm in this study validates its potential to guide practical decision-making in the complex context of gastronomy tourism (Gössling et al., 2021). This echoes Su and Crouch (2003) emphasis on a comprehensive and systematic approach to destination management. The co-creation of solutions through ssm aligns with the collaborative nature of stakeholder engagement emphasized

Table 4 Interconnection and intervention matrix

Key elements	Interconnections	Intervention
Local community	Cultural heritage preservation	Engage locals in tourism development Promote traditional culinary practices
Tourists	Culinary experiences	Encourage sustainable tourism practices Enhance authentic gastronomy tourism
Local SMES	Local product	Source ingredients locally Collaborate with local community
Government bodies	Economic development	Support sustainable tourism initiatives Implement policies for cultural preservation
Cultural heritage	Impact on local community and tourists Culinary practice	
Culinary practices	Offer authentic food experiences.	
Economic factors	Impact on local businesses and tourism	
Environmental sustainability	Impact on natural resources and ecosystems	
Workshops and collaborative activities	Information exchange	Foster stakeholder engagement Encourage dialogue and collaboration

by Jamal and Stronza (2009) in sustainable tourism practice.

In conclusion, this study's findings demonstrate ssm's effectiveness in gastronomy tourism and contribute to the broader discourse on sustainable tourism development. The absence of predetermined hypotheses highlights the exploratory nature of the research, which draws support from the principles of ssm (Checkland & Scholes, 1990). The study's success in generating tailored solutions reinforces the significance of systems thinking in addressing challenges that span cultural, economic, and environmental dimensions. Through this application, ssm has proven valuable for promoting collaborative and sustainable gastronomy tourism development (Gössling et al., 2021; Jamal & Stronza, 2009).

The findings of this study hold significant implications for the development of gastronomy tourism in Bali, Indonesia and contribute valuable insights to the broader field of sustainable tourism and cultural preservation. By applying ssm, this research successfully captures the intricate dynamics of gastronomic tourism, considering the perspectives of diverse sta-

keholders (Lewis, 1992). The discussion below highlights the significance of the results, compares them with existing literature, and explores their implications for future research and practice, presented in five points.

Practical Implications

The findings of this study offer several practical implications for gastronomy tourism development in Bali, Indonesia, and similar destinations. The interconnections between key elements are visualized in Figure 3, which shows that stakeholders can have a better understanding of the complex dynamics of gastronomy tourism and identify opportunities for collaboration and improvement. There are four points to highlight to understand the rich picture:

1. **Strengthening Local Community Involvement:** The rich picture highlights the importance of engaging the local community in tourism development. Research by (Cavicchi & Santini, 2014) addressing in a rich tapestry, community engagement emerges as a vital thread in tourism development. Moreover, by championing traditional culinary customs

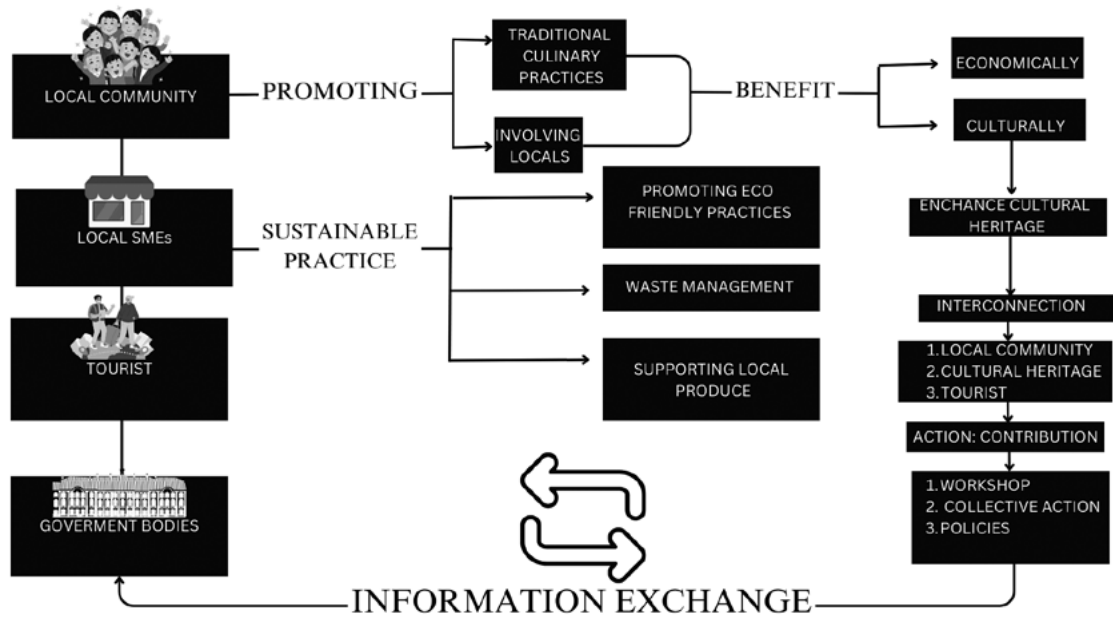


Figure 3 Rich Picture of Stakeholder Interconnection

and involving locals in decision-making processes, communities stand to reap both economic and cultural rewards from gastronomy tourism. This symbiotic relationship not only preserves heritage but also enriches the tourism experience, fostering a deeper appreciation for the flavours and stories woven into the fabric of each destination.

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3. Enhancing Cultural Heritage Preservation: The interconnections between local community, cultural heritage, and tourists suggest that promoting traditional culinary practices can help preserve cultural heritage. As in the study by Borah et al. (2024) understanding the culinary knowledge also reinforces the importance of preserving traditions amidst modernization.

4. Fostering Sustainable Practices: Addressing the multifaceted issue of food waste is integral to promoting environmental sustainability within gastronomy tourism. Stakeholders play a pivotal role in advocating for eco-friendly practices, efficient waste management systems, and the utilization of

locally sourced produce that align with sustainable approaches. This imperative is underscored by the pressing challenges posed by the surge in biodegradable waste, notably food waste, which imposes significant burdens on local authorities tasked with waste management responsibilities (Karim Ghani et al., 2013; Stefan et al., 2013).

5. Encouraging Collaborative Activities: The study from Blešić et al. (2021) exploring food waste management in restaurants aligns with the broader understanding of sustainability issues in gastronomy tourism. While the study focuses on consumer behaviour regarding food waste, it parallels the need for collaboration and information exchange highlighted in gastronomy tourism development. Together, these perspectives advocate for a holistic approach to sustainability, integrating individual actions and collective efforts to mitigate environmental impacts and foster responsible practices in the hospitality sector.

Understanding Stakeholder Perspectives

The stakeholder perspectives gathered in this study align with the existing literature on gastronomy tourism, emphasizing the importance of preserving cultural heritage while ensuring sustainable development (Jamal & Stronza, 2009; Su & Horng, 2012). The local community's concerns about cultural commodification mirror findings from previous research, underscoring the need for responsible tourism practices (Lozanski & Baumgartner, 2020). Similarly, tourists' appreciation for authentic culinary experiences resonates with studies highlighting the growing demand for accurate and immersive travel experiences (Yanthy, 2018). These similarities affirm the validity of the data obtained in this study.

Addressing Challenges and Opportunities

The study identified several challenges, including the delicate balance between commercialization and cultural authenticity, economic disparities, and environmental sustainability concerns. Such challenges have been recurrent themes in gastronomy tourism research, indicating their universality across destinations. Adopting SSM, this research presents a systematic approach to addressing these challenges, emphasizing the need for collaborative stakeholder engagement and context-specific solutions (Checkland & Scholes, 1990; Sukerti & Marsiti, 2020). The model's flexibility and adaptability offer a promising avenue for tackling similar challenges in other gastronomy tourism contexts.

Implications for Future Research

This study also provides valuable insights for future research within the field of gastronomy tourism. The rich picture can serve as a framework for further investigation into the interconnections between key elements and the effectiveness of various interventions.

1. Exploring Interconnections: Future research can delve deeper into the interconnections between elements, such as the relationship between cultural heritage preservation and economic factors. This can help stakeholders better understand the complex dynamics of gastronomy tourism and develop more effective strategies.

2. Evaluating Interventions: The rich picture can be used to evaluate the effectiveness of various interventions in addressing challenges and enhancing positive interactions. This can help stakeholders identify best practices and refine their approaches to gastronomy tourism development.
3. Comparative Studies: The rich picture can be adapted to other destinations to facilitate comparative studies. This can help identify common challenges and best practices in gastronomy tourism development and contribute to the development of a more comprehensive understanding of the field.
4. Longitudinal Studies: Longitudinal studies can be conducted to track changes in the interconnections and interventions over time. This can help stakeholders understand the long-term impacts of gastronomy tourism development and adjust their strategies accordingly.

Broader Significance

The insights from this research are not limited to Bali, Indonesia alone but have broader global implications for developing gastronomic tourism (Lozanski & Baumgartner, 2020; Stone et al., 2022; United Nations World Tourism Organization, 2017). Employing SSM, destination managers, and policymakers can foster inclusive and participatory decision-making processes, ensuring local communities have a voice in shaping their tourism future (Holden, 2017). Additionally, the emphasis on cultural heritage preservation and sustainable practices aligns with the United Nations' Sustainable Development Goals (SDGs), particularly goals related to cultural preservation, economic growth, and environmental sustainability (Sormaz et al., 2016; United Nations World Tourism Organization, 2017).

Conclusion

In conclusion, the utilization of the Soft Systems Methodology (SSM) has yielded a comprehensive understanding of gastronomy tourism development in Bali, Indonesia. By engaging with stakeholders and collecting observational data, this study has identi-

fied key perspectives, challenges, and opportunities, laying the groundwork for responsible and sustainable development practices in the region.

The application of ssm aligns with existing literature on gastronomy tourism while offering a unique approach to addressing complex issues within the field. The integration of theoretical insights from ssm with practical findings from the methodology underscores the importance of holistic and participatory approaches in tourism development.

Furthermore, the insights gained from this study have implications for future research, policy-making, and community-driven tourism development efforts not only in Bali but also in other destinations worldwide. By understanding the dynamics of gastronomy tourism through a systems perspective, stakeholders can better navigate the complexities of the industry and work towards fostering sustainable and culturally sensitive tourism practices.

In essence, this study contributes valuable insights to the ongoing discourse on sustainable gastronomy tourism development, emphasizing the importance of collaborative and holistic approaches in shaping the future of tourism. By bridging theory and practice, this research aims to catalyse positive change in the way gastronomy tourism is conceptualized, planned, and implemented globally.

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