

Impact of Cross-Sector Collaboration on Micro Business Performance, with Ecosystem Orchestration and Green Corporate Strategy as Mediating Variables

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Abstract. This study examines how cross-sector collaboration affects micro-enterprise performance, with ecosystem orchestration and green corporate strategy as mediating variables. This research addresses the growing need for micro-enterprises to enhance competitiveness through collaborative, sustainable strategies in a dynamic business environment. The study focuses on food and beverage micro-enterprises in North Jakarta, selected using purposive sampling. Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to assess direct and indirect relationships among variables. The findings show that cross-sector collaboration significantly strengthens ecosystem orchestration but does not significantly influence green corporate strategy. Cross-sector collaboration also positively affects micro-enterprise performance, with ecosystem orchestration emerging as a key determinant. In contrast, green corporate strategy has no significant effect on performance. Mediation analysis confirms that ecosystem orchestration plays a crucial mediating role, while green corporate strategy does not. These results highlight ecosystem orchestration as essential in converting collaboration into measurable performance improvements. Meanwhile, green corporate strategy remains insufficiently developed and not fully integrated into micro business strategic decision-making processes.

Keywords: cross-sector collaboration, ecosystem orchestration, green corporate strategy, micro business performance

Introduction

Microenterprises operate in increasingly competitive and dynamic business environments, requiring collaborative and sustainable strategies to strengthen resilience and long-term performance (Hagiwara & Liu, 2023). To build resilience and grow in increasingly competitive, dynamic marketplaces, microenterprises need to adopt sustainable, cooperative strategies. Cross-sector collaboration facilitates access to resources, expertise, networks, and institutional support that enhance innovation and operational capabilities. However, collaboration alone may not generate optimal

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outcomes without effective coordination and strategic integration. Ecosystem orchestration addresses this challenge by aligning stakeholders, integrating resources, and facilitating value co-creation, while green corporate strategy incorporates environmental sustainability into business operations to strengthen legitimacy and competitiveness. Despite growing interest in collaborative ecosystems and sustainability, empirical evidence explaining how these mechanisms jointly influence microenterprise performance remains limited, particularly in developing economies (Suryadarma & Prasetyo, 2023), (Wijaya, 2025).

This research focuses on food and beverage microenterprises in North Jakarta, Indonesia, where resource constraints, competitive pressures, and environmental challenges highlight the importance of adaptive business strategies (Moldogaziev & Witko, 2023). Although cross-sector partnerships involving suppliers, communities, and supporting institutions create opportunities for business development, their effectiveness depends on how organizations coordinate collaborative resources and translate them into organizational capabilities (Kamal & Tarzid, 2024). Existing discussions emphasize the benefits of collaboration for business performance, yet insufficient attention has been devoted to distinguishing the mediating roles of ecosystem orchestration and green corporate strategy within a unified analytical framework.

Previous research suggests that cross-sector collaboration supports stakeholder coordination, resource integration, and organizational performance (Olah & Alpek, 2021). Nevertheless, the mechanisms through which collaboration produces measurable outcomes remain insufficiently understood, particularly when sustainability strategies compete with immediate operational priorities (Hussain & Kim, 2024). This distinction matters theoretically because ecosystem orchestration and green corporate strategy represent different organizational pathways: the former emphasizes coordination and value creation, while the latter prioritizes environmental responsibility and long-term strategic adaptation.

Addressing this gap contributes to ecosystem-based management and collaborative governance literature by clarifying how interorganizational relationships translate into microenterprise performance (Podger & Kettl, 2024) (Hendrawan et al., 2024). Resource limitations and short-term business priorities may constrain the implementation and effectiveness of green strategies, suggesting that sustainability-oriented collaboration does not necessarily produce immediate economic benefits (Adeito Mavunda et al., 2023b). Understanding these relationships can inform policies that strengthen collaborative platforms, ecosystem coordination, and sustainable business capabilities (Célestin Adeito Mavunda et al., 2023).

Accordingly, this study examines the direct effect of cross-sector collaboration on microenterprise performance and the mediating roles of ecosystem orchestration and green corporate strategy. Using a quantitative explanatory approach and Partial Least Squares Structural Equation Modeling (PLS-SEM), it evaluates these relationships among 300 food and beverage microenterprises in North Jakarta. The study offers an integrated framework for understanding how collaboration, ecosystem coordination, and environmental strategy contribute to microenterprise performance in resource-constrained business environments.

Theoretical Framework

Cross-sector collaboration enhances social innovation in rural micro-enterprises by leveraging social capital, transformational leadership, and institutional alignment. (Kasumaningrum et al., 2024). Moreover, cross-sector collaboration involves cooperation among stakeholders from the public, non-profit, and/or private sectors to foster social innovations and tackle complex challenges. (Mayr, 2022). Cross-sector collaboration systematically aligns resources and knowledge across sectors (government, business, civil society) to achieve sustainable transitions (Ba et al., 2024). Cross-sector collaboration is a process in which participants from the public, corporate, and civil society sectors voluntarily unite to achieve shared objectives that they cannot achieve alone by exchanging resources, risks, and responsibilities. Bryson et al. (2015).

Ecosystem Orchestration (EO) involves coordinating interdependent actors around shared value propositions through organizational structures, strategic positioning, and knowledge management (Lingens & Huber, 2023). Effective orchestration requires adaptive capabilities to identify opportunities, build partnerships, and align ecosystem activities, especially in rapidly evolving digital environments (Linde et al., 2021). Within entrepreneurial ecosystems, orchestrators serve as facilitators, coordinators, relationship advocates, and opinion leaders who mobilize resources and translate collaborative efforts into tangible outcomes (Tabas et al., 2023). Accordingly, EO may mediate the relationship between CSC and microenterprise performance by transforming interorganizational cooperation into coordinated operational capabilities.

Green Corporate Strategy (GCS) integrates environmental sustainability into organizational decision-making to enhance resource efficiency, market opportunities, and competitiveness (Dangelico & Vocalelli, 2017). Drawing on market-industry, resource-based, and institution-based perspectives, GCS aligns business strategies with economic, social, and environmental constraints to support long-term sustainability (Lloret, 2016). Within collaborative ecosystems, GCS may mediate by enabling shared resources and institutional support that facilitate sustainable business practices and performance improvement.

Microenterprise Performance (MP) encompasses financial viability, operational continuity, and adaptability under resource constraints, commonly assessed through revenue growth, business survival, and employment stability (Barbosa et al., 2020). Beyond financial outcomes, performance includes socioeconomic contributions, environmental sustainability, resource productivity, cost efficiency, and adaptation to innovation (Shakina et al., 2021). Collectively, these perspectives position EO and GCS as complementary mediating mechanisms through which CSC may influence microenterprise performance.

Methods

This study employed a quantitative explanatory survey of 300 micro-enterprises in North Jakarta to examine the effect of cross-sector collaboration on performance, with ecosystem orchestration and green corporate strategy as mediating variables. Data were collected through structured Likert-scale questionnaires distributed digitally and in print, using validated multidimensional indicators for each construct. Descriptive statistics, including mean, standard deviation, skewness, and kurtosis, were used to

assess respondent characteristics and data distribution. Structural Equation Modeling–Partial Least Squares (SEM-PLS), conducted using SmartPLS 4.0, evaluated the measurement model through Cronbach’s Alpha, Composite Reliability, Average Variance Extracted (AVE), and confirmatory factor analysis (J. Hair et al., 2021; J. F. Hair et al., 2020). Structural relationships, mediation effects, multicollinearity, and predictive relevance were assessed through path analysis, bootstrapping, and Variance Inflation Factor (VIF) evaluation (J. F. Hair et al., 2019).

Results and Discussion

The demographic profile shows that most culinary microbusiness owners are in productive working-age groups, with those aged 26 to 35 accounting for 37% and those aged 36 to 45 for 46% of the total. Only 1% of entrepreneurs are under 15, 8% are between 16 and 25, and 9% are over 45. Strong engagement from economically active and seasoned age groups is seen in this distribution. By education, most respondents (61%) have a high school diploma. Undergraduate degrees (26%) and diploma qualifications (8%) follow. No respondents have doctorates, and only a small percentage have master's degrees (3%) or other educational backgrounds (2%). These results show that managers of culinary micro-enterprises are mostly people with modest education, but with enough expertise and experience to maintain operations and foster entrepreneurial growth.

According to the business characteristics, the majority of respondents 150, or 50% work in the ready-to-eat or street food industries, with 50, or 17%, operating in local specialty cuisine enterprises. Twelve percent are beverage stalls, and eight percent are home-based caterers. Snack and baked goods production accounts for 4%, while other business categories account for 5%. By staff size, most businesses (175 respondents, or 58%) employ three to five people, while 125 respondents (42%) employ one to two people, indicating a small-to-medium operational scale. Regarding business experience, most respondents (125, or 42%) have been in the business for 11–15 years, while 75 (25%) have 16–20 years of experience. In contrast, 53 respondents (18%) have been in business for six to ten years, 23 respondents (8%) for two to five years, 15 respondents (5%) for more than twenty-one years, and 9 respondents (3%) for less than a year.

With a path coefficient of 0.747 and a p-value of 0.000, the empirical results confirm that cross-sector collaboration has a large, statistically significant impact on ecosystem orchestration, supporting the first hypothesis (H-1). This outcome shows how stakeholder collaboration improves coordination, resource integration, and value creation in the business ecosystem. Cross-sector cooperation strengthens ecosystem governance by facilitating information sharing, enhancing access to vital resources, and coordinating institutional tasks. These results align with earlier research highlighting cooperation as a crucial strategy for enhancing organizational innovation and integration. Collaboration improves adaptive ability and helps microenterprises overcome resource limitations. Ecosystem orchestration, which provides a structural basis for improving coordination, operational effectiveness, and sustainable company performance, thus emerges from successful collaboration (Shen et al., 2024).

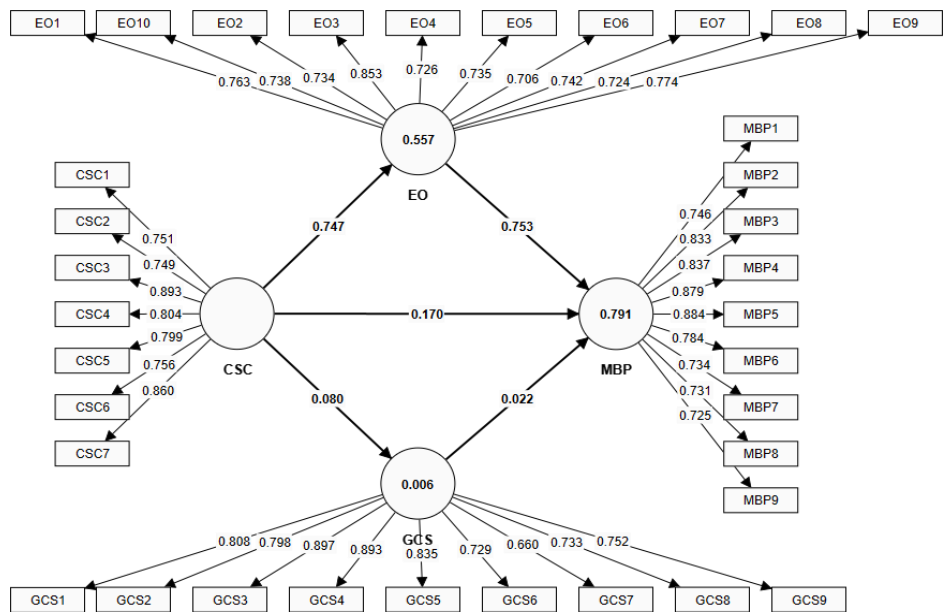


Fig 1. PLS-SEM Structural and Measurement Model Results

Table 1. Direct Hypothesis Testing

Hypothesis	Path Coefficient	P-Value	95% Confidence Interval of Path Coefficient		F-Square
			Lower Bound	Upper Bound	
H-1: Cross Sector Collaboration -> Ecosystem Orchestration	0.747	0.000	0.687	0.801	1.259
H-2: Cross Sector Collaboration -> Green Corporate Strategy	0.008	0.468	-0.215	0.224	0.007
H-3: Cross Sector Collaboration -> Micro Business Performance	0.170	0.000	0.093	0.247	0.061
H-4: Ecosystem Orchestration -> Micro Business Performance	0.753	0.000	0.681	0.821	1.196
H-5: Green Corporate Strategy -> Micro Business Performance	0.022	0.455	-0.047	0.075	0.002

The results support hypothesis H-3 by demonstrating that cross-sector collaboration significantly improves micro-enterprise performance. Through collaboration, microbusinesses can access external resources, improve operational effectiveness, and strengthen resilience in competitive settings (Graham & Bonner, 2024). Furthermore, ecosystem orchestration plays a crucial role in translating cooperative efforts into

measurable results and substantially affects performance, supporting hypothesis H-4. Effective orchestration strengthens stakeholder coordination, eases resource integration, and encourages innovation, all of which enhance organizational capabilities. These findings underscore the importance of public, private, and auxiliary sectors working together. Ecosystem orchestration serves as a tactical tool that ensures cooperation yields measurable benefits. Therefore, especially for micro-enterprises operating in dynamic, resource-constrained business environments, strengthening ecosystem orchestration is crucial to optimizing collaboration effectiveness and achieving sustainable performance improvement. (Harima et al., 2024)

The results disprove hypotheses H-2 and H-5, showing that green corporate strategy has no discernible impact on micro-enterprise performance and cross-sector collaboration has no discernible impact on green corporate strategy. Sustainable techniques still appear not to be fully incorporated into micro-enterprise operations, as indicated by weak path coefficients and negligible connections. This may reflect inadequate institutional support, resource constraints, and limited organizational preparedness. Furthermore, sustainability projects frequently need sustained funding and don't yield quick financial gains (Stadtler et al., 2024). As a result, microbusinesses typically prioritize short-term financial performance and operational stability. These results show that ecosystem orchestration matters more for performance improvement than a green approach. To enable successful green strategy adoption and long-term sustainable performance, institutions must improve support, sustainability awareness, and cooperation (Alraja et al., 2022),

Table 2. Mediation Effect Hypothesis Testing

Hypothesis	Path Coefficient	P-Value	95% Confidence Interval of Path Coefficient		Upsilon V
			Lower Bound	Upper Bound	
H-6: Cross Sector Collaboration -> Ecosystem Orchestration -> Micro Business Performance	0.562	0.000	0.497	0.633	0.316
H-7: Cross Sector Collaboration -> Green Corporate Strategy -> Micro Business Performance	0.002	0.635	-0.005	0.011	0.000003

A strong path coefficient of 0.562 and a statistically significant p-value of 0.000 show that ecosystem orchestration considerably mediates the association between cross-sector collaboration and micro-enterprise success, supporting hypothesis H-6. This

outcome shows how ecosystem orchestration successfully converts teamwork into quantifiable performance gains. It promotes information sharing across institutional boundaries, streamlines resource mobilization, and strengthens stakeholder collaboration. These functions help micro-enterprises adapt, increase operational efficiency, and maximize collaborative results. To ensure successful collaboration and align stakeholder interests, intermediary actors are crucial. Thus, in dynamic, resource-constrained micro-enterprise settings, ecosystem orchestration becomes a key strategic tool that supports sustainable performance improvement, strengthens ecosystem integration, and improves value creation.

Green corporate strategy does not significantly moderate the relationship between cross-sector collaboration and micro-enterprise performance, as indicated by the rejection of hypothesis H-7. The negligible mediation effect indicates that operational and strategic processes still do not adequately incorporate sustainability measures. This limitation reflects constraints in financial, technological, and institutional support. Furthermore, the short-term performance impact of sustainability investments is diminished because they often yield delayed rewards. Thus, integrating sustainability successfully and improving micro-enterprise performance requires efficient ecosystem orchestration, organizational preparedness, and institutional support. (Serrano-García et al., 2023) (Dzhengiz & Patala, 2024).

Partial least squares structural equation modeling (PLS-SEM), a variance-based analytical technique, assesses theoretical models and emphasizes predictive accuracy over rigorous model confirmation. This method works well for complex models, exploratory research, and data that deviates from normality assumptions. With smaller samples and less demanding data requirements, PLS-SEM is more adaptable than covariance-based SEM. PLS-SEM is therefore frequently used in business and management research to accurately forecast results and examine correlations between variables.(J. F. Hair et al., 2020).

Several key statistical metrics are used in the PLS-SEM evaluation process to ensure the model's validity and predictive power. The coefficient of determination (R^2), which indicates weak, moderate, or strong explanatory power, quantifies the extent to which exogenous variables explain variance in endogenous variables.

Table 3. R Square and Q Square

	R Square	Q Square
Ecosystem Orchestration	0.556	0.553
Green Corporate Strategy	0.003	-0.003
Micro Business Performance	0.789	0.534

According to this study, green corporate strategy has a negligible impact (3%), whereas ecosystem orchestration explains 55.6% of microbusiness performance, indicating a moderate benefit. Green corporate strategy (-0.003) exhibits weak predictive relevance, while ecosystem orchestration (0.421) and micro-business

performance (0.534) show good predictive accuracy. Q2 measures predictive relevance, and values above zero indicate predictive capability.

Table 4. SRMR

	Model Estimation
SRMR	0.057

SRMR is used to assess model fit; an adequate fit is indicated by the obtained value of 0.088. Additionally, a good overall model fit is shown by the Goodness of Fit (GoF) index of 0.505, which attests to the model's robust explanatory power, precision, and dependability in describing microbusiness performance.

Table 5. GoF Index

Average Commuality	Average R Square	GoF Index
0,567	0,449	0,505

Conclusion

This study confirms that cross-sector collaboration enhances microenterprise performance both directly and indirectly through ecosystem orchestration, which facilitates stakeholder coordination, resource integration, and value creation. However, green corporate strategy shows no significant direct or mediating effects, suggesting limited integration of sustainability practices into microenterprise operations. These findings highlight the importance of ecosystem orchestration in translating collaboration into measurable performance improvements. The study contributes to collaborative ecosystem management by integrating coordination and sustainability perspectives into a unified framework. Future research should examine broader business contexts and employ longitudinal approaches to assess long-term performance and sustainability outcomes.

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