

A Review of Literature on Exploring Sustainable Practices: An Unconventional Approach in Culinary Operations

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Abstract

Purpose: The research being conducted explores sustainable methods in the field of culinary operations using an unconventional approach. The aim of this research is to undertake a critical analysis of the current body of literature in order to determine and assess emerging sustainable practices in the Culinary Operations. There is a pressing need for the culinary industry to embrace sustainably responsible methods that support long-term ecological and social well-being. The Research also shades lights on Sustainable dining that, promotes energy-efficient cooking, reduced food waste, ethical ingredient procurement, and environmental preservation. It includes plant-based alternatives, health-conscious diets, and cultural heritage preservation. It supports local economies and communities by using locally sourced ingredients and supporting small-scale farmers. This research emphasizes balanced resource utilization for future chefs to be more resourceful & sustainable.

Research Methodology: This paper's research technique entails a thorough analysis of academic journals, books, and other reliable sources that discuss sustainable methods in culinary organisations. The goal of the information synthesis is to offer a comprehensive concept of sustainability in the food business today. Through a review of several Current Literature and Using examples, the study aims to illustrate effective adoptions, obstacles encountered, and viable solutions in the approach of sustainable practices.

Findings and Result: The results of the literature research show that the use of sustainable practices in culinary operations is becoming more widely recognised. The source of organic and locally grown agricultural products, waste management & treatment techniques, energy-efficient cooking techniques, and community involvement programmes are few of the important topics examined.

Future Scope: The study explores sustainability's impact on culinary operations and identifies research gaps. Its future goals involve developing innovative solutions and technological approaches to enhance sustainability in the sector, providing valuable insights for industry professionals, scholars, and leaders, paving the way for a socially and environmentally responsible future.

Keywords: Sustainable Culinary Practices, Unconventional Approach, Locally Sourced, Ecologically Responsible, Carbon Foot-Print

INTRODUCTION

Sustainable practices are being adopted by the Hotel & Culinary sector progressively as a result of growing consumer awareness of sustainability concerns. However, the sector's array of operations makes it challenging to define sustainability. It entails comprehending global poverty, pollution, biodiversity loss, climate change, and global warming. Sustainable initiatives include aspects like minimising waste, recycling, energy conservation, ethical sourcing, community involvement, and protecting cultural heritage (Khan et al., 2024). The art and science of preparing and enjoying food, or culinary arts, interacts with sustainable practices to create impacts on the Sustainable experience. This dynamic and multifaceted interaction exists between culinary and sustainable practices (Mishra, 2023). Customers' dining experiences are thought to be greatly impacted by this culinary attribute. The success of food tourism primarily depends on the chef's abilities to prepare and present culinary delicacies. In their professional roles, chefs are culinarians who prepare meals and dishes for all aspects of running a restaurant (Mahfud et al., 2019), Thus understanding inclusion of sustainable culinary practices by a chef and implementing the same in the field of his or her operations plays a vital role in the development of the mindset for the sustainable culinary operations for the brighter future.

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RESEARCH QUESTION

The study's design and direction are greatly influenced by the research questions. Research questions can be determined by carrying out a thorough gap analysis in the body of existing literature on a topic of interest. They establish the next line of exploration and are essential to the research design. Based on the gap analysis and subject selection above, our study's research questions are as follows:

RQ1. What are sustainable culinary practices implemented currently by various organizations?

RQ2. What are unconventional ways of sustainable practices that needs attention by culinary operations?

RQ3. How can these sustainable practices be implemented in culinary & hospitality industry?

RESEARCH OBJECTIVES

- To identify and understand current sustainable practices implemented by culinary organizations.
- To identify conventional and unconventional sustainable practices followed in culinary operations.
- To study the strategies and policies used by the culinary industry to implement sustainable practices.
- To analyse various obstacles and challenges in the implementation of sustainable practices in the culinary industry.

RESEARCH METHODOLOGY

In order to identify recurring themes and significant gaps in the body of knowledge on sustainable culinary operations, the present research conducts a systematic literature assessment. A five-step process that included developing questions, finding pertinent literature, identifying and assessing studies, performing analysis, and reporting outcomes was used to carry out the literature review methodically (Khan et al., 2024).

For the purpose of identifying keywords, we resorted to hospitality journals that contained information on

sustainable culinary practices. We included multiple types of keywords once the authors agreed the ones they wanted to use. These were identified by examining the terms used in recent reviews from related literature.

SCOPE OF THE STUDY AND LIMITATIONS

The present study investigates sustainable practises within culinary Operations, identifying prevalent trends, obstacles, and opportunities. It suggests modern strategies and technological advancements to promote sustainability and fosters cooperation between experts, scholars, and decision-makers to effect significant change in the direction of a more socially and environmentally responsible culinary industry.

While the current research has shown a meaningful contribution to finding the facts and research gaps in culinary sustainability, the research has limitations in the references used only from the perspectives of culinary operations and in the selection of the papers and articles based on the authors own understanding and beliefs. The selected timeframe is very recent for most of the studies, and past studies may have a different angle of perspective on the title and research focus.

RESEARCH DESIGN

This paper's research strategy includes a complete literature review process. It employs systematic search approaches throughout academic databases, journals, books, and other credible sources to compile relevant literature on sustainable practices in culinary operations. The analysis will focus on identifying unconventional approaches and unique strategies used in the industry. Data compilation and evaluation will include categorizing and critically reviewing the identified literature to extract essential insights, developing patterns, and problems. Overall, this research design seeks to provide a thorough understanding of sustainability in culinary operations while emphasizing alternative techniques.

The process of identifying the database and available literature, following process was followed.

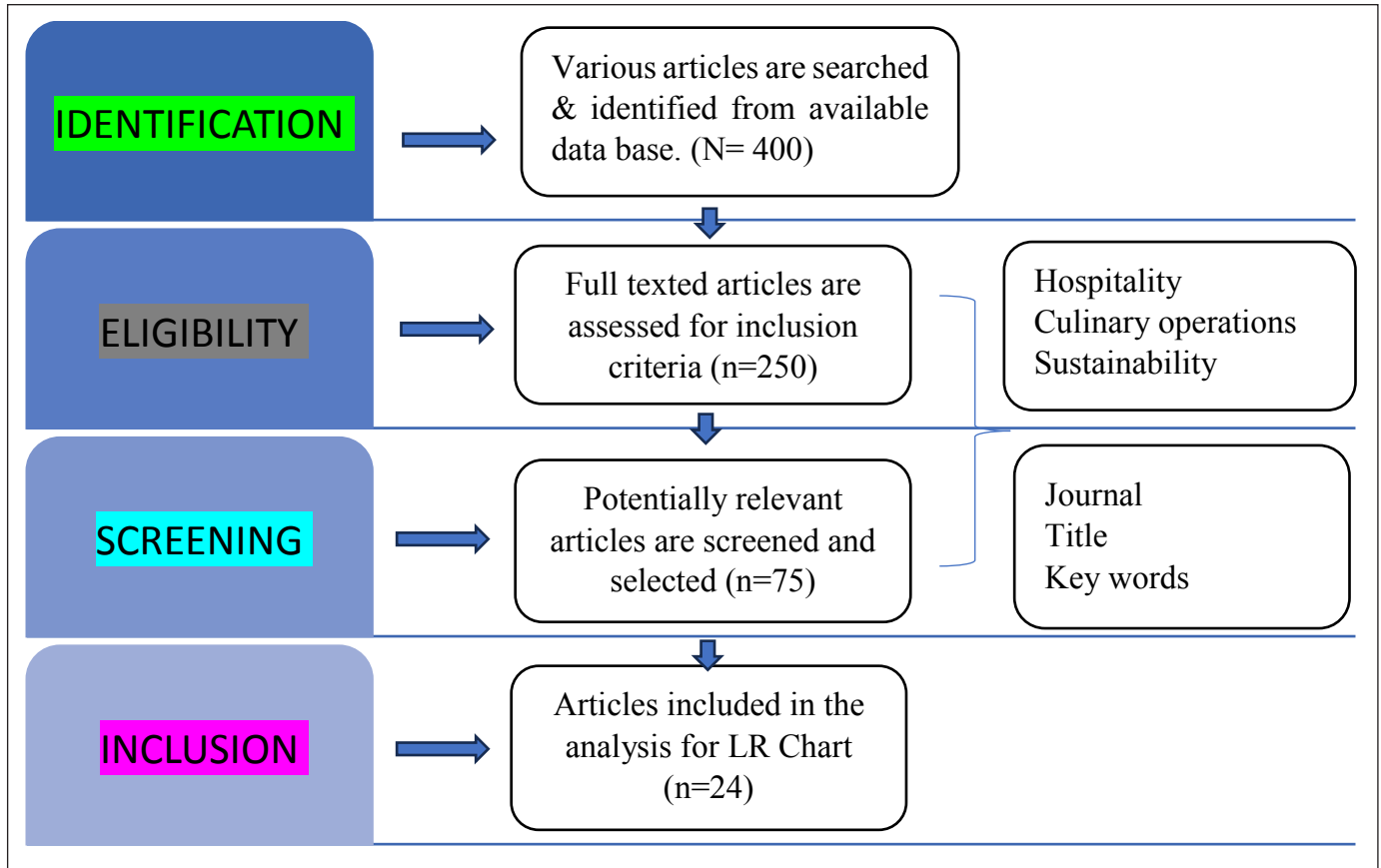


Fig. 1: Source – (Concept (Khan et al., 2024) Reframed by Author)

OVERVIEW OF LITERATURE

In last 05 years the concept of sustainable development or sustainability has taken over the world and UN has set up the target of making our planet more sustainable by 2030 (United Nations, 2015) (UN Sustainable Development Summit 2015) The SDG’s set by UN has made researchers

an opportunity to find ways to implement and innovate the world of culinary and Hospitality with these SDG’s and discover the new possibilities of the world of culinary.

Below mentioned are the various research studies that are carried out by the researchers in last 04-05 years in the relevant field of sustainable culinary practices and operations.

Table 1: Literature Review Study on Selected Sample

Study No	Author(s)	Year	Title of Study	Publication	Methodology	Key Findings
Study 01	McClements David Julian	2021	“Building a Resilient, Sustainable, and Healthier Food Supply Through Innovation and Technology”	“Annual Review of Food Science and Technology”	Systematic Literature Review	Challenges in supply chain management use of technology & innovation for development
Study 02	Mahfud Tuatul, P. P.	2019	“Chef’s Competency as a Key Element in Food Tourism Success: A Literature Review”	“GeoJournal of Tourism and Geosites”	Grounded Theory Method	Finding Chefs Competencies in Operations Using chefs Competencies for sustainable Culinary

Study No	Author(s)	Year	Title of Study	Publication	Methodology	Key Findings
Study 03	Sand Jimmy	2022	Climate, Gender and Consumption	Nordisk Ministerråd	Systematic Literature Review	<p>“Intersectional Gender Analysis in Education”</p> <ul style="list-style-type: none"> • Exploring implementation and impact. • Exploring sustainable development, culture, tourism.
Study 04	Fernianda Rahayu Hermiatin	2022	“Creating Food Value Chain Transformations through Regional Food Hubs: A Review Article”	“Sustainability”	Systematic Literature Review Meta Analysis	The study suggests that Food Value Chains are a innovative approach to enhance the skills of smallholder farmers through cooperative networks that facilitate Regional Food Hubs.
Study 05	Chauhan Yatharth, P. C.	2023	“Culinary Creativity Unleashed: A Review of Innovative Techniques in Food Gastronomy”	“International Journal for Multidimensional Research Perspectives”	Systematic Literature Review	The study explores the intersection of innovation with various fields such in Culinary Operations,
Study 06	Mahmudi	2023	“Culinary Reorientation As A Cultural Asset In The Development Of Sustainable Tourism Based On Community Economy”	“The Kalimantan Social Studies Journal”	Critical literature evaluation	The study indicates that culinary arts can significantly contribute to sustainable tourism development, particularly in boosting the local economy.
Study 07	Grèzes Sandra	2023	Designing a Sustainable, Circular Culinary System	Circular Economy and Sustainability	Qualitative approach & systemic design.	The study indicates that a sustainable, circular local food network requires a centralized distribution system, efficient transport, improved food waste management, education of stakeholders, and promotion of regional food.
Study 08	Arun Madanaguli,	2022	“Environmental sustainability in restaurants. A systematic review and future research agenda on restaurant adoption of green practices”	“Scandinavian Journal of Hospitality and Tourism”	Systematic Literature Review	Green Issues in restaurant industry, Challenges and gaps
Study 09	Mishra, C. V.	2023	“From Farm to Fork: An In-depth Review of Sustainable Practices in Gastronomy”	“International Journal for Multidimensional Research Perspectives”	Systematic Literature Review	The study highlights the crucial link between sustainable practices and food production practices in implementing sustainable policies.
Study 10	Mahmoud Alreahi	2023	“Green Supply Chain Management in Hotel Industry: A Systematic Review”	“Sustainability”	Systematic review technique	The importance of GSCM goes beyond environmental objectives there are a number of primary barriers that should be considered regarding the hotel industry.
Study 11	Razieh Sadraei.	2023	“How to increase sustainable production in the food sector? Mapping industrial and business strategies and providing future research agenda”	“Business Strategy and the Environment”	Bibliometric and thematic analysis	In order to increase the culture of waste value, the work highlights the necessity to address pollution caused by food production and encourage a deeper interaction between people and food waste. in all processes

<i>Study No</i>	<i>Author(s)</i>	<i>Year</i>	<i>Title of Study</i>	<i>Publication</i>	<i>Methodology</i>	<i>Key Findings</i>
Study 12	Alessia Acampora	2022	“How to manage and minimize food waste in the hotel industry: exploratory research”	“International Journal of Culture, Tourism and Hospitality Research”	In-depth interviews, personal communication and observations	The initiative’s goal is to encourage openness and dialogue with regional vendors.
Study 13	Teresa Borelli	2020	“Local Solutions for Sustainable Food Systems: The Contribution of Orphan Crops and Wild Edible Species”	“Agronomy”	Extensive literature reviews, ethnobotanical assessments and focus group discussions	To enhance consumer awareness of the potential benefits of alternative foods, facilitating their integration into diets, food systems, and markets.
Study 14	Abdel Moneim E. Sulieman. -D	2023	Spices as Sustainable Food Preservatives: A Comprehensive Review of Their Antimicrobial Potential	Pharmaceuticals	Extensive exploration of the existing literature	Natural food preservatives which could provide safer, more sustainable techniques to increase shelf life.
Study 15	Dourian, Y. C	2020	Sustainable Food Supply Chains: Is Shortening the Answer? A Literature Review for a Research and Innovation Agenda	Sustainability	Systematic Literature Review	Diverse outcomes of SFSC are frequently the result of economic and environmental influences, but their effects on governance, health, and nutrition are sometimes overlooked.
Study 16	Uraiporn Kattiyapompong, M. D.-A	2023	Sustainable Food Waste Management Practices: Perspectives from Five-Star Hotels in Thailand	Sustainability	Qualitative research applies an exploratory approach	Food waste prevention and reduction techniques
Study 17	Camilleri, M. A	2021	“Sustainable Production and Consumption of Food. Mise-en-Place Circular Economy Policies and Waste Management Practices in Tourism Cities”	“Sustainability”	Case studies	According to the study, dining establishments may lower food loss and waste production by putting preventative measures and recycling procedures into place.
Study 18	Isaac Amoah, A. A	2023	Sustainable Strategies for Increasing Legume Consumption: Culinary and Educational Approaches	Foods	Systematic Literature Review	The benefits of eating legumes for health and nutrition are emphasised throughout the article, along with methods for enhancing their nutritional profile and ease of digestion.
Study 19	Hennie, F.	2023	“The Contradiction Between Culinary Innovation Research and Gastro Tourism Practice”	“International Conference on Tourism Research”	The Qualitative methodology	A strong connection between academics and the travel and hospitality sector.
Study 20	Oncy Helmy Abdel Gawad Shaheen, M. A	2021	“The Impact of Yield Management on the Profitability of Food and Beverage Department in Five-Star Hotels”	“International Journal of Heritage, Tourism and Hospitality”	The quantitative approach	Pricing & competition significantly affects profitability.

Study No	Author(s)	Year	Title of Study	Publication	Methodology	Key Findings
Study 21	Nayla Khan and Diletta Acuti, L. L	2024	“The intention-behaviour gap in sustainable hospitality: a critical literature review Critical literature review”	“International Journal of Contemporary Hospitality Management”	Systematic Literature Review	Investigate diverse sustainability practices
Study 22	Alessia Acampora a, M. C	2022	“The theoretical development and research methodology in green hotels research: A systematic literature review”	“Journal of Hospitality and Tourism Management”	Systematic Literature Review	Green hotels have gained significant attention in recent years, with scholars focusing on the topic and publications increasing.
Study 23	Maryam Ali AlShamsi. M	2023	Towards Sustainable Food Waste Management in the Hospitality Sector of Ajman, UAE: A Step Towards Achieving SDGs	Sustainable Resources Management Journal,	The quantitative approach	Benchmark for efficient food waste management.
Study 24	Jinal Shah	2021	“Technology Adoption and Continuance of Moocs: A Systematic Literature Review, Synthesis and Future Research Agenda”	“Journal of Content, Community & Communication”	Systematic Literature Review	The “Technology Acceptance Model” is the prominent model in “MOOC” adoption research, primarily in Asian economies, with studies focusing on quality, pedagogical, or user perspectives.

Source: Authors creation.

Sustainable Culinary Practices: The research & studies in the past has highlighted the importance and relevance of the sustainable practices in the field of culinary operations. The use of locally grown food & commodities (Borelli et al., 2020), Futuristic waste management & utilizing the waste to create sustainable energy has shown the ways to improve culinary operations (Kattiyapornpong et al., 2023).

The study has proven resourceful to indicate that the use and implementation of sustainable practices and its benefits to the future generation are much needed and will be extremely benefited for the overall guest experience.

SUMMARY OF KEY FINDINGS

The study shows very important results that share the relationship between sustainability and the growth of the overall development and satisfaction of the culinary and hospitality industries.

The study of the existing and valuable literature shows that the connections between our roots and ancient food cooking and preservation techniques and culinary practices were really helpful and thoughtful to support the entire sustainable ecosystem. The research review also promotes the following important concepts and contributions to sustainable culinary practices:

- Examine the Impact of Sustainable Practices on Culinary Operations; that Evaluate the environmental, social, and economic impacts of sustainable practices in the culinary industry (Acampora et al., 2022).
- Explore Innovative Culinary Techniques and Ingredients which can - (Amoah et al., 2023) investigate unconventional culinary techniques and ingredients that align with sustainable practices & examine how chefs and culinary professionals are incorporating innovation into their menus.
- Evaluate the Effectiveness of Zero-Waste Initiatives that - (Alshamsi & Aljaradin, 2023) Assess the implementation and effectiveness of zero-waste strategies in culinary operations & Explore case studies and examples of successful zero-waste kitchens.
- Discovers the Role of Supply Chain in Culinary Sustainability which Investigate the influence of supply chain decisions on the sustainability of culinary operations & examine the challenges and opportunities in sourcing sustainable and local ingredients (Chiffolleau & Dourian, 2020).
- It measures the Economic Viability of Sustainable Culinary Practices through - economic implications of adopting sustainable practices in culinary

operations & evaluate the return on investment and cost-effectiveness of sustainable initiatives (Akel & Noyan, 2024).

- Understanding of Staff Training and Engagement Programs and equality of human resources for sustainable culinary operations by (Okumus et al., 2019). Explore training programs aimed at educating culinary professionals on sustainable practices & assess the level of employee engagement in sustainability initiatives.
- The Change in mindset and acceptance of the concept of the sustainability by the existing and future generations to implement and value the importance of the sustainable practices for greater future of hospitality.

CONCLUSION

This literature study concludes by underlining the significance of implementing sustainable practices in culinary operations from a novel perspective. Through an extensive review of the extant literature, new developments and inventive methods in the culinary field have been brought to light. In order to preserve the environment, be socially responsible, and ensure long-term viability, stakeholders must adopt sustainability as a guiding concept going ahead. Future chefs have the potential to move the business towards a more sustainable and ethical future by preserving culinary traditions and protecting the environment for future generations. This may be achieved through balanced resource utilisation and education.

FUTURE SCOPE

The understanding of the study and research shows a very wide opening of the concept for the researchers about studying unconventional SDG practices like equality issues in culinary operations, concentrating local sourcing and particular ingredients to study about, understanding AI and the use of advanced technology to reduce human suffering in catering operations, and so on, will surely be the talking point in the upcoming years for better sustainable culinary operations.

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