International Journal of Economic, Finance and Business Statistics (IJEFBS)
Vol. 4, No. 5, 2026: 709-720

Human Resource Management and Future Skills Development for Sustainable SME Performance: Evidence from A Circular Economy Enterprise

Nurhaeni Sikki[1*], M. Dadi Priadi[2], Tatang Sudrajat[3]
Universitas Sangga Buana YPKP, Bandung
Corresponding Author: Nurhaeni Sikki nurhaeni.sikki@usbypkp.ac.id

A R T I C L E I N F O

Keywords: Circular Economy, Employee Engagement, Future Skills, Human Resource Management, Sustainable SME

Received : 15, August
Revised : 22, September
Accepted: 25, October

©2026 Sikki, Priadi, Sudrajat: This is an open-access article distributed under the terms of the Creative Commons Atribusi 4.0 Internasional.

A B S T R A C T

Despite extensive research on circular economy technologies, the role of human resource functions in enabling the operational sustainability of resource-constrained SMEs remains theoretically underspecified. This study investigates how formal HRM practices and digital skills training enhance workforce engagement and operational performance in resource-constrained circular SMEs in the Philippines. Using a qualitative action research design, we conducted in-depth interviews with six employees and managers at a bio-waste recycling SMEs in Bandung, Indonesia, implementing a 1.5-month HRM intervention with pre-post-performance tracking. Data triangulation included institutional document analysis, field observations and SWOT-based strategic planning. The empirical findings highlighted that employee disengagement stemmed from unmet foundational needs (wage instability, role ambiguity, and skill gaps) rather than environmental commitment deficits, validating Maslow's hierarchy in green SME contexts. The intervention increased the daily bio-waste processing capacity from 300 to 550 kg (83% improvement) and elevated workforce engagement through standardized procedures and digital skill development. HRM formalization mediates the transformation of technical capacity into operational performance by addressing foundational motivational deficits, thereby enhancing waste-to-energy efficiency and local economic sustainability. Our study contributes to enabling a circular economy in SMEs by validating that, in addition to environmental commitments, formal HRM is key to driving green enterprise performance. Future studies should explore long-term wage adjustments and quantitative productivity correlations across larger SME samples.

DOI: https://doi.org/10.59890/ijefbs.v4i5.44
ISSSN-E: 3025-9959
http://journalijefbs.my.id/index.php/ijefbs

INTRODUCTION

The rapid acceleration of global urbanization and consumerism has induced unprecedented volumes of solid municipal waste, placing tremendous stress on municipal administrations and ecological systems, particularly in developing nations. In Indonesia, the accumulation of organic waste accounts for over 50-60% of the total municipal solid refuse, resulting in saturated landfills and severe greenhouse gas emissions. Traditional waste treatment systems, such as landfills and incineration, fail to support resource recovery and circularity of resources. Consequently, the transition toward a circular economy model, which emphasizes waste minimization, resource loop closure, and material regeneration, has become an imperative strategy. The agribusiness and waste management sectors are critical pillars in achieving ecological equilibrium and sustainable economic transitions across emerging nations. Small-scale circular initiatives, such as community-driven bio-waste recycling, have emerged as highly viable localized solutions for processing organic municipal waste close to its source.

Amidst the expanding urban waste challenges, small-scale models such as Gerakan Ekonomi Mandiri (GEMI 0418) in Cimahi, West Java, have pioneered circular economy innovations. By leveraging Black Soldier Fly (BSF) larvae (Hermetia illucens) farming, the enterprise processes localized organic waste of up to 1 ton daily, converting raw biodegradable refuse into nutrient-rich larvae meal and high-quality organic compost. Despite extensive research on BSF bioconversion efficiency (Ramzy et al., 2025; Wilson et al., 2025), no empirical study has examined how HRM practices influence operational performance in community-based bio-waste enterprises (Singh et al., 2025). Existing circular economy studies measure technological outputs and financial sustainability (Uwuigbe & Ajibolade, 2013) but do not document the workforce engagement mechanisms that enable or constrain daily processing capacity. No circular model can operate autonomously; the conversion of municipal waste into sustainable agricultural products relies extensively on daily, physical, and disciplined labor. Human capital functions as the central mechanism for executing business procedures and achieving strategic targets (Ajabar, 2020).

Micro and small enterprises (SMEs) operating in environmental or green sectors routinely confront severe institutional constraints, extreme financial limits, and labor inefficiencies that restrict their expansion potential and performance stabilization. In grassroots recycling centers, the labor force often consists of local community members who may lack formal training in industrial operations, quality control and safety protocols. Dominant HRM-performance scholarship focuses on large corporations with formalized HR departments, while community-based circular enterprises remain empirically underrepresented. Existing circular economy studies prioritize technological scalability (Author, Year) and financial viability (Uwuigbe & Ajibolade, 2013) but neglect the HRM mechanisms that enable operational execution in resource-constrained contexts. SME operational resilience strongly relies on workforce engagement patterns that are closely linked to behavioral motivation frameworks. Maslow's hierarchy of needs framework asserts that human

performance fluctuates significantly based on safety, physiological security, and relational equity within an enterprise (Noor & Qomariyah, 2019). When underlying operational structures, such as uniform compensation, predictable shift schedules, and technical training tools, remain informal or are completely absent, workers regress to highly disengaged operational baselines, resulting in substantial task deviations, high absenteeism, and diminished yield efficiency.

The scientific novelty of this study stems from the evaluation of an empirical transition model in which standard community labor is systematically upskilled to sustain technical green operations under high structural resource limits. Systematic reviews of circular SMEs further reveal that performance studies prioritize financial metrics (revenue growth, cost reduction) and technological efficiency (waste conversion rates, output quality) while neglecting workforce engagement and HRM practices as performance determinants (Singh et al., 2025). To the best of our knowledge, no study has empirically linked HRM interventions to operational capacity changes in bio-waste enterprises. This study documents the development of 'future skills' such as digital tracking, structured standard workflows, and programmatic marketing platforms within a grassroots bio-waste venture. Hence, our study addresses the critical knowledge gap regarding how HRM formalization mechanisms mediate the transformation of environmental commitment into operational performance in resource-constrained circular SMEs, where existing theory offers limited guidance for practitioners operating outside corporate contexts.

A few contributions of this study include; (1) Theoretical extension of Maslow's hierarchy framework in circular SME contexts by demonstrating how foundational HRM deficiencies override environmental commitment in determining performance; (2) Empirically, it provides the first quantitative evidence linking HRM formalization to operational capacity in bio-waste enterprises; (3) practically, it offers a low-cost HRM intervention model adaptable to resource-constrained circular ventures in developing economies

LITERATURE REVIEW

Circular Economy and Bio-waste Management via Black Soldier Fly (BSF)

Circular economy frameworks prioritize the regeneration of biological nutrients through integrated strategies (Geissdoerfer et al., 2017). Black Soldier Fly bioconversion exemplifies this principle (Ramzy et al., 2025); however, recent reviews have revealed that operational consistency, not just bioconversion efficiency, determines scalability in resource-constrained settings (Wilson et al., 2025). This operational dimension remains under-theorized in CE scholarship, which privileges technological over human factors. Under CE principles, biological materials are designed to be regenerated and safely returned to the biosphere, whereas technical components are kept in continuous loops of high-value utilization. Within urban waste management, bio-waste valorization using Black Soldier Fly (BSF) larvae has emerged as an efficient organic waste treatment technology. BSF larvae are voracious feeders capable of reducing organic waste mass by up to 50-80% within a 12-14-day period. The resulting larval biomass is rich in proteins (35-45%) and lipids (25-35%), making it an ideal sustainable alternative to fishmeal and poultry feed. Concurrently, the digested residues

(kasgot) serve as a nutrient-dense organic fertilizer. However, sustaining precise environmental inputs, including ambient temperature, moisture levels, and feeding density, demands consistent operational rigor from floor technicians, rendering human resources a pivotal, albeit underappreciated, component of the bioconversion loop.

Human Resource Management in Small and Medium Enterprises (SMEs)

Human Resource Management (HRM) practices within micro, small, and medium enterprises differ fundamentally from those in large multinational corporations. SMEs often exhibit informal, unstructured, and highly centralized management styles, where human resource tasks are executed ad hoc by owners or coordinators rather than professional HR departments (Enny, 2019). While informality allows for administrative flexibility and rapid decision-making, it introduces significant risks, including role ambiguity, lack of systematic training, and subjective compensation models (Fadhli & Khusnia, 2021). However, existing studies do not elaborate on how resource-constrained SMEs can implement HRM formalization when they lack dedicated HR personnel, stable budgets, or access to training infrastructure. Hence, a prevalent knowledge gap exists for circular economy practitioners in developing economies. According to Duha (2020), structured HRM policies comprising formal recruitment, regular skill training, performance-linked rewards, and clear procedural instructions are crucial for aligning individual aspirations with organizational metrics. When SMEs in green sectors overlook these human dimensions, operational productivity declines, undermining the firm's capacity to maintain stable waste-processing outputs or sustain environmental certifications.

Motivation and Employee Engagement Theories

Employee engagement refers to the psychological state in which workers feel deeply committed, physically energized, and cognitively aligned with their organization's values and operational goals. This dynamic can be analyzed through Maslow's Hierarchy of Needs, which postulates that individuals must satisfy fundamental physiological and safety needs (e.g., fair compensation and physical security) before addressing higher-level social, esteem, and self-actualization needs (Noor & Qomariyah, 2019). In community-driven enterprises, worker motivation is often initially high because of social altruism and environmental ideals. However, if basic safety and financial needs remain unmet due to administrative delays or low wage scales, employees experience rapid physical fatigue and cognitive disengagement, leading to high turnover rates (Azhari et al., 2021). Consequently, sustainable SME performance requires a strategic shift from environmental idealism to operational formalization, stabilizing fundamental motivational needs to foster long-term organizational commitment (Indika & Adia, 2021; Natalia & Netra, 2020). While motivational theories explain individual performance dynamics (Maslow, 1943; Indika & Adia, 2021), they do not specify how organizational-level HRM interventions interact with motivational hierarchies in contexts where foundational needs (wage stability, role clarity) remain chronically unmet due to institutional constraints. This theoretical gap limits the applicability of standard HRM

frameworks to informal circular SMEs in developing economies such as India.

METHODOLOGY

This study employs a participatory action research (PAR) design, chosen for its dual focus on generating theoretical insights while implementing practical organizational changes (Reason & Bradbury, 2008). The PAR approach is appropriate because it allows for a systematic investigation of HRM interventions while actively collaborating with stakeholders to address operational challenges in real time. This study followed iterative cycles of diagnosis, intervention, and reflection over a 1.5-month period. The primary research subject was Rumah Maggot GEMI 0418, a community-driven biowaste recycling enterprise located in Cimahi, West Java, Indonesia. The functional unit of analysis focused on the operational workforce's behavioral performance, task efficiency, and structural upskilling processes evaluated across a 1.5-month active intervention and monitoring period. This timeframe was selected based on the following: (1) the enterprise's operational cycle for BSF larvae maturation (12-14 days), allowing observation of at least three complete production cycles; (2) preliminary stakeholder consultations indicating that procedural changes require 4-6 weeks for behavioral stabilization; and (3) resource constraints limiting extended researcher presence on-site. The enterprise manages local bio-waste processing utilizing Black Soldier Fly (BSF) technologies and functions under significant resource constraints and community-led administrative frameworks.

Data collection relied on extensive triangulation techniques to ensure structural rigor and minimize the subjective biases. First, structured field observations were conducted continuously over six weeks using a standardized observation checklist. Observations were conducted during three daily time blocks (7-9 AM, 12-2 PM, 4-6 PM) to capture workflow variations. We recorded the following: (1) attendance (binary: present/absent); (2) operational workflows (time-motion analysis of waste sorting, feeding, and harvesting tasks); (3) sorting efficiency (calculated as the percentage of non-organic contaminants per 50 kg batch); and (4) task completion rates (number of assigned tasks completed per shift). Field notes were digitized within 24 hours and coded using a priori categories derived from HRM and motivation theory.

Second, semi-structured, in-depth interviews were conducted with six primary informants using a theoretically grounded protocol. Sample questions included: (1) 'Describe a typical workday before the new SOPs were introduced. What challenges did you face?' (2) 'How do wage payment delays affect your motivation to maintain quality standards?' (3) 'What specific skills did you acquire through the digital marketing training, and how have you applied them?' Interview guides were pilot-tested with two employees from a comparable bio-waste enterprise and refined based on feedback regarding question clarity and cultural appropriateness: The General Coordinator of GEMI 0418, two dedicated operational technicians who managed the larval nursery and compost output, and three production floor employees responsible for waste sorting and feeding (Hansen, 2020). Third, secondary administrative documents, including weekly

waste reception logs, financial wage ledgers, shift rosters, and digital marketing transaction reports, were thoroughly audited. The triangulation matrix cross-verified all verbal interview accounts against observed field behaviors and actual hard copy operational records (Murdiyanto, 2020).

Daily waste processing metrics were formally tracked to operationalize worker performance. The daily waste processing capacity was tracked using operational logs maintained by the enterprise coordinator. Baseline capacity was calculated as the mean daily processing volume during the two weeks preceding the intervention (M = 300 Kg/day, SD = 45 kg). Post-intervention capacity was calculated as the mean daily volume during the final two weeks of the study period (M = 550 Kg/day, SD = 62 kg), representing an 83% increase (Δ = 250 kg/day). While we observe a temporal association between HRM interventions and output increases, the single-case design without a control group precludes causal attributions. Following thematic analysis of the interview and observation data, the findings were synthesized into a SWOT matrix to facilitate intervention planning. SWOT elements were derived through a participatory process: (1) preliminary SWOT categories were generated by the research team based on thematic analysis results; (2) a validation workshop was conducted with the coordinator and two senior employees, who reviewed, refined, and prioritized the SWOT elements; and (3) the final SWOT matrix (Table 1) represents the consensus view of internal stakeholders grounded in empirical data. This participatory approach ensured that the intervention design was data-driven and contextually appropriate.

Interview and observation protocols were developed through a three-stage process: (1) a literature review to identify theoretically grounded constructs (employee engagement, HRM formalization, operational performance); (2) an expert review by two HRM scholars and one circular economy practitioner to assess content validity; and (3) pilot testing with two employees from a comparable enterprise, followed by refinement based on feedback regarding question clarity, cultural appropriateness, and response burden. The final instruments demonstrated a strong alignment between the research questions and data collection procedures (content validity index = 0.89).

Interview transcripts, field notes, and document excerpts were analyzed using thematic analysis following Braun and Clarke's (2006) six-phase framework. The analysis proceeded iteratively as follows: (1) Data familiarization: All transcripts were read twice, with preliminary notes recorded; (2) Initial coding: Transcripts were coded line-by-line using NVivo 12, applying a hybrid approach combining deductive codes derived from Maslow's hierarchy and HRM theory (e.g., 'physiological needs unmet,' 'role ambiguity,' 'skill development') and inductive codes emerging from data (e.g., 'community identity,' 'grant dependency'); (3) Theme development: Codes were grouped into candidate themes through iterative discussion among the research team; (4) Theme review: Themes were validated against raw data and refined for internal coherence; (5) Theme definition: Final themes were defined and named; (6) Report production. A second coder independently coded 20% of the transcripts; inter-coder reliability (Cohen's kappa) was 0.82, indicating strong agreement.

RESULTS AND DISCUSSION

Baseline Human Resource Diagnostics and Engagement Deficits

Initial field investigations conducted during the first week of the diagnostic phase revealed the absence of formalized HRM practices: no written SOPs (0/10 tasks documented), irregular wage payment schedules (M = 3.2-week delay), and no performance feedback systems. Work processes at Rumah Maggot GEMI 0418 were highly informal, characterized by a lack of standardized work hours, fluctuating attendance rates, and the absence of formal job descriptions. Daily bio-waste processing stagnated at a low baseline of approximately 300 Kg/day, leaving the processing facility operating far below its potential design capacity of 1,000 Kg/day. Direct observation revealed that waste sorting observations (n = 42 batches) revealed non-organic contamination rates of 18% (SD = 7%). The coordinator logs documented three instances of larval mortality attributed to plastic ingestion during the baseline period.

In-depth qualitative interviews with production floor employees demonstrated that this performance deficit was heavily linked to systemic motivational disengagement. Workers reported that their wages, which were financed through city municipal environmental grants, experienced frequent administrative delays. Five of the six employees reported that wage delays (M = 3.2 weeks, range = 2-6 weeks) disrupted household financial planning. Four employees explicitly stated that they considered leaving the organization because of income unpredictability. Additionally, the lack of defined operational boundaries and feedback loops meant that hard-working staff received the same compensation as underperforming workers, creating relational inequity in the workplace. Under Maslow's framework, because physiological security and wage safety needs were highly volatile, workers exhibited reduced task motivation (observable through decreased work intensity and increased break-taking), which manifested as lower task performance (measured by sorting accuracy and output volume) and reduced organizational commitment (evidenced by increased turnover intentions expressed in interviews). We distinguish motivation (internal drive), engagement (psychological investment in work), commitment (attachment to the organization), and performance (observable task outcomes) as related but distinct constructs, each requiring a separate measurement.

SWOT Analysis and Strategic HRM Formulation

To structure an actionable and realistic intervention model under resource constraints, a qualitative SWOT analysis was conducted. This framework allowed the general coordinator to balance immediate operational deficiencies with strategic external opportunities, such as city municipality partnerships and the growing commercial market for sustainable BSF-derived agricultural feeds.

Table 1. Qualitative SWOT Analysis Framework Matrix

Factors / Matriks	Strengths (S) / Kekuatan	Weaknesses (W) / Kelemahan
Opportunities (O)	SO Strategy: Leverage strong city government support and institutional exhibition opportunities to stimulate employee pride and organizational validation. Zero-cost input streams are used to optimize micro-funding and secure staff performance bonuses.	WO Strategy: Remedy localized labor scarcity by instituting systematic skill-upgrading frameworks. Standard mechanical waste processing machinery should be introduced via municipal partnerships to mitigate floor fatigue and enhance hourly throughput.
Threats (T)	ST Strategy: Address capacity volatility to protect long-term market-access contracts. Establish structured capacity safeguards to prevent customer loss to resource-rich commercial competitors.	WT Strategy: Institute rapid operational formalization and performance-linked wage metrics to eliminate high personnel attrition risks and prevent complete worker disengagement due to low wage parity.

Action-Oriented Intervention and Future-Skills Training

Based on the SWOT diagnostics, a systematic 1.5-month action-oriented intervention was structured and deployed. The intervention focused on three primary areas of organizational formalization: Standard Operating Procedures (SOPs), Digital Marketing Platforms, and Daily Performance Monitoring. To resolve operational ambiguity on the facility floor, formal written Standard Operating Procedures (SOPs) were drafted, and visual work charts were mounted at key bioconversion stages. These charts outline explicit guidelines for receiving organic waste, precise weight ratios for feeding bioponds, moisture level controls, and strict hygiene protocols.

To address the marketing and commercial bottlenecks that restricted revenue, employees underwent hands-on training in future digital skills (Sikki et al., 2021). The researcher facilitated the creation of centralized business accounts on Instagram, Facebook, and Web portals. Employees were trained to capture raw operational photos, draft promotional copies, and log customer orders directly. These new skills effectively shifted employees from passive operational workers to active participants in the enterprise's broader circular-value chain.

Post-Intervention Performance Assessment and Employee Minimum Daily Work Standards

The implementation of structured operational frameworks was followed by measurable improvements in waste processing capacity, although the single-case design limits causal inference and overall employee performance. The mean daily attendance rate increased from 67% (baseline) to 89% (post-intervention), with on-time arrival (≤7:15 AM) improving from 50% to 83% of scheduled shifts

(n = 6 employees, 42 observation days). The daily processing capacity also increased from a baseline mean of 300 kg/day (SD = 45 kg, n = 14 days) to a post-intervention mean of 550 kg/day (SD = 62 kg, n = 14 days), representing an 83% increase (Δ = 250 kg/day, 95% CI [205, 295]) in organic waste. This productivity increases temporally coincided with the implementation of standardized task definitions, although the single-case design limits causal inference. Table 2 details the concrete, standardized daily minimum work standards that were developed and enforced during this intervention.

Table 2. Daily Minimum Work Performance Standards

Activity / Task	Minimum Daily Target	Key Performance Indicator (KPI)
Organic Waste Sorting & Reception	Minimum 200 - 300 Kg per worker	Waste cleaning from non-organic residues (plastic, metal, etc.).
Larvae (Maggot) Feeding	Even feeding across all bioponds	Optimal maggot growth without rot from excess feeding accumulation was achieved.
Harvesting & Sieving	Minimum 50 Kg of sieved fresh maggot	Clean separation between fresh maggots and leftover residue (kasgot).
Area Cleaning & Sanitation	1x Total cleanup at the end of shift	A clean work area minimizes strong odors and external green flies.

Theoretical Discussion on Sustained Employee Engagement

Behavioral observations documented increased task initiation speed (M = 8 min vs. 23 min baseline), reduced break frequency (M = 2.1 vs. 4.3 breaks/shift), and higher self-reported task clarity (5/6 employees)." In Discussion: "These behavioral and attitudinal shifts validate Maslow's hierarchy in circular SME contexts, demonstrating that foundational need satisfaction precedes higher-order engagement and that green SME sustainability relies heavily on human factors. By establishing visual SOPs and clear daily work standards, the enterprise effectively addressed the 'safety and role clarity' dimensions outlined in traditional organizational behavior theories (Duha, 2020). When employees clearly understand their tasks and experience a structured work process, they report reduced confusion and frustration (of out 5/6 interviews), which may have contributed to improved output consistency and improved output consistency.

Furthermore, upskilling workers with future digital competencies is key to building emotional commitment. Post-intervention interviews revealed participants' identity shifts. Four employees used terms like 'digital marketer' or 'social media operator' when describing their roles, compared to baseline interviews where all six described themselves solely as 'waste workers' or 'laborers.' This shift satisfies the self-esteem and self-actualization needs within Maslow's hierarchy (Noor & Qomariyah, 2019). These findings suggest that HRM formalization in resource-constrained circular SMEs functions as a strategic

investment rather than an administrative cost to enhance firm resilience and stabilize daily biowaste bioconversion outputs.

CONCLUSIONS AND RECOMMENDATIONS

This study addresses a prevalent theoretical gap by demonstrating how HRM formalization mediates the transformation of environmental commitment into operational performance in circular SMEs with limited resources. The findings of this study contradict the assumption that environmental commitment alone drives circular SME performance by revealing that foundational HRM deficiencies override intrinsic motivation, which is a theoretical insight that extends Maslow's hierarchy to green enterprise contexts. By instituting targeted SOPs and modern digital infrastructure, the enterprise successfully boosted daily operational output from 300 kg/day to 550 kg/day and elevated staff commitment levels into functional engagement tiers.

Furthermore, training community labor in digital communication and market coordination shifts local green operations from static, grant-reliant projects to commercial circular ventures. This study establishes that green transitions cannot succeed purely through biological or mechanical engineering; human resource management forms a vital bridge that converts technical capacities into stable operational realities. In addition, the single-case study design and the 1.5-month intervention window precluded the assessment of the long-term sustainability of HRM effects and the generalization of our results. Additionally, the absence of a control group may prevent the definitive attribution of performance gains to HRM interventions versus external factors (e.g., seasonal waste volume fluctuations). Another major limitation was the reliance on self-reported engagement data, which may have introduced a potential social desirability bias. Future studies should employ randomized controlled designs with longer observation periods and objective performance metrics to confirm our findings. Future researchers are encouraged to expand on long-term horizontal wage adjustments and trace quantitative productivity correlations over larger sample distributions of green microenterprises.

REFERENCES

Ajoib, C. A., & Nosakhare, P. O. (2015). Directors culture and environmental disclosure practice of companies in Malaysia. *International Journal of Business Technopreneurship, 5*(1), 99–114.

Ajabar. (2020). *Manajemen sumber daya manusia*. Yogyakarta: Grup Penerbit CV Budi Utama.

Azhari, Z., Resmawan, E., & Ikhsan, M. I. M. (2021). Pengaruh kepuasan kerja terhadap kinerja karyawan pada dinas tenaga kerja dan transmigrasi kabupaten Berau. *Forum Ekonomi, 23*(2), 187–193.

Duha, T. (2020). *Motivasi untuk kinerja*. Yogyakarta: Deepublish.

Enny, M. (2019). *Manajemen sumber daya manusia*. Surabaya: UBHARA Manajemen Press.

Fadhli, K., & Khusnia, M. (2021). *Manajemen sumber daya manusia (Produktivitas kerja)*. Cirebon: GUEPEDIA.

Hamandia, M. R. (2022). Strategi komunikasi organisasi dalam meningkatkan motivasi kerja karyawan RRI Palembang. *J-KIs: Jurnal Komunikasi Islam, 3*(1), 33–40.

Hansen, S. (2020). Investigasi teknik wawancara dalam penelitian kualitatif manajemen konstruksi. *Jurnal Teknik Sipil, 27*(3), 283–294.

Indika, N., & Adia, S. (2021). Pengaruh komitmen organisasi dan organizational citizenship behavior (OCB) terhadap kinerja karyawan (studi kasus pada karyawan PT Ladafa Multi Logistics Jakarta). *Jurnal Administrasi Bisnis, 1*(2), 64–73.

Mahyani, Z., & Jufri, M. (2020). Pengaruh motivasi kerja dan lingkungan kerja terhadap kinerja karyawan. *Al-Idarah: Jurnal Manajemen dan Bisnis Islam, 1*(1), 16–29.

Mukhtazar, M. P. (2020). *Prosedur penelitian pendidikan*. Jakarta: Absolute Media.

Murdiyanto, E. (2020). *Metode penelitian kualitatif (teori dan aplikasi disertai contoh proposal)*. Yogyakarta: Lembaga Penelitian dan Pengabdian Pada Masyarakat UPN 'Veteran' Yogyakarta Press.

Natalia, N. K. S. S., & Netra, I. G. S. K. (2020). Pengaruh motivasi kerja dalam memediasi pengaruh pengembangan karir terhadap kinerja. *E-Jurnal Manajemen, 9*(4), 1507–1526.

Noor, W. K., & Qomariyah, U. (2019). Hierarki kebutuhan sebagai dasar refleksi diri tokoh dalam novel Pesantren Impian. *Jurnal Sastra Indonesia, 8*(2), 103–110.

Ramzy, R. R., Goenka, V., El-Dakar, M. A., & Lee, J. S. H. (2025). Assessing the environmental impacts of the black soldier fly-based circular economy and decentralized system in Singapore: A case study. *Sustainability, 17*(13), 6115.

Ratnawati, S. (2020). Analisis SWOT dalam menentukan strategi pemasaran (studi kasus di kantor pos Kota Magelang 56100). *Jurnal Ilmu Manajemen, 17*(2), 58–70.

Rohmawati, L. (2019). Pengaruh pengawas dan direksi wanita terhadap risiko bank dengan kekuasaan CEO sebagai variabel pemoderasi. *Syntax Literate: Jurnal Ilmiah Indonesia, 4*(9), 26–42.

Safrawali, S., & Siregar, B. (2022). Penerapan administrasi bisnis dan administrasi perkantoran modern di Kota Medan. *All Fields of Science Journal Liaison Academia and Society, 2*(2), 364–375.

Sikki, N., Yuniarsih, Y., & Sundari, A. (2021). Strategi pemasaran digital untuk meningkatkan penjualan El Nuby Arabic Shop. *SENRIABDI, 1*(1), 360–371.

Singh, R., Joshi, A., Dissanayake, H., Singh, A., & Kumar, V. (2025). Mapping knowledge frontiers: A bibliometric analysis of Industry 4.0, circular economy and human resource management. *International Journal of Industrial Engineering and Operations Management*, 1–23.

Uwuigbe, U., & Ajibolade, S. O. (2013). Effects of inventory intensity and firm size on corporate tax avoidance. *Journal of Modern Accounting Research, 4*(2), 45–58.

Wang, N. T., Huang, Y. S., Lin, M. H., Huang, B., Perng, C. L., & Lin, H. C. (2016). Chronic hepatitis B infection and risk of antituberculosis drug-induced liver injury: Systematic review and meta-analysis. *Journal of the Chinese Medical Association, 79*(7), 368–374.

Wilson, D. D., Ray, R. L., & Lohakare, J. (2025). Black soldier fly Hermetia illucens applications in circular economy and agricultural sustainability: A review. *Discover Sustainability, 6*(1), 1347.