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DETERMINANTS OF SUSTAINABILITY PRACTICE ADOPTION AMONG CULINARY MSMES: A SYSTEMATIC LITERATURE REVIEW USING THE ANTECEDENTS- DECISIONS-OUTCOMES FRAMEWORK

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Abstract:

Sustainability adoption among micro, small, and medium-sized enterprises (MSMEs) has become increasingly important for achieving environmental, social, and economic resilience. The culinary sector as a critical pillar of the MSME ecosystem plays as a vital source of revenue and employment, yet its current operational patterns contribute to environmental degradation. This study is a systematic literature review that examines the determinants influencing the adoption of sustainability practices among MSMEs. Using the PRISMA protocol, a total of 1,425 records were identified and screened, resulting in 89 peer-reviewed studies included in the final synthesis. The review employs the Antecedents-Decisions-Outcomes (ADO) framework to categorize the drivers of sustainability. Antecedents are shaped by internal awareness, social factors, and financial variables. These influence the Decision mechanisms, specifically attitude, subjective norms, perceived behavioural control, which ultimately determine the sustainability adoption as the primary Outcome. The findings reveal that sustainability adoption is influenced by antecedents that operate through the components of the Decomposed Theory of Planned Behaviour (DTPB) as a behavioural mechanism. Critically, this study demonstrates that digital financial inclusion acts as a catalyst by reducing information asymmetry and enhancing perceived behavioural control to navigate the

complex trade-off of sustainability. While entrepreneurial orientation facilitates the conversion of stakeholder pressures and awareness into sustainable action. Theoretically, this study contributes by synthesizing the ADO and DTPB framework to provide understanding of the cognitive and environmental drivers of sustainability, specifically highlighting the moderating role of digital finance and entrepreneurial factors. Practically, the results suggest that policymakers should prioritize digital financial infrastructure to empower MSMEs, while managers can leverage entrepreneurial orientation to transform external regulatory pressures into competitive advantage. Despite progress, research gaps persist in sector-specific investigations within the culinary MSME context. Based on these insights, this study proposes a research agenda emphasizing behavioural, financial, and institutional mechanisms to advance sustainability adoption.

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Keyword:

Sustainable Practice Adoption, Decomposed Theory of Planned Behaviour, PRISMA protocol, ADO Framework, Systematic Literature Review



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Introduction

The global economy is currently navigating a transformative period where the imperatives of economic growth must be harmonised with environmental stewardship and social equity. Within this context, Micro, Small, and Medium Enterprises (MSMEs) have emerged as the primary engines of national development where they represent the vast majority of business units and serve as the largest employers. The culinary sector, a critical pillar of the MSME ecosystem, is uniquely positioned at the intersection of high consumer demand and significant resource consumption (Huang et al., 2025). The culinary industry faces a dual reality, it remains a vital source of revenue and employment, yet its current operational patterns contribute disproportionately to environmental degradation through food waste, single-use packaging, and carbon emissions (Bux and Amicarelli, 2022).

The growing global focus on sustainability development requires that all industry players adhere to broader principles that transcend immediate economic profit. The concept of sustainability is historically rooted in Triple Bottom Line framework (Elkington, 1998), which mandates accountability across three distinct but interconnected pillars, namely economic, environmental, and social responsibility. Contemporary corporate responsibility is increasingly through Environmental, Social, and Governance criteria (Mohammad and Wasiuzzaman, 2021). However, the emerging body of literature identifies multiple structural and behavioural challenges that hinder sustainable practice, such as resource constraints (Martini et al., 2022), limited capabilities (Purusottama et al., 2019), and insufficient sustainability awareness

(Shalhoob and Hussainey, 2023). In the culinary sector, additional pressures arise from high levels of food waste, single-use packaging, energy-intensive operations, and dynamic supply chains (Wijayanto et al., 2024).

The emerging literature on SME sustainability increasingly draws on behavioural theories. The Theory of Planned Behaviour (Ajzen, 1991) and its Decomposed Theory of Planned Behaviour (Taylor and Todd, 1995) explain how entrepreneurs' attitudes, subjective norms, and perceived behavioural control shape sustainability intentions. Complementary constructs such as digital financial inclusion (Pénicaud and Katakam, 2019) and entrepreneurial orientation (Basco et al., 2020) have also been identified as enablers of sustainability practices, particularly within digitally evolving business environments. To synthesise this fragmented knowledge, we conducted a PRISMA-guided systematic review integrating the Antecedents-Decisions Outcomes (ADO) framework (Paul and Benito, 2018). Our aim is to identify (a) the antecedent factors influencing sustainability practice adoption in MSMEs particularly culinary business, (b) the psychological decision mechanisms involved, (c) the roles of digital finance and entrepreneurial orientation, and (d) remaining theoretical and empirical to guide future research.

The review is novel in applying the ADO framework lens to sustainability adoption literature. By structuring findings around antecedents, decision mechanisms, and outcomes, and by examining theoretical bases, contextual scope, sample characteristics, and methodologies, we provide a comprehensive understanding of what drives culinary MSMEs toward or away from sustainability practices. Our specific research questions are: 1) What antecedents influence the adoption of sustainability practices among MSMEs, particularly culinary entrepreneurs? 2) How do behavioural mechanisms shape sustainability-related decisions? 3) What roles do digital financial inclusion and entrepreneurial orientation play in enabling sustainability adoption? 4) What theoretical and empirical gaps remain, and how should future research advance?

Literature Review

The theoretical discourse on sustainability adoption in MSMEs has evolved through integration of psychology, economics, and strategic management. This review identifies several foundational theories and constructs that explain the transition toward sustainable business models.

Theoretical Underpinnings

The Decomposed Theory of Planned Behaviour (DTPB)

The Theory of Planned Behaviour (TPB), proposed by Ajzen (1991), remains the most influential framework for predicting human behaviour based on intention. According to TPB, behavioural intention is determined by three variables, namely attitude (the favourable or unfavourable evaluation of the behaviour), subjective norms (the perceived social pressure to perform or not perform the behaviour), and the perceived behavioural control (the perceived ease of difficulty of performing the behaviour). While robust, the TPB has been critiqued for its unidimensional constructs, which may oversimplify the complex decision-making processes of entrepreneurs (Moons and De Pelsmacker, 2015).

To address these limitations, the Decomposed Theory of Planned Behaviour (DTPB) provides a more granular view by breaking down these core constructs into their underlying belief structures (Taylor and Todd, 1995). In the DTPB framework, attitude is decomposed into relative advantage, complexity, and compatibility; subjective norms are broken down into peer influence and superior influence; and perceived behavioural control is decomposed into self-efficacy and facilitating conditions such as resources and technology (Nugraha and Iqbal, 2025). This decomposition is particularly relevant for sustainability research as it identifies which psychological or external barriers have strongest impact on an entrepreneur's decision to adopt sustainability practice.

Digital Financial Inclusion and Asymmetric Information Theory

Asymmetric information theory, pioneered by Akerlof (1970), furthered by Spence (1973) and Stiglitz and Weiss (1981), explains why many MSMEs are excluded from formal financial markets. In many cases, entrepreneurs possess more information about their business' quality and risk than lenders, leading to market failures such as adverse selection where only high-risk borrowers seek loans and moral hazard (Yang and Zhang, 2020). For MSMEs attempting to fund sustainability initiatives, this information gap often results in credit rationing.

Digital Financial Inclusion (DFI) serves as critical mechanism to mitigate this asymmetry. By utilising digital transaction data, MSMEs can provide credible signals of their financial stability to institutions. Research indicates that DFI not only improves access to credit but also enhances financial literacy and reduces the perceived transaction costs associated with green investments. In the culinary sector, where operational costs are high, DFI enables entrepreneurs to leverage formal financial services to acquire energy-efficient equipment and eco-friendly packaging (Tandilino et al., 2025).

Entrepreneurial Orientation (EO) and Sustainability

Entrepreneurial Orientation (EO) is a strategic posture that reflects a firm's innovativeness, proactiveness, and risk-taking propensity (Basco et al., 2020). EO is often viewed through the lens of Resource-Based View (RBV), which posits that unique, valuable, and non-substitutable internal resources are the primary drivers of competitive advantage. In the context of sustainability, EO enables culinary entrepreneurs to interpret the environmental challenges as strategic opportunities differentiation (Hermawan et al., 2025). High-EO firms are more likely to experiment with novel green menus, invest in unproven sustainable technologies, and aggressively target emerging niches of environmentally conscious consumers (Yudawisastra and Layalia, 2025).

Sustainability and Environmental, Social, and Governance (ESG) Practices

The concept of sustainability in MSMEs has increasingly aligned with the Environmental, Social, and Governance (ESG) framework. While ESG disclosure was traditionally the domain of large, publicly listed corporations, it is becoming relevant for MSMEs that are part of global supply chains. The environmental dimension focuses on carbon footprints and waste, the social dimension encompasses employee welfare and community-impact, and the governance dimensions involves transparency and compliance. For MSMEs, adopting ESG-aligned practices can enhance reputation and facilitate to green finance from institutions that prioritise sustainable investment (Putri and Madju, 2023).

The Antecedents-Decisions-Outcomes (ADO) Framework

The ADO framework is a powerful tool for systematic literature reviews, allowing researchers to categorise disparate findings into a logical flow of causality (Shirolkar and Patil, 2021). Antecedents represent the factor whether internal factor such as awareness and knowledge or external factor such as government support and peer pressure, that trigger the cognitive process (Alhashim et al., 2022; Wei and Liu, 2015; Lazaric et al., 2020). Decisions are the psychological mechanisms describes by the DTPB that shape intention to adopt sustainable practices (Tomasetti, 2018; Lingappa et al., 2020). Outcomes represent the tangible result of these decisions, ranging from the implementation of green technologies to improvements in firm performance and resilience (Chege and Wang, 2020; Hussain et al., 2019)). The integration of DTPB within the ADO framework provides a holistic understanding of the internal and external environments of the culinary entrepreneur.

Methodology

This study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) protocol to ensure the transparency, replicability, and rigor of the literature synthesis (Moher et al., 2009). The methodology is designed to systematically identify and analyse relevant research on the determinants of sustainability adoption among MSMEs.

The review process began with a comprehensive search across five major academic databases: Scopus, Web of Science, Emerald, Science Direct, and ProQuest. The search utilised a combination keyword related to the core constructs, including “MSMEs”, “sustainability”, “culinary sector”, “digital financial inclusion”, “entrepreneurial orientation”, and “Decomposed Theory of Planned Behaviour”.

The initial database search yielded 1,425 records. The selection process followed four distinct phases of the PRISMA flow as show in Figure 1. In identification process, all record identified through database searching were compiled, and 238 duplicates were removed using reference management software. In screening process, the title and abstract of the remaining records were screened based on their relevance to the research questions. Studies that did not focus on MSMEs or sustainability adoption were excluded. In eligibility process, 238 full-text articles were retrieved and assessed against specific inclusion criteria. Inclusion criteria required that articles are empirical or conceptual research, focus on SMEs or MSMEs, explicitly discuss on sustainability, behavioural constructs, financial inclusion or entrepreneurial orientation, English-language publications, and undergo peer-review. A total of 89 studies met all criteria and were included in the qualitative and quantitative synthesis.

To interpret findings comprehensively, the review utilised the Antecedents-Decisions-Outcomes (ADO) framework, which differentiates between the factors that precede decision-making, the psychological mechanisms that shape sustainability decisions, and resulting sustainability behaviours. Integrating PRISMA with ADO allowed for a structured yet holistic synthesis of behavioural, financial, and institutional influences on sustainability adoption.

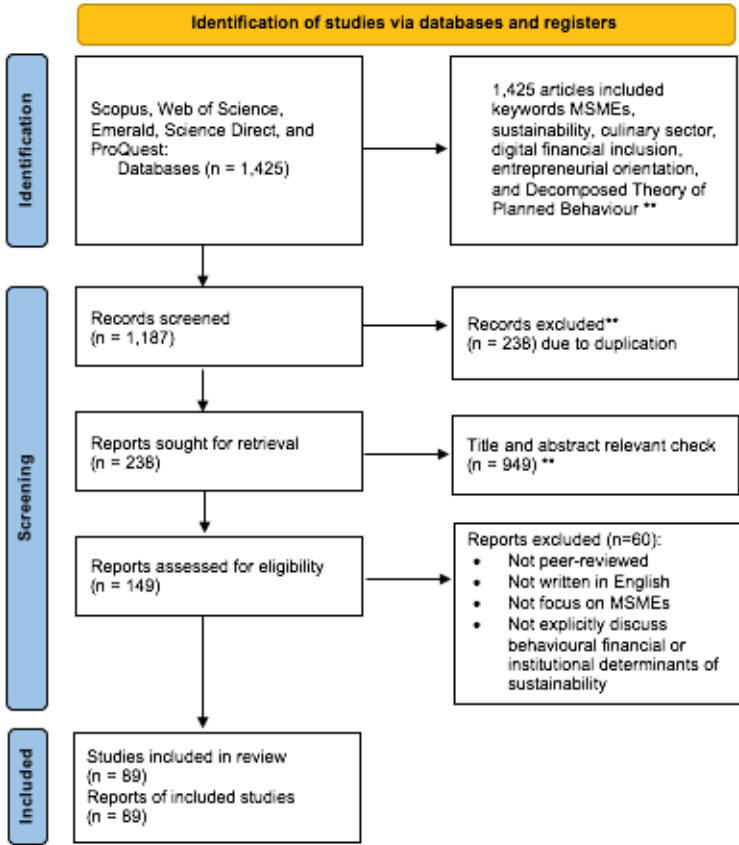


Figure 1: PRISMA Protocol for Identification, Screening, and Inclusion Process

Source: Page et.al. (2021)

Results and Discussions

The synthesis of the 89 identified articles provided a detailed map of the factors influencing sustainability practice adoption. The findings are categorised using the ADO framework, with a specific focus on how digital and entrepreneurial constructs moderate the traditional behavioural path.

Antecedents: The Drivers of Sustainability

The review identifies several critical antecedents that trigger the adoption process. These range from individual psychological traits to broad institutional framework.

Sustainability Awareness and Waste Management Knowledge

One of the most consistently emphasised determinants is sustainability awareness, which influences the way entrepreneurs perceive the environmental and social implications of their operations. For culinary entrepreneurs, awareness often stems from a combination of ethical concerns and the recognition of consumer demand for clean and healthy foods. This awareness is highly dependent on educational level, younger and more educated owners tend to have significantly higher awareness level (Ahmad et al., 2025). Heightened awareness encourages proactive waste-reduction initiatives, responsible sourcing, and investment in environmentally friendly kitchen technologies (Talbot et al., 2021; Sedunov, 2017). Awareness enables

entrepreneurs to understand sustainability not merely as a moral obligation but as a long-term business strategy aligned with resilience and competitiveness.

Closely linked to awareness is waste-management knowledge, which emerged as a prominent antecedent in the culinary context. Research in Indonesia and other developing economies indicates that entrepreneurs who possess knowledge about waste sorting, composting, efficient stock rotation, and food-waste minimisation are more likely to adopt structured sustainability systems (Wijayanto et al., 2024). Referring to Alfarizi et al. (2023) demonstrates that among coffee shop owners, waste management knowledge accounts for over 93 percent variance in awareness, which in turn strongly influences the actual behaviour of converting waste into alternative energy. This knowledge reduces uncertainty and reinforces the practical feasibility of sustainability adoption, thereby strengthening the attitude component of DTPB.

Peer Pressure and Social Influence

Peer influence serves as a vital external antecedent, particularly for MSMEs that lack the resources of extensive market research. Entrepreneurs frequently emulate the visible sustainability practices of their peers, driven by a desire for reputation, social belonging or competitive benchmarking (Lazaric et al., 2020; Chatterjee et al., 2021; Xiong et al., 2016). In the culinary sector, where visual and experiential differentiation is important, the adoption of sustainability practices by peers often encourages others to follow.

Learning from peers within small, trusted networks is more effective for promoting sustainable consumption and adoption than top-down institutional mandates. Social influence has been shown to be particularly strong when exerted by spatially proximate peers or those who share similar demographics, such as gender or educational background (Filippini et al., 2020; Kacperczyk, 2013).

Government Support and Policy Incentives

Institutional support is a critical enabler of sustainability, providing the necessary facilitating conditions for MSMEs (Razumovskaia, et al., 2020). At the institutional level, government support substantially shapes sustainability adoption. Regulatory frameworks, tax incentives, training programs, and public campaigns have been identified as triggers that encourage SMEs to pursue sustainability initiatives (Ganotakis et al., 2021; Nor et al., 2023). However, in many developing economies, fragmented and limited outreach reduce the effectiveness of government influence (Lamoreux et al., 2019).

However, studies across the US, UK, and Malaysia indicate that government support is often hampered by limited outreach, unclear guidance, and inconsistent enforcement (Lamoreux et al., 2019; Ganotakis et al., 2021; Nor et al., 2023). For instance, despite being cognizant of environmental issues, many MSMEs remain reluctant to invest in sustainability due to weakly enforced laws and the lack of a reliable green supply chain (Kasim and Ismail, 2012).

Perceived Cost and Financial Culture

Despite these enabling factors, the study shows that sustainability decisions are frequently constrained by perceived cost, which remains one of the most persistent inhibitors. The culinary sectors tend to operate with tight margins, and entrepreneurs often perceive sustainable

technologies, environmentally friendly packaging, and waste-management systems as prohibitively expensive (Minardi et al., 2023; Nyamogosa and Obonyo, 2022). Even when long-term cost savings are possible, the short-term financial burden elevates perceived behavioural control barriers, limiting adoption.

Complementing cost-related constraints is financial culture, which shapes how entrepreneurs interpret financial risks, manage savings, and make investment decisions. Prior studies suggest that financial culture is deeply rooted in societal norms and influences how SMEs perceive long-term investments (Csorba, 2020; Breuer and Salzmann, 2012). Culinary entrepreneurs with strong financial discipline and literacy are more likely to pursue sustainability investments, whereas risk-averse financial culture inhibits such initiatives.

Table 1: Antecedents Category

Antecedent Category	Key Drivers	Primary Inhibitors	Source
Knowledge/ Awareness	Waste management knowledge, Environmental awareness	Lack of technical skills, information gaps	Ahmad et al., 2025; Talbot et al., 2021; Wijayanto et al., 2024; Alfarizi et al. 2023.
Social	Peer pressure, Reputational pressure	Cultural resistance to change	Lazaric et al., 2020; Chatterjee et al., 2021; Xiong et al., 2016; Filippini et al., 2020; Kacperczyk, 2013.
Institutional	Tax incentives, Subsidies, Mentorship	Regulatory complexity, Poor enforcement	Razumovskaia, et al., 2020; Ganotakis et al., 2021; Nor et al., 2023; Lamoreux et al., 2019).
Financial	Access to formal credit, High financial literacy	Perceived high costs, Risk aversion	Minardi et al., 2023; Nyamogosa and Obonyo, 2022; Csorba, 2020; Breuer and Salzmann, 2012).

Source: data processed, 2025

Decisions as Behavioural Mechanisms of the Entrepreneur

The decision-making process is the cognitive black box where antecedents are evaluated and transformed into behavioural intention. This review maps these decisions through the lens of the DTPB constructs.

Attitude Formation

Attitude is determined by the evaluation of behavioural outcomes (Moons and De Pelsmacker, 2015). For culinary MSMEs, a positive attitude is formed when the relative advantage of a green practice is clear, such as when reduced food waste directly lowers procurement costs. However, if a sustainable transition is perceived as too complex or incompatible with current kitchen routines, the attitude remains negative despite high awareness. Research in the Indian and Italian restaurant sectors confirm that consumers' intention to patronise green restaurants is strongly driven by their positive attitudes toward the health and environmental benefits of organic food (Ahmad et al., 2025).

Subjective Norms and Social Pressure

Subjective norms represent the perceived social pressure to conform to sustainability standards (Nugraha and Iqbal, 2025). For small business owners, this pressure often comes from proximate sources like family, close peers, and costumers. While distant regulatory pressure can sometimes trigger resistance, proximate pressure from the local community acts as a powerful motivator for sustainability improvement. The rise of social media has further amplified this effect, as culinary MSMEs use platforms to showcase their green initiatives, creating a feedback loop of social approval and reputation building (Borah et al., 2022; Ur Rahman et al, 2020).

Perceived Behavioural Control (PBC)

PBC is a critical determinant of whether an intention actually translates into behaviour. It is determined by self-efficacy and facilitating condition (Tanveer et al., 2021). For culinary entrepreneurs, high self-efficacy means believing they have the skills to manage a zero-waste supply chain (Hussain et al., 2019; Ilyas et al., 2020). Facilitating conditions refer to the availability of resources like capital, eco-friendly suppliers, and supportive technology (Autio et al., 2021). Studies show that even with a positive attitude and strong social pressure, MSMEs often fail to adopt sustainability if PBC is low due to financial constraints or a lack of access to affordable green technologies (Chege and Wang, 2020).

The Implementation of Sustainability Adoption as Outcomes

The primary outcome of the ADO process is the actual implementation of sustainable practices, which has far-reaching consequences for both the firm and the environment. Sustainability adoption leads to a reduction in the environmental footprint of the culinary sector. Key practices identified in the literature include waste valorisation, such as coffee grounds or organic food scraps into bio-energy or compost (Alfarizi et al., 2023); sustainable packaging such as phasing out single-use plastics in favour of biodegradable, recyclable, or reusable alternatives (Marx-Pienaar, et al., 2020); and resource efficiency such as implementing energy-efficient cooking equipment and minimising water consumption (Cañon-de-Francia & Garcés-Ayerbe, 2019; Darmandieu, et al., 2022). These practices contribute to the circular economy and material circularity, reducing the volume of waste sent to landfills.

The synthesis indicates that sustainability adoption is a driver of long-term business resilience and growth. Sustainable supply chain practices have been shown to positively and significantly influence performance by enhancing market reputation and costumers' satisfaction (Hussain et

al., 2019). Furthermore, companies that prioritise environmental community projects and social well-being beyond their economic responsibilities often achieve greater financial success and a stronger corporate image among stakeholders (Espindola et al., 2022).

However, the link between sustainability and financial performance is not always direct. It is often mediated by factors such as innovation capabilities and customer' loyalty (Borah et al., 2022; Espindola et al, 2022). For instance, while green products may have a negligible direct effect on the short-term profits of some restaurants, they serve as essential catalysts for long-term operational efficiency and the mitigation of future regulatory risks (Asiedu-Ayeh et al., 2022).

The Moderating Role of Digital Financial Inclusion (DFI)

DFI emerged as a powerful enabler that interacts with both the antecedents and the decision-making components of the ADO framework. The primary mechanism through which DFI supports sustainability is by easing financing constraints (Demirguc-Kunt et al., 2018). By providing MSMEs with access to mobile payment systems and digital credit, DFI provides the facilitating conditions necessary to elevate PBC (Lutfi, et.al, 2021; Vo, et.al., 2021). DFI acts as a crucial moderator between digital financial literacy, government support, and firm performance. When entrepreneurs are digitally literate, they can more effectively utilise digital financial services to manage cash flow and secure the capital required for sustainable technological investments (Tay et al., 2022).

DFI allows MSMEs to convey favourable signals to external investors and lenders. As digital transaction history becomes a form of reputational collateral, institutions can more accurately assess the risk profiles of small firms. This reduces the credit rationing common in manual and field-based banking systems, enabling a more inclusive financial environment for green innovation (Yang and Zhang, 2020).

The Strategic Moderation of Entrepreneurial Orientation (EO)

EO acts as a catalyst that transforms sustainability awareness and social pressures into strategic action. Firms with a high level of innovativeness are more likely to develop the organisational procedures and routine necessary for sustainability (Song, et al., 2019). Proactiveness enables culinary entrepreneurs to identify emerging market niches for organic or ethically sourced food before their competitors, securing a first-mover advantage (Jansson, et al, 2017). Research in Ghana and India indicates that EO significantly predicts firm performance, with sustainability practices acting as a key mechanism through which this orientation is translated into economic and social value (Akomea et al., 2023; Vrontis et al., 2022).

Sustainability adoption often involves significant risks, such as high upfront costs or the uncertainty of consumer acceptance. EO enables managers to undertake these hazardous resource commitments, recognising that the fair chance of expensive failure is balanced by the potential for long-term resilience (Basco et al., 2020). In high-intensity competitive markets, EO strengthens the positive relationship between sustainability practice and performance, as forward-thinking firms use green credentials to differentiate themselves (Akomea et al., 2023).

Conclusions

This study demonstrates that sustainability practice adoption among culinary MSMEs is shaped by a combination of behavioural, financial, and institutional antecedents that operate through the mechanisms described in the DTPB. This study has synthesised a vast body of literature to demonstrate that while awareness and knowledge are foundational, they must be supported by facilitating conditions, specifically access to finance and technical mentorship, to translate into actual behaviour.

The ADO framework has revealed that antecedents such as sustainability awareness, waste-management knowledge, peer pressure, government support, perceived cost, and financial culture influence the sustainability adoption. Digital financial inclusion enhances financial capability and reduces information asymmetry while entrepreneurial orientation empowers entrepreneurs to convert sustainability awareness into strategic action. These moderating influences underscore the importance of integrating behavioural and digital perspectives into future sustainability frameworks.

Despite growing scholarly interest, significant research gaps remain, particularly in culinary MSMEs contexts and emerging markets. Future studies should examine behavioural and digital interactions; and explore sector-specific sustainability competencies. The transition toward green operations is no longer merely an ethical choice, it has become a prerequisite for long-term competitiveness in a market increasingly defined by health consciousness and sustainability. Strengthening these areas will contribute to a more comprehensive understanding of how culinary MSMEs can transition toward sustainable operations and long-term resilience.

Implications

The findings of this systematic literature review have profound implications for a wide range of stakeholders in the MSME ecosystem.

For Culinary MSME Owners and Managers

Entrepreneurs should recognise that sustainability is a strategic investment in long-term resilience rather than an unavoidable cost. Improving sustainability awareness and waste management knowledge is a high-impact, low-cost starting point that can directly reduce operational inefficiencies and procurement costs. Owners should proactively engage with digital financial tools, as building a transparent digital transaction history is essential for accessing the credit required for future green upgrades. Furthermore, adopting an entrepreneurial posture, characterised by innovativeness and proactiveness, will be the primary differentiator for success in the increasingly competitive green market.

For Policymakers and Regulatory Bodies

Institutional support must move beyond general subsidies to targeted facilitating conditions that directly address the barriers identified in this review. Key policy actions include innovative credit scoring to implement mechanisms that leverage digital transaction data from QRIS or e-wallets to broaden credit assessments for MSMEs; clear sustainability standards by providing sector-specific standards and toolkits to help small businesses navigate complex green

initiatives; incentivised circularity by offering tax breaks, debt relief program, and performance-based grants for MSMEs that demonstrate significant reductions in food waste; and integrated infrastructure by strengthening digital infrastructure and simplifying banking procedures to ensure DFI reaches micro-entrepreneurs in both urban and rural regions.

For Industry Association and Educators

Associations can amplify peer influence by creating platforms for knowledge-sharing and sustainability benchmarking. Educational programs should focus on practical, field-based training rather than abstract concept. Demonstrating the direct link between specific practices and profitability is essential to shifting the financial culture of the culinary sector. Mentorship programs connecting established sustainable entrepreneurs with those in the intention stage can significantly increase self-efficacy and perceived behavioural control.

Limitation and Future Research Agenda

Despite the comprehensive nature of this review, several limitations must be acknowledged. First, the diversity of the MSME classification, which includes everything from solo-entrepreneurs to firms with many employees, means that the effectiveness of certain determinants, such as EO or government support, may vary significantly based on firm size and complexity. Second, much of existing research on sustainability adoption utilises cross-sectional designs and self-reported behaviour, which can be subject to social desirability bias. This means that entrepreneurs may report higher levels of awareness or adoption than is actually practices in their daily operations. Finally, while the ADO framework identifies causal flows, the interaction between moderators like DFI and EO requires more extensive empirical validation.

To advance the transition toward sustainable culinary MSMEs, future research should address the following gaps: 1) Integrated empirical models by examining behavioural constructs (DTPB), strategic orientations (EO), and digital capabilities (DFI) in a single structural equation model. This would help identify the relative weight of each factor in the adoption decision; 2) Future study should explore the unique green competencies required for the culinary industry, such as low-carbon cooking techniques, circular supply chain management, and the development of local eco-friendly material networks; 3) Cultural and religious nuances by investigating how regional financial cultures and religious ethics influence financial decision-making and sustainability awareness would provide a more localised and nuanced understanding of adoption determinants in diverse markets; and 4) consumer-business alignment by exploring the awareness-behaviour gap from both entrepreneur and consumer perspective simultaneously could reveal why high-stated demand for green products does not always translate into profitable sales for sustainable culinary MSMEs.

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References

- Ahmad, N., Fahad, Zaki, M., Alam, Z., & Khalid, M. (2025). Understanding consumer attitude and purchase intention of organic food products. *Spanish Journal of Marketing-ESIC*.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Akerlof, G. A. (1970). The market for “lemons”: Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84(3), 488-500.
- Akomea, S.Y., Agyapong, A., Ampah, G. and Osei, H.V. (2023), Entrepreneurial orientation, sustainability practices and performance of small and medium enterprises: evidence from an emerging economy, *International Journal of Productivity and Performance Management*, Vol. 72 No. 9, pp. 2629-2653. <https://doi.org/10.1108/IJPPM-06-2021-0325>
- Alfarizi, M., Samputra, P.L., & Arista, N.I.D. (2023). Role of entrepreneur’s perspective of waste management for coffee shop sustainability. *Problems and Perspectives in Management*, 21(4), 502-515. [http://dx.doi.org/10.21511/ppm.21\(4\).2023.38](http://dx.doi.org/10.21511/ppm.21(4).2023.38)
- Alhashim, L. A., Alshahrani, N. Z., Alshahrani, A. M., Khalil, S. N., Alrubayii, M. A., Alateeq, S. K., & Zakaria, O.M. (2022). Food safety knowledge and attitudes: A cross-sectional study among Saudi consumers from food trucks owned by productive families. *International Journal of Environmental Research and Public Health*, 19(7), 4322. <https://doi.org/10.3390/ijerph19074322>
- Asiedu-Ayeh, L. O., Zheng, X., Agbodah, K., Dogbe, B. S., & Darko, A. P. (2022). Promoting the adoption of agricultural green production technologies for sustainable farming: A multi-attribute decision analysis. *Sustainability*, 14(16), 9977. <https://doi.org/10.3390/su14169977>
- Autio, E., Fu, K., Smit, W., Muftiadi, A., Chiyachantana, C., Prasarnphanich, P., & Park, D. (2021). Adoption of digital technologies, business model innovation, and financial and sustainability performance in startup Firms. *Asian Development Bank*, 13(5), 1-40. <http://dx.doi.org/10.22617/WPS240356-2>
- Basco, R., Hernández-Perlines, F., & Rodríguez-García, M. (2020). The effect of entrepreneurial orientation on firm performance: A multigroup analysis comparing China, Mexico, and Spain. *Journal of Business Research*, 113, 409-421. <https://doi.org/10.1016/j.jbusres.2019.09.020>
- Borah, P. S., Iqbal, S., & Akhtar, S. (2022). Linking social media usage and SME's sustainable performance: The role of digital leadership and innovation capabilities. *Technology in Society*, 68, 101900. <https://doi.org/10.1016/j.techsoc.2022.101900>
- Breuer, W., & Salzmann, A. J. (2012). National culture and household finance. *Global Economy and Finance Journal*, 5, 37-52. <http://dx.doi.org/10.2139/ssrn.1448698>
- Bux, C., & Amicarelli, V. (2023). Circular economy and sustainable strategies in the hospitality industry: Current trends and empirical implications. *Tourism and Hospitality Research*, 23(4), 624-636. <https://doi.org/10.1177/14673584221119581>
- Cañón-de-Francia, J., & Garcés-Ayerbe, C. (2019). Factors and contingencies for the “it Pays to Be green hypothesis”. The European Union’s emissions trading system (EU ETS) and financial crisis as contexts. *International journal of environmental research and public health*, 16(16), 2988. <https://doi.org/10.3390/ijerph16162988>
- Chatterjee, S., Bhattacharjee, K. K., Tsai, C. W., & Agrawal, A. K. (2021). Impact of peer influence and government support for successful adoption of technology for vocational education: A quantitative study using PLS-SEM technique. *Quality & Quantity*, 55, 2041–2064. <https://doi.org/10.1007/s11135-021-01100-2>

- Chege, S.M., & Wang, D. (2020). The influence of technology innovation on SME performance through environmental sustainability practices in Kenya. *Technology in Society*, 60, 101210. <https://doi.org/10.1016/j.techsoc.2019.101210>
- Csorba, L. (2020). The determining factors of financial culture, financial literacy and financial behavior. *Public Finance Quarterly= Pénzügyi Szemle*, 65(1), 67-83. https://doi.org/10.35551/PFQ_2020_1_6
- Darmandieu, A., Garcés-Ayerbe, C., Renucci, A., & Rivera-Torres, P. (2022). How does it pay to be circular in production processes? Eco-innovativeness and green jobs as moderators of a cost-efficiency advantage in European small and medium enterprises. *Business Strategy and the Environment*, 31(3), 1184-1203. <https://doi.org/10.1002/bse.2949>
- Demircuc-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*. World Bank Publications.
- Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. *Environmental quality management*, 8(1), 37-51.
- Espíndola, O.R., Romo, A.C., Chowdhury, S., Acevedo, N.A., Albores, P., Despoudi, S., Malesiosf, C., & Dey, P. (2022). The role of circular economy principles and sustainable-oriented innovation to enhance social, economic and environmental performance: Evidence from Mexican SMEs. *International Journal of Production Economics*, 248, 108495, <https://doi.org/10.1016/j.ijpe.2022.108495>
- Filippini, R., Marescotti, M. E., Demartini, E., & Gaviglio, A. (2020). Social networks as drivers for technology adoption: a study from a rural mountain area in Italy. *Sustainability*, 12(22), 9392. <https://doi.org/10.3390/su12229392>
- Ganotakis, P., D'Angelo, A., & Konara, P. (2021). From latent to emergent entrepreneurship: The role of human capital in entrepreneurial founding teams and the effect of external knowledge spillovers for technology adoption. *Technological Forecasting and Social Change*, 170, 120912. <https://doi.org/10.1016/j.techfore.2021.120912>
- Hermawan, J., Inggrit Wijaya, L., & Rianawati, A. (2025). Environmental, social and governance trends in Asian firms: a systematic review and bibliometric analysis using the antecedents-decisions-outcomes-theories-context-methods framework. *Cogent Business & Management*, 12(1). <https://doi.org/10.1080/23311975.2025.2525531>
- Huang, Y., Hall, C. M., & Chen, N. (2025). The sustainability characteristics of Michelin green star restaurants. *Journal of Foodservice Business Research*, 28(2), 219-244. <https://doi.org/10.1080/15378020.2023.2235258>
- Hussain, M., Al-Aomar, R., & Melhem, H. (2019). Assessment of lean-green practices on the sustainable performance of hotel supply chains. *International Journal of Contemporary Hospitality Management*, 31(6), 2448-2467. <https://doi.org/10.1108/IJCHM-05-2018-0380>
- Ilyas, S., Hu, Z., & Wiwattanakornwong, K. (2020). Unleashing the role of top management and government support in green supply chain management and sustainable development goals. *Environmental Science and Pollution Research*, 27(8), 8210-8223. <https://doi.org/10.1007/s11356-019-07268-3>
- Jansson, J., Nilsson, J., Modig, F., & Hed Vall, G. (2017). Commitment to sustainability in small and medium-sized enterprises: The influence of strategic orientations and management values. *Business Strategy and the Environment*, 26(1), 69–83. <https://doi.org/10.1002/bse.1901>

- Kacperczyk A. J. (2013). Social influence and entrepreneurship: The effect of university peers on entrepreneurial entry. *Organization Science*, 24(3), 664–683. <https://doi.org/10.1287/orsc.1120.0773>
- Kasim, A., & Ismail, A. (2012). Environmentally friendly practices among restaurants: drivers and barriers to change. *Journal of Sustainable Tourism*, 20(4), 551–570. <https://doi.org/10.1080/09669582.2011.621540>
- Lamoureux, S. M., Movassaghi, H., & Kasiri, N. (2019). The role of government support in SMEs' adoption of sustainability. *IEEE Engineering Management Review*, 47(1), 110–114. <https://doi.org/10.1109/EMR.2019.2898635>
- Lazaric, N., Le Guel, F., Belin, J., Oltra, V., Lavaud, S., & Douai, A. (2020). Determinants of sustainable consumption in France: the importance of social influence and environmental values. *Journal of Evolutionary Economics*, 30, 1337–1366. <https://doi.org/10.1007/s00191-019-00654-7>
- Lingappa, A. K., Shah, A., & Mathew, A. O. (2020). Academic, family, and peer influence on entrepreneurial intention of engineering students. *Sage Open*, 10(3), 2158244020933877. <https://doi.org/10.1177/2158244020933877>
- Lutfi, A., Al-Okaily, M., Alshirah, M. H., Alshira'h, A. F., Abutaber, T. A., & Almarashdah, M. A. (2021). Digital financial inclusion sustainability in Jordanian context. *Sustainability*, 13(11), 6312. <https://doi.org/10.3390/su13116312>
- Lv, P., and Xiong, H. (2022). Can FinTech improve corporate investment efficiency? Evidence from China. *Research in International Business and Finance*, 60, 101571. <https://doi.org/10.1016/j.ribaf.2021.101571>
- Marx-Pienaar, N. J. M. M., Du Rand, G. E., Fisher, H. J. H., & Viljoen, A. T. (2020). The South African quick service restaurant industry and the wasteful company it keeps. *International Journal of Sustainable Development and Planning*, 15(1), 57–68
- Minardi, F., Botta-Genoulaz, V., & Mangano, G. (2023). Sustainable Supply Chain Management practices in food industry: professionals' perspective. In *Supply Chain Forum: An International Journal* (pp. 1-15). Taylor & Francis. <https://doi.org/10.1080/16258312.2023.2266787>
- Mohammad, W. M. W., & Wasiuzzaman, S. (2021). Environmental, Social and Governance (ESG) disclosure, competitive advantage and performance of firms in Malaysia. *Cleaner Environmental Systems*, 2, 100015. <https://doi.org/10.1016/j.cesys.2021.100015>
- Moher D, Liberati A, Tetzlaff J, Altman DG (2009) Academia and clinic annals of internal medicine preferred reporting items for systematic reviews and meta-analyses. *Ann Intern Med*. 151(4), 264–269
- Moons, I., & De Pelsmacker, P. (2015). An Extended Decomposed Theory of Planned Behaviour to Predict the Usage Intention of the Electric Car: A Multi-Group Comparison. *Sustainability*, 7(5), 6212–6245. <https://doi.org/10.3390/su7056212>
- Nor, N. F., Hanafi, A. G., & Saaidun, N. S. N. (2023). Does Government Support Enhance the Sustainable Competitive Performance among SMEs? Empirical Study among Small Medium Enterprises (SMEs) Perlis. *International Journal For Multidisciplinary Research*, 5(3), 1-11
- Nugraha, R. A., & Iqbal, M. (2025). A Systematic Literature Review on Decomposed Theory of Planned Behavior (DTPB) in Technology Adoption. *KnE Social Sciences*, 10(13), 343-368.
- Nyamogosa, H. M., & Obonyo, G. O. (2022). Sustainable Business Strategies for Fast-food Restaurant Growth: Fast-food Restaurant Manager's perspective in Lake Region

- Economic Block, Kenya. *Journal of Hospitality and Tourism*, 2(1), 1-15. <https://doi.org/10.47672/jht.958>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *bmj*, 372.
- Paul, J., & Benito, G. R. G. (2018). A review of research on outward foreign direct investment from emerging countries, including China: what do we know, how do we know and where should we be heading? *Asia Pacific Business Review*, 24(1), 90–115. <https://doi.org/10.1080/13602381.2017.1357316>
- Pénicaud, C., & Katakam, A. (2019). State of the industry 2013: Mobile financial services for the unbanked. *Gates Open Research*, 3(1429), 1429. <https://doi.org/10.21955/gatesopenres.1116339.1>
- Purusottama, A., Ardianto, A., & Trilaksono, T. (2019). Employer Branding of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. *Jurnal Riset Manajemen Dan Bisnis (JRMB) Fakultas Ekonomi UNIAT*, 4(1), 165–174. <https://doi.org/10.36226/jrmb.v4i1.250>
- Putri, A.J., & Madju, Y.R.B., (2023). Identifying Environmental, Social, and Governance (ESG) Implementation towards Growth and Sustainability: A Case Study at Assisted Micro, Small, and Medium Enterprise (MSME) by Bank Indonesia. *International Journal of Current Science Research and Review*, 6(7), 4469-4076. <https://doi.org/10.47191/ijcsrr/V6-i7-61>
- Razumovskaia, E., Yuzvovich, L., Kniazeva, E., Klimenko, M., & Shelyakin, V. (2020). The effectiveness of Russian government policy to support smes in the COVID-19 pandemic. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 160. <https://doi.org/10.3390/joitmc6040160>
- Sedunov, J. (2017). Does bank technology affect small business lending decisions? *Journal of Financial Research*. 40 (1), 5–32. <https://doi:10.1111/jfir.12116>
- Shalhoob, H., & Hussainey, K. (2023). Environmental, Social and Governance (ESG) Disclosure and the Small and Medium Enterprises (SMEs) Sustainability Performance. *Sustainability*. 15(1), 200. <https://doi.org/10.3390/su15010200>
- Shirolkar, S., & Patil, K. (2021). Antecedents, decisions, and outcomes of a sharing economy: A systematic literature review. *Technology Innovation Management Review*, 11(11-12).
- Song, W., Ma, X., & Yu, H. (2019). Entrepreneurial orientation, interaction orientation, and innovation performance: A model of moderated mediation. *Sage Open*, 9(4), 2158244019885143. <https://doi.org/10.1177/2158244019885143>
- Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355-374.
- Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American economic review*, 71(3), 393-410.
- Talbot, D., Raineri, N., & Daou, A. (2021). Implementation of sustainability management tools: The contribution of awareness, external pressures, and stakeholder consultation. *Corporate Social Responsibility and Environmental Management*, 28(1), 71-81. <https://doi.org/10.1002/csr.2033>
- Tandilino, C., Pontoh, G. T., Darmawati, D., & Indrijawati, A. (2025). Digital Financial Inclusion as a Mediator of Digital Financial Literacy and Government Support in MSME Performance. *International Journal of Financial Studies*, 13(4), 199. <https://doi.org/10.3390/ijfs13040199>
- Tanveer, A., Zeng, S., Irfan, M., & Peng, R. (2021). Do perceived risk, perception of self-efficacy, and openness to technology matter for solar PV adoption? An application of

- the extended theory of planned behavior. *Energies*, 14(16), 5008. <https://doi.org/10.3390/en14165008>
- Tay, L.Y., Tai, H.T., & Tan, G.S. (2022). Digital financial inclusion: A gateway to sustainable development. *Heliyon*, 8 (6), e09766, <https://doi.org/10.1016/j.heliyon.2022.e09766>.
- Taylor, S., & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International journal of research in marketing*, 12(2), 137-155. [https://doi.org/10.1016/0167-8116\(94\)00019-K](https://doi.org/10.1016/0167-8116(94)00019-K)
- Tommasetti, A., Troisi, O., Singer, P., & Maione, G. (2018). Extended Theory of Planned Behavior (ETPB): Investigating Customers' Perception of Restaurants' Sustainability by Testing a Structural Equation Model. *Sustainability*, 10(7), 2580. <https://doi.org/10.3390/su10072580>
- Vo, D. H., Nguyen, N. T., & Van, L. T. H. (2021). Financial inclusion and stability in the Asian region using bank-level data. *Borsa Istanbul Review*, 21(1), 36-43. <https://doi.org/10.1016/j.bir.2020.06.003>
- Vrontis D, Chaudhuri R, & Chatterjee S. (2022). Adoption of Digital Technologies by SMEs for Sustainability and Value Creation: Moderating Role of Entrepreneurial Orientation. *Sustainability*. 14(13), 7949. <https://doi.org/10.3390/su1413794>
- Wei, J., & Liu, Y. (2015). Government support and firm innovation performance: Empirical analysis of 343 innovative enterprises in China. *Chinese Management Studies*, 9(1), 38-55. <https://doi.org/10.1108/CMS-01-2015-0018>
- Wijayanto, G., Ardhiyansyah, A., Waangsir, F. W., & Mu'min, H. (2024). The Effect of Environmental Education, Consumer Awareness, and Environmentally Friendly Practices on Plastic Waste Reduction in Indonesia. *West Science Social and Humanities Studies*, 2(03), 401–411. <https://doi.org/10.58812/wsshs.v2i03.708>
- Xiong, H., Payne, D., & Kinsella, S. (2016). Peer effects in the diffusion of innovations: Theory and simulation. *Journal of behavioral and Experimental Economics*, 63, 1-13. <https://doi.org/10.1016/j.socec.2016.04.017>
- Yang, L., & Zhang, Y. (2020). Digital financial inclusion and sustainable growth of small and micro enterprises—evidence based on China's new third board market listed companies. *Sustainability*, 12(9), 3733. <https://doi.org/10.3390/su12093733>
- Yudawisastra, H. G., & Layalia, F. (2025). Sustainability business in the culinary sector: A systematic literature review. *Social Agriculture, Food System, and Environmental Sustainability*, 2(2), 77-91.