

RESOURCE-BASED AND STRATEGIC HRM PERSPECTIVES ON HALAL SMES: A SYSTEMATIC REVIEW OF INNOVATION, REGULATION, AND PERFORMANCE

Hapsari Shinta Citra Puspita Dewi^{1*}, Rofiaty², Risna Wijayanti², Margono²

¹Doctoral Program in Management Science, Faculty of Economics and Business, Universitas Brawijaya,
Malang, Indonesia

²Management Department, Faculty of Economics and Business, Universitas Brawijaya, Indonesia

*Corresponding author: shintacpd@student.ub.ac.id¹

Abstract

Human resource management (HRM), innovation, and regulation are widely acknowledged as critical determinants of small and medium-sized enterprise (SME) performance. Yet, their interplay in the context of halal-certified SMEs remains fragmented. This study systematically reviews empirical evidence to integrate the Resource-Based View (RBV) and Strategic Human Resource Management (SHRM) perspectives, examining how HRM practices, innovation, and regulatory compliance jointly shape halal SME performance. Following PRISMA 2020 guidelines, a Scopus-based search (2015–2025) identified 1,572 records. After screening and appraisal using JBI and CASP checklists, 106 studies were included for synthesis. A convergent approach combined descriptive statistics and thematic analysis. HRM practices grounded in the Ability–Motivation–Opportunity (AMO) framework and green HRM consistently foster innovative work behaviour and digital readiness. Innovation across products, processes, and business models enhances performance, while halal certification and broader regulations serve a dual role: creating compliance costs yet strengthening legitimacy and market trust. Evidence integrating the HRM–innovation–regulation triad remains scarce but reveals promising avenues for SME competitiveness. The findings highlight regulation as a strategic capability rather than a constraint. For halal SME managers, aligning HRM practices with digital innovation and regulatory compliance is essential for sustainable growth. For policymakers, designing enabling regulations is critical to strengthening SME resilience and legitimacy. This review is among the first to map the integrative mechanisms linking HRM, innovation, and regulation within halal SMEs, advancing RBV–SHRM scholarship and offering actionable insights for practice.

Keywords: Halal SMEs, Strategic Human Resource Management (SHRM), Resource-Based View (RBV), Ability–Motivation–Opportunity (AMO) Framework, Innovation and digital Readiness

1. INTRODUCTION

Small and medium-sized enterprises (SMEs) are widely recognized as the backbone of both national and global economies, providing substantial contributions to innovation, employment, and inclusive development (Carlsson, 2025; Vu, 2025). Within Muslim-majority countries, halal SMEs hold a particularly strategic role because halal certification functions not only as a regulatory requirement but also as a signal of legitimacy and consumer trust that strengthens competitiveness (Martin-Rios, 2025; Reshid, 2025). At the same time, the accelerating pace of digital transformation has reshaped business ecosystems, requiring SMEs to enhance IT capabilities, adopt digital tools, and utilize data-driven approaches to maintain performance in increasingly dynamic markets (Ueasangkomsate, 2025; Chacón, 2025; Přívara, 2025). These developments indicate that halal SMEs need to align human resource management (HRM) practices with innovation and regulatory compliance in order to sustain competitiveness and performance (Imjai, 2025; Nkwinika, 2025).

Existing scholarship provides important foundations for understanding SME competitiveness through the resource-based view (RBV), which emphasizes that firms achieve sustained competitive advantage by leveraging valuable, rare, inimitable, and non-substitutable resources (Barney, 1991; Barney, 2001). HRM is increasingly recognized as such a strategic resource, since the skills and motivation of employees are difficult to imitate and strongly tied to firm-level outcomes (Wright & McMahan, 1992). Moreover, RBV has been expanded into environmental sustainability through the natural-resource-based view, which links

competitiveness with ecological stewardship (Hart, 1995). Parallel to these developments, SHRM literature highlights how HRM practices must be integrated into broader business strategies, with more recent studies focusing on sustainability and green HRM to enhance long-term organizational performance (Jackson & Seo, 2010; Renwick et al., 2013; Ren et al., 2018). Within the SME context, empirical research has addressed corporate governance, CSR, financial literacy, and digital strategies as drivers of competitiveness (Bekpayeva, 2025; Beebejaun, 2025; Johnston, 2025; Mejia-Duque, 2025), while institutional environments also play a decisive role in shaping innovation (Boari et al., 2019). Despite these advances, HRM, innovation, and regulation are often examined in isolation, and a limited understanding remains of how these factors interact to influence performance in halal SMEs (Milovanova, 2025; Hidayat, 2025; Hasanova, 2025).

This study aims to address these gaps through a systematic review of peer-reviewed research on SMEs published between 2015 and 2025. The review is guided by three research questions: (1) How have prior studies examined the relationships between HRM practices, innovation, and performance in SMEs? (2) What empirical patterns and gaps emerge across different contexts? and (3) How can integrating RBV and SHRM perspectives advance theoretical and practical insights into SME competitiveness? By synthesizing global evidence, this article contributes theoretically by linking RBV and SHRM perspectives to clarify how HRM practices facilitate innovation and regulatory compliance (Barney, 1991; Wright & McMahan, 1992; Jackson & Seo, 2010). It also contributes empirically by consolidating cross-national findings on halal SME dynamics and practically by offering actionable recommendations for policymakers and managers to strengthen innovation, compliance, and competitiveness (Riwayati, 2025; Silva, 2025; Suyuti, 2025). This integrative perspective positions the study at the intersection of HRM, innovation, and regulation and establishes a comprehensive basis for advancing both scholarship and practice in the development of halal SMEs.

2. LITERATURE REVIEW

2.1 Resource-based view and sustainable competitive advantage

The resource-based view (RBV) emphasizes how firms derive sustainable advantage from resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Barney, 2001). In SMEs, human capital, digital competence, and innovative routines are particularly important because they compensate for size-related disadvantages (Carlsson, 2025; Vu, 2025). Recent research highlights that sustainable transformation in SMEs depends on embedding RBV into management systems standards, thereby strengthening adaptability and competitiveness (Carlsson, 2025). Moreover, R&D subsidies have been shown to generate long-term effects on firm performance by enhancing internal innovation capabilities, further supporting the RBV assumption that unique resource endowments drive firm survival and growth (Reshid, 2025).

Within halal SMEs, compliance with certification requirements can itself be framed as a distinctive capability under RBV. Certification processes demand investment in knowledge, systems, and HRM practices, which may be costly but also reinforce market legitimacy (Martin-Rios, 2025; Reshid, 2025). This aligns with Hart's (1995) natural-resource-based view, which positions sustainability and institutional responsiveness as firm-level resources. Evidence from transition economies further confirms that institutional frameworks shape SMEs' ability to innovate and compete (Boari et al., 2019). Thus, halal certification represents both a regulatory demand and a strategic resource that enhances competitiveness by signaling quality, trust, and compliance.

2.2 Strategic human resource management and green HRM

SHRM links HRM practices with organizational strategy to sustain competitiveness (Wright & McMahan, 1992). Increasingly, SHRM scholarship has shifted towards sustainability, with Jackson and Seo (2010) and Renwick et al. (2013) framing HRM as a tool to embed ecological responsibility into strategy, and Ren et al. (2018) identifying green HRM as an emerging research frontier. Empirical evidence suggests that SMEs adopting HRM systems that promote employee skills and financial literacy can better respond to external shocks and drive innovation (Imjai, 2025; Ueasangkomsate, 2025).

Recent studies confirm that HRM is essential for SME competitiveness across contexts. For instance, digital transformation success depends on human capital readiness, particularly IT and digital competencies (Přivara, 2025; Khalatur, 2025). Moreover, corporate governance and HRM complement each other in enhancing transparency, efficiency, and long-term viability (Bekpayeva, 2025; Nkwinika, 2025). In halal SMEs, HRM must not only foster innovative work behavior but also ensure compliance with halal standards, aligning with SHRM principles where HR systems directly support strategic goals. This dual role highlights the need to integrate SHRM with RBV, positioning HRM not as a supporting activity but as a core resource shaping innovation and compliance.

2.3 Innovation, regulation, and SMEs in transition

Innovation is recognized as a survival and growth mechanism for SMEs in volatile environments. Digitalization and IT adoption enable SMEs to overcome resource limitations, expand market reach, and integrate sustainable practices (Chacón, 2025; Gusenbauer, 2025; Silva, 2025). For example, research shows that digital platforms augment micro-firm operations and expand strategic opportunities (Gusenbauer, 2025), while innovation frameworks such as TRIZ facilitate business model transformation in manufacturing SMEs (Mejia-Duque, 2025). Institutional and regulatory contexts also significantly affect innovation outcomes, as illustrated by studies of open data policies (Guliyev, 2025) and governance environments (Boari et al., 2019).

In halal SMEs, regulation plays a dual role: halal certification creates compliance costs but simultaneously enhances market legitimacy and competitiveness (Hidayat, 2025; Hasanova, 2025). Studies of CSR and social responsibility further indicate that regulation and ethical practices reinforce competitiveness, especially in small firms seeking consumer trust (Riwayati, 2025; Beebeejaun, 2025). However, empirical findings suggest that many SMEs treat regulation as an external constraint rather than integrating it into their resource base (Milovanova, 2025). Synthesizing these findings shows the need for a new perspective where regulatory compliance is not merely an obligation but a strategic capability contributing to competitiveness, particularly in halal industries.

2.4 Research gaps and conceptual integration

Although the resource-based view (RBV) and strategic human resource management (SHRM) perspectives provide strong theoretical foundations for analyzing SME competitiveness, their integration in the halal SME context remains limited. Current studies on SMEs emphasize digitalization, innovation, governance, and CSR as critical determinants of performance (Johnston, 2025; Gumieri, 2025), yet few explicitly connect these drivers with HRM practices and regulatory compliance. Halal SMEs, which operate under unique institutional and religious requirements, represent a distinctive empirical context where innovation, regulation, and HRM must be studied jointly. Despite growing evidence that financial literacy, digital skills, and governance strengthen SME competitiveness, these factors are often analyzed separately, resulting in a fragmented understanding of their combined impact (Imjai, 2025; Silva, 2025; Suyuti, 2025).

This fragmentation highlights a significant research gap. HRM practices have been shown to foster innovation and adaptability, but their role in embedding halal compliance as a strategic resource has not been fully theorized. Similarly, while institutional and regulatory studies recognize the influence of governance and policy environments, they seldom explore how HRM functions as a mediating mechanism linking compliance and innovation to SME performance (Boari et al., 2019; Bekpayeva, 2025). Without a comprehensive perspective, prior studies provide only partial explanations of halal SME competitiveness. Addressing these gaps requires an integrated framework that synthesizes RBV and SHRM while incorporating innovation and regulation as central dimensions.

Based on this synthesis, the present study proposes a conceptual framework that positions RBV as the foundation of firm competitiveness, with SHRM functioning as the operational mechanism through which internal capabilities are mobilized. Innovation and regulation serve as mediating processes that directly influence performance, while performance outcomes ultimately determine whether SMEs achieve sustainable competitive advantage. This framework highlights the dual role of HRM practices in halal SMEs: enabling innovation and ensuring compliance with halal certification requirements. By situating HRM within both RBV and SHRM perspectives, the framework provides a holistic foundation for understanding how halal SMEs navigate complex institutional environments and build long-term competitiveness. The conceptual framework of the study is presented in Figure 1.

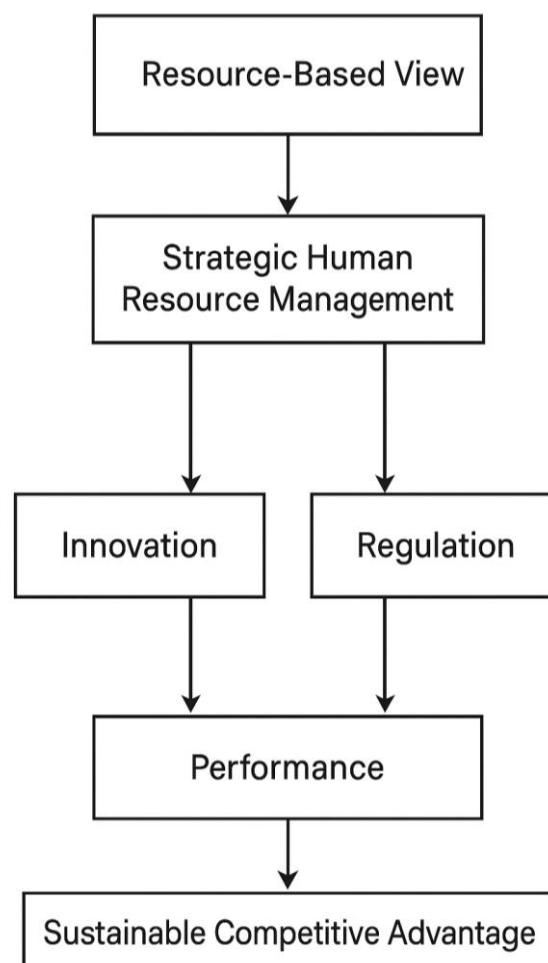


Figure 1. Conceptual Framework of the Study

In summary, the literature review highlights how RBV and SHRM provide complementary lenses for understanding halal SME competitiveness through the integration of HRM practices, innovation, and regulation. However, prior research has examined these elements in a fragmented manner, leaving unanswered questions about their combined effects. To address this gap, the present study employs a systematic review methodology that synthesizes empirical evidence from 2015 to 2025. The following section outlines the methodological approach adopted to ensure transparency, rigor, and reproducibility in addressing the guiding research questions.

3. METHODOLOGY

3.1 Search process

This study employed a systematic review approach in accordance with the PRISMA 2020 guidelines to ensure transparency and reproducibility. The literature search was conducted using Scopus as the primary database, complemented by additional academic sources when relevant. The search strategy was developed by combining keywords related to the core concepts of the study, namely halal awareness, AMO-based human resource management practices, innovative work behavior, regulation, and SME performance. For example, combinations included terms such as “halal awareness” or “halal certification” linked with SMEs, “human resource management” and “strategic HRM” associated with innovation and performance, “innovative work behavior” and “employee innovation” in small business contexts, “regulation” and “policy” related to SME competitiveness, as well as terms connecting “SME performance” with innovation, growth, and productivity. The scope of the search was restricted to peer-reviewed journal articles published between 2015 and 2025 in English. Studies were considered eligible if they empirically examined SMEs, including micro, small, medium, and family enterprises, and tested at least one of the main variables with outcomes related to innovation or performance. Excluded from the review were conference proceedings, editorials, purely conceptual papers, and studies focusing solely on consumers without a direct connection to SMEs. The search initially identified 1,572 records, of which 1,306 remained after duplicates were removed. These records underwent multi-stage screening, resulting in 106 articles that satisfied the inclusion criteria and were included in the final synthesis.

3.2 Bibliometric Analysis

All identified records were consolidated, deduplicated, and systematically screened in two phases. In the first phase, titles and abstracts were assessed to exclude irrelevant studies. In the second phase, the full texts of potentially relevant articles were evaluated against the eligibility criteria. Discrepancies were resolved through discussion until consensus was reached. The study selection process is illustrated using a PRISMA 2020 flow diagram. Data from the included studies were extracted using a structured coding sheet that captured authorship, year of publication, geographical context, research design, sample characteristics, variables examined, analytical methods, and main findings. This ensured that the subsequent analysis could systematically compare studies across multiple dimensions, including methodological design and outcomes. The methodological quality of each included study was then critically appraised to evaluate the reliability of the evidence base. Established appraisal tools, such as the Joanna Briggs Institute (JBI) checklists for quantitative and qualitative studies and the CASP guidelines for qualitative research, were applied. Studies were subsequently classified as high, moderate, or low quality. The quality assessment results provided important context for interpreting the strength of evidence presented in the review, ensuring that the synthesis

reflected both the breadth of literature and the rigor of its methodological foundations. The synthesis of findings adopted a convergent mixed-methods approach. Quantitative results were summarized descriptively to capture publication trends, methodological designs, and statistical relationships among key variables, while qualitative and mixed-methods studies were analyzed thematically to identify recurring patterns related to halal awareness, HRM-AMO practices, regulation, innovative work behavior, and SME performance. The integration of both strands allowed for a comprehensive understanding of how empirical evidence aligns with resource-based and strategic HRM perspectives. Where feasible, quantitative results were presented through descriptive statistics and visual representations, while qualitative insights enriched the theoretical interpretation and highlighted contextual dynamics.

4. RESULTS

4.1 Search Results Overview

The initial database search yielded 1,572 records. After deduplication, 1,306 unique studies were retained for screening. Titles and abstracts were reviewed, leading to the exclusion of 1,180 studies that were irrelevant to SMEs, HRM, innovation, regulation, or performance. This left 126 articles for full-text assessment. During the eligibility stage, 20 articles were excluded for specific reasons: eight were purely conceptual papers without empirical data, five were conference proceedings or editorials, and seven did not provide direct outcomes related to SME performance. Consequently, 106 articles satisfied the inclusion criteria and were incorporated into the final synthesis. The step-by-step selection process is summarized in the PRISMA 2020 Flow Diagram.

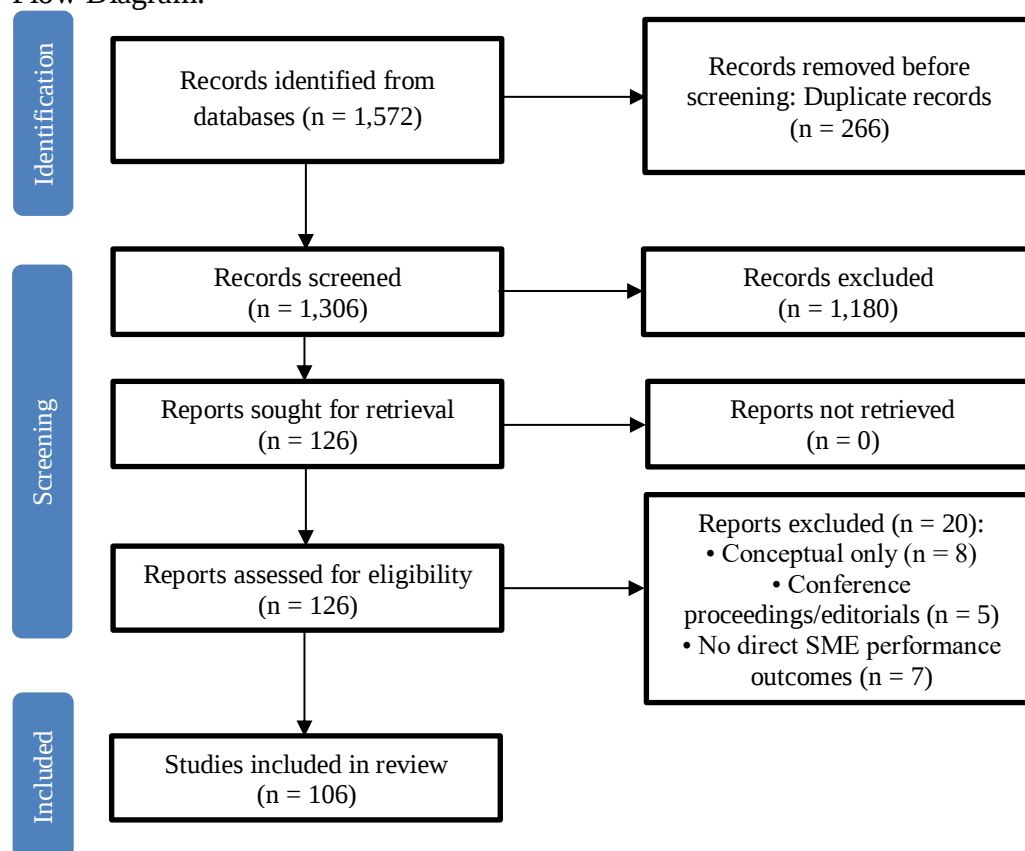


Figure 2 PRISMA 2020 Flow Diagram of the study selection process

4.2 Characteristics of Included Studies

The 106 eligible studies present considerable variation in publication years, regional focus, methodologies, and thematic priorities. A clear growth in publications is evident after 2020, reflecting the impact of the COVID-19 pandemic and the acceleration of digital transformation on scholarly interest. Geographically, Southeast Asia and the Middle East account for the majority of studies, with additional contributions from Europe, Africa, and Latin America.

In methodological terms, quantitative approaches dominate, particularly regression and structural equation modeling. Qualitative and mixed-methods studies, while fewer, provide rich insights into contextual and institutional dynamics.

Table 1. General Characteristics of Included Studies

Characteristic	Category	Number of Studies	Percentage (%)
Publication year	2015–2017	9	8.5
	2018–2020	21	19.8
	2021–2022	32	30.2
	2023–2025	44	41.5
Geographical focus	Southeast Asia (Indonesia, Malaysia, Vietnam, Philippines, Thailand)	38	35.8
	Middle East (Jordan, Saudi Arabia, UAE, Iran, Turkey)	24	22.6
	Europe (UK, Spain, Italy, Russia, Eastern Europe)	16	15.1
	Africa (Nigeria, South Africa, North Africa)	12	11.3
	Latin America & Others	16	15.1
Methodology	Quantitative (survey, regression, SEM)	74	69.8
	Qualitative (case study, interviews)	18	17.0
	Mixed-methods	14	13.2
Main variables examined	HRM and SME performance	29	27.4
	Innovation and digital transformation	33	31.1
	Regulation and halal certification	18	17.0
	Integrated HRM–Innovation–Regulation	26	24.5
Study quality (JBI/CASP)	High	41	38.7
	Moderate	54	50.9
	Low	11	10.4

The characteristics of the included studies demonstrate both thematic and methodological diversity. In terms of publication year, the majority were published after 2021 (71.7 percent), reflecting growing interest in SMEs, HRM, innovation, and regulation following the COVID-19 pandemic and the acceleration of digital transformation. Geographically, Southeast Asia and the Middle East accounted for the largest share, together representing more than half of the studies, while Europe, Africa, and Latin America contributed to a smaller yet important

proportion. Methodologically, quantitative studies dominated, with regression and structural equation modeling being the most common techniques. Qualitative and mixed-methods designs, though fewer in number, enriched the findings with contextual insights. Regarding thematic focus, most studies examined HRM, innovation, or their integration, while halal certification and regulatory compliance formed an emerging yet significant research stream. Finally, the methodological appraisal revealed that most studies were of moderate to high quality, ensuring that the synthesized evidence is both reliable and representative.

The temporal distribution of the included studies reveals an upward trend in scholarly attention to SMEs, HRM, innovation, and regulation. Publications rose steadily after 2018, with a pronounced increase during 2020–2023. This surge coincided with the COVID-19 pandemic, which emphasized the role of innovation, digital transformation, and regulatory compliance in SME resilience. The number of publications peaked in 2023, before slightly declining in 2024 and early 2025, though research interest in the topic remains substantial.

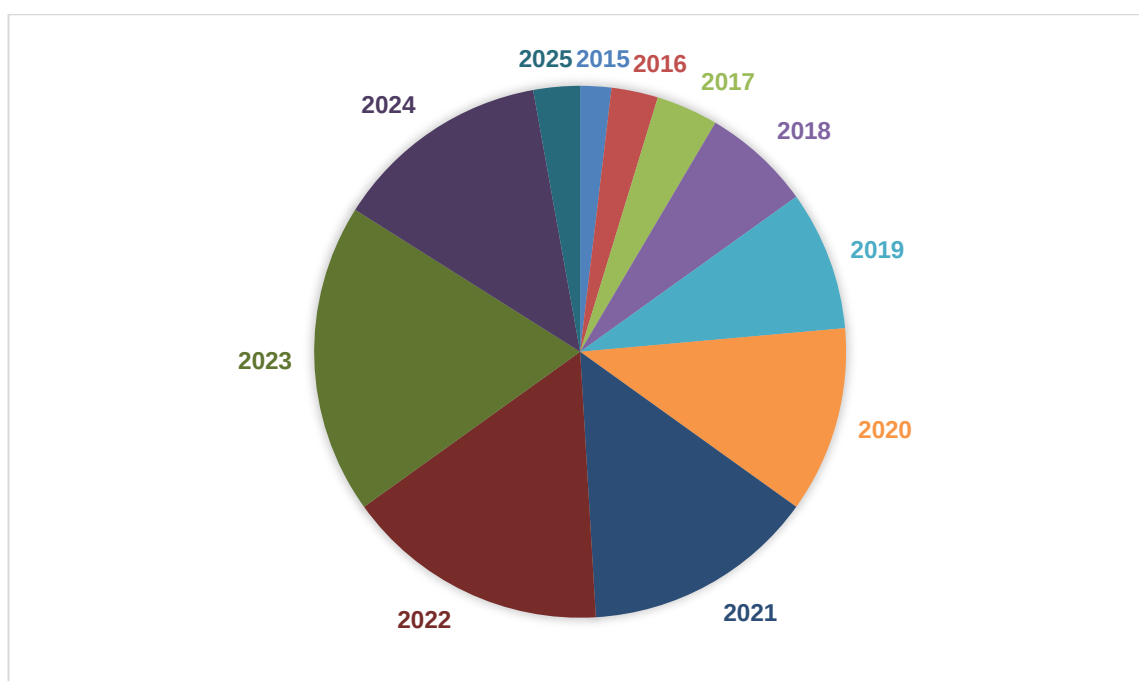


Figure 3. Distribution of studies by year (2015–2025)

The geographical distribution of the included studies indicates a strong regional concentration. Southeast Asia and the Middle East together account for more than half of the total publications, underscoring the prominence of SMEs and halal-related contexts in these regions. Europe, Africa, and Latin America contributed fewer studies, though they provided important comparative insights into innovation, HRM practices, and regulatory environments. This pattern highlights both the strengths of the current literature and areas where further research is needed, particularly in underrepresented regions such as Africa and Latin America.

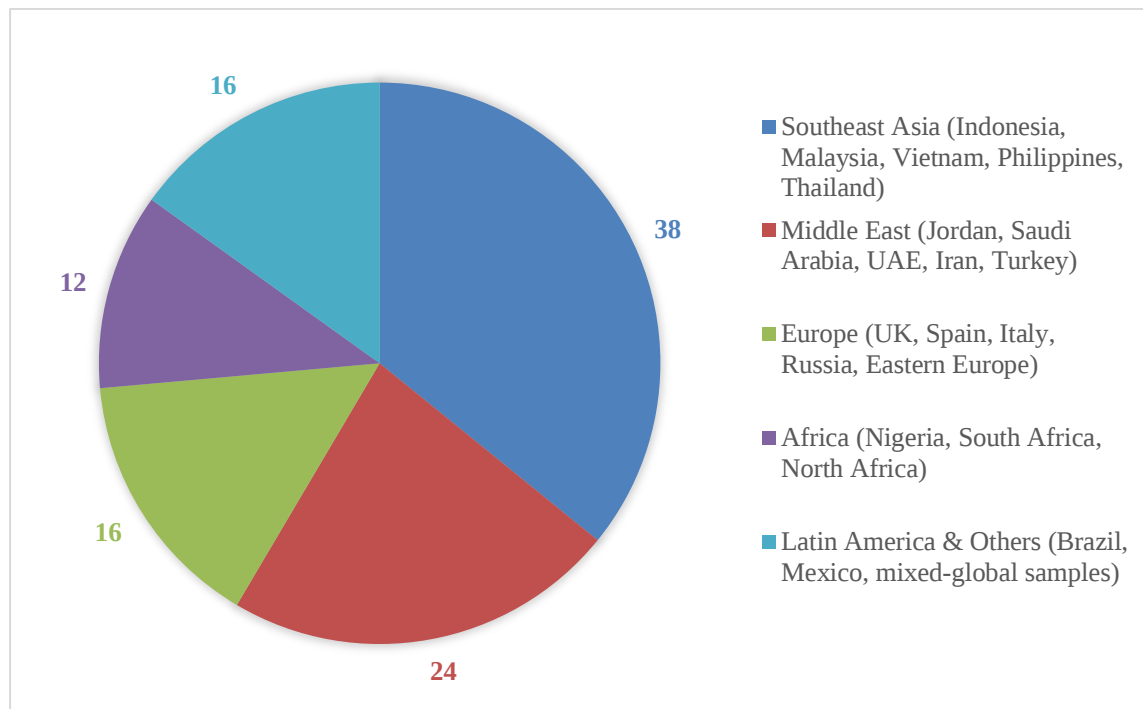


Figure 4. Geographical distribution of included studies

The methodological profile of the included studies shows a dominance of quantitative approaches, particularly survey-based research using regression and structural equation modeling. These studies often employed large samples of SMEs and tested relationships between HRM practices, innovation, regulation, and performance outcomes. Qualitative research, though fewer in number, enriched the literature with in-depth case studies and interview-based evidence that captured contextual dynamics, such as institutional pressures and organizational culture. Mixed-methods studies provided additional integration, combining statistical robustness with qualitative insights. Together, these methodological strands form a complementary evidence base that enhances both the generalizability and contextual understanding of the findings.

Table 2. Methodological approaches

Methodological Approach	Number of Studies	Percentage (%)
Quantitative (survey, regression, SEM, PLS-SEM, panel data)	74	69.8
Qualitative (case study, interviews, thematic analysis)	18	17.0
Mixed-methods (combining survey + interviews, or SEM + case study)	14	13.2
Total	106	100.0

4.3 Thematic Findings

The synthesis of the 106 included studies highlights four dominant themes that collectively explain the relationship between HRM, innovation, regulation, and SME performance. Across the evidence base, human resource management consistently emerged as a central driver of competitiveness. Studies showed that AMO-based practices and green HRM approaches foster employee adaptability, innovative work behavior, and organizational resilience. HRM was not only treated as an administrative function but as a strategic resource that enhances digital

readiness and financial literacy, which are increasingly critical in dynamic and uncertain markets.

Innovation and digital transformation were also found to play a pivotal role in shaping SME performance. Product, process, and business model innovation were repeatedly emphasized as mechanisms for improving competitiveness, while the adoption of digital tools, e-commerce platforms, and knowledge management systems enabled SMEs to expand their market presence and strengthen long-term sustainability. These findings were particularly salient in studies conducted after the COVID-19 pandemic, where innovation was framed as an indispensable pathway for recovery and growth.

Regulation, and in particular halal certification, was analyzed as both a challenge and an opportunity. While compliance imposes additional costs, many studies conceptualized halal certification as a form of strategic capability that reinforces legitimacy and consumer trust. Rather than being perceived merely as an external constraint, regulation was increasingly positioned as a resource that could enhance reputation, differentiate SMEs in competitive markets, and facilitate access to broader consumer segments.

Although fewer in number, some studies explicitly examined the combined role of HRM, innovation, and regulation in improving SME performance. These integrative analyses demonstrated that the synergy between human capital development, innovative capacity, and regulatory compliance produces more sustainable performance outcomes. The scarcity of such comprehensive studies underscores an important gap in the current literature and highlights the need for further research to adopt a more holistic approach.

Table 3. Thematic Summary of Key Findings

Theme	Number of Studies	Key Insights
HRM and SME Performance	29	AMO-based HRM practices and green HRM are repeatedly shown to enhance employee adaptability, innovative behavior, and productivity. HRM functions as a strategic resource, improving digital readiness, financial literacy, and resilience in dynamic markets.
Innovation and Digital Transformation	33	Product, process, and business model innovation drive competitiveness and sustainability. Digital tools, e-commerce adoption, and knowledge management enable SMEs to expand markets and recover from crises such as COVID-19.
Regulation and Halal Certification	18	Compliance with halal certification and other regulations is not only a requirement but also a source of legitimacy and trust. Regulatory compliance is conceptualized as a dynamic capability that enhances market positioning, despite additional costs.
Integration of HRM, Innovation, and Regulation	26	Limited but growing evidence shows that integrating HRM practices with innovation and regulatory compliance leads to more sustainable performance. This integration remains underexplored, representing a significant research gap.
Total	106	Themes collectively demonstrate that HRM and innovation serve as enablers of SME performance, while regulation—particularly halal certification—functions as a strategic resource reinforcing legitimacy and market trust.

4.4 Study Quality Assessment

The quality appraisal using JBI and CASP checklists showed that more than half of the included studies were of moderate quality, while nearly 40 percent were rated as high quality. These studies typically employed advanced quantitative methods and robust designs. Only a small proportion (10.4 percent) were classified as low quality, primarily due to methodological limitations such as small sample sizes or poorly defined outcome measures. Overall, the distribution suggests that the evidence base for this review is methodologically sound, although further longitudinal and mixed-methods research would strengthen the field.

Table 4. Study Quality Distribution of Included Studies

Quality Category	Number of Studies	Percentage (%)	Key Characteristics
High	41	38.7	Rigorous design, robust statistical analysis (e.g., SEM, regression with large samples), clear linkage between HRM, innovation, regulation, and SME performance.
Moderate	54	50.9	Adequate methodology, some limitations in generalizability or data depth; commonly used cross-sectional survey designs or descriptive analyses.
Low	11	10.4	Weak methodological rigor, limited sample sizes, or insufficient clarity in linking variables to SME performance.
Total	106	100.0	—

4.5 Narrative Synthesis

The synthesis demonstrates strong alignment with the conceptual framework of this review, which integrates the resource-based view (RBV) and strategic human resource management (SHRM). HRM consistently functions as a dual mechanism: enabling innovation and ensuring regulatory compliance. Innovation, particularly digital transformation, emerges as a primary pathway for SMEs to enhance competitiveness. Regulation, and specifically halal certification, while often perceived as a burden, also acts as a strategic resource that reinforces legitimacy and market positioning.

Nevertheless, empirical gaps remain. Few studies explicitly investigate how HRM, innovation, and regulation interact within a single model. This highlights an urgent need for future research, especially in the context of halal SMEs in emerging economies, where institutional complexity and resource scarcity amplify the importance of integrated approaches.

5. DISCUSSION

The evidence from the 106 studies consistently emphasizes the central role of human resource management (HRM) in shaping SME competitiveness. AMO-based HRM practices and green HRM approaches strengthen employee adaptability, innovative behavior, and productivity, reaffirming the resource-based view (RBV) that human capital represents a valuable and inimitable strategic resource (Barney, 1991; Wright & McMahan, 1992). Several studies argue that HRM is no longer confined to administrative tasks but functions as a strategic resource that enhances digital readiness and financial literacy, which are crucial in uncertain

and dynamic markets (Imjai, 2025; Ueasangkomsate, 2025). For instance, digital transformation success is shown to depend heavily on human capital readiness, particularly IT and digital competencies (Přivara, 2025; Khalatur, 2025). In addition, the integration of HRM with corporate governance improves transparency and efficiency, thereby reinforcing long-term SME viability (Bekpayeva, 2025; Nkwinika, 2025). These findings collectively extend SHRM perspectives by demonstrating how embedding HRM practices within broader strategic agendas enhances resilience and performance (Jackson & Seo, 2010; Renwick et al., 2013).

Innovation emerges as a survival mechanism and a driver of long-term growth for SMEs, particularly in volatile contexts. Empirical studies demonstrate that product, process, and business model innovations are critical for sustaining competitiveness (Chacón, 2025; Silva, 2025). The adoption of digital tools, e-commerce platforms, and knowledge management systems further strengthens market expansion and resilience, consistent with SHRM's emphasis on aligning HRM with strategic priorities (Ren et al., 2018). For example, digital adoption in micro and small businesses post-COVID-19 facilitated recovery and improved strategic positioning (Chacón, 2025). Other evidence highlights how TRIZ-based frameworks enable manufacturing SMEs to redesign business models and sustain competitiveness (Mejia-Duque, 2025). These findings echo prior arguments that institutional environments strongly shape SME innovation (Boari et al., 2019). Collectively, the literature supports the natural-resource-based view (Hart, 1995), suggesting that digitalization and IT adoption not only overcome resource constraints but also open pathways for sustainable practices (Gusenbauer, 2025).

Regulatory compliance, particularly halal certification, appears as both a burden and a strategic opportunity. While compliance imposes additional costs, studies repeatedly show that certification enhances legitimacy and consumer trust, thus functioning as a dynamic capability under RBV (Hidayat, 2025; Hasanova, 2025; Martin-Rios, 2025). Certification processes require investment in HRM systems and organizational routines, effectively embedding compliance into strategic operations. This reflects earlier insights that institutional requirements can be transformed into sources of competitive advantage (Hart, 1995). Additional studies link CSR orientation with stronger competitiveness, indicating that regulatory compliance, ethics, and social responsibility reinforce trust in SMEs (Riwayati, 2025; Beebeejaun, 2025). Yet, some evidence warns that SMEs often treat regulation as an external constraint rather than embedding it as a strategic resource, which limits its potential contribution to performance (Milovanova, 2025). This duality mirrors broader debates in the literature on whether regulation functions as a barrier or as a platform for sustainable competitiveness.

Only a minority of studies explicitly examine the combined influence of HRM, innovation, and regulation on SME performance, yet their findings are particularly insightful. Integrative studies highlight that the synergy between human capital development, digital innovation, and regulatory compliance fosters more sustainable and robust performance outcomes (Imjai, 2025; Suyuti, 2025). This aligns with SHRM's call for embedding HRM in organizational strategy, while also extending RBV by framing compliance as a strategic resource.

However, the literature remains fragmented, with HRM, innovation, and regulation often studied in isolation. This gap is especially salient in the halal SME context, where institutional and religious requirements demand joint consideration of HRM practices, innovation, and compliance. Addressing this fragmentation could yield theoretical models that better capture the complexity of SME competitiveness in emerging economies.

Despite the strong empirical base, several gaps remain. First, the limited number of integrative studies indicates a need for holistic frameworks that combine HRM, innovation, and regulation into a single analytical model. Second, while RBV and SHRM provide robust

theoretical foundations, their integration in halal SME contexts remains underdeveloped. Current evidence often treats financial literacy, governance, and digital skills in fragmented ways, reducing explanatory power for how these drivers interact to enhance competitiveness (Johnston, 2025; Gumieri, 2025). Third, the regional concentration of studies in Southeast Asia and the Middle East highlights underrepresentation in Africa and Latin America, where contextual insights could enrich comparative understanding (Bekpayeva, 2025).

Future research should therefore pursue longitudinal designs, employ mixed-methods approaches, and expand cross-regional comparative studies. Such efforts would not only strengthen theoretical integration but also provide actionable insights into how HRM, innovation, and regulation jointly sustain SME performance.

For policymakers, the findings suggest that regulatory frameworks, including halal certification, should be positioned not merely as compliance tools but as mechanisms for strengthening competitiveness and consumer trust. For SME managers, integrating HRM systems with digital and innovation strategies offers pathways to resilience and growth, particularly in times of crisis such as the COVID-19 pandemic. Embedding compliance into HRM routines can transform regulation into a resource that complements innovation and enhances long-term performance.

6. CONCLUSION

This systematic review of 106 empirical studies published between 2015 and 2025 shows that human resource management practices based on the AMO framework and green HRM consistently encourage innovative work behaviour and digital readiness. Innovation, whether in products, processes, or business models, emerges as the main driver of SME performance. Regulation, particularly halal certification, has a dual role. On the one hand, it introduces compliance costs, while on the other hand, it strengthens legitimacy and builds trust in the market.

From a theoretical perspective, the findings extend the Resource-Based View and Strategic Human Resource Management by framing regulation as a strategic capability that complements HRM and innovation. In practical terms, halal SME managers are encouraged to integrate HRM systems with digital innovation initiatives and to treat regulatory compliance as a resource that supports competitiveness. Policymakers are advised to design regulatory frameworks that not only safeguard standards but also create conditions that allow SMEs to grow and remain resilient.

Although this review offers important contributions, it also reveals gaps in the literature. Research that integrates HRM, innovation, and regulation in a single framework remains limited. Future studies should therefore adopt longitudinal approaches, conduct cross-regional comparisons, and apply mixed methods in order to capture the dynamic and context-specific nature of halal SME competitiveness.

References

- Achmad, G. N., Yudaruddin, R., Budiman, P. W., Santi, E. N., Suharsono, ., Purnomo, A. H., & Wahyuningsih, N. (2023). Eco-Innovation and SME Performance in Time of Covid-19 Pandemic: Moderating Role of Environmental Collaboration. *Emerging Science Journal*, 7, 251–263. <https://doi.org/10.28991/ESJ-2023-SPER-018>
- Aljabari, M., Althuwaini, S., Qudah, O. al, & Bouguerra, A. (2024). The impact of e-marketing orientation and learning capacity on online SME performance in Jordan: The moderating role of technological orientation. *Asian Development Policy Review*, 12(3), 226–237. <https://doi.org/10.55493/5008.v12i3.5125>

Allammari, Y., Jaride, C., Zghaida, A., Aaroubi, S. el, & Taqi, A. (2024). The mediating role of innovation capabilities in the relationship between organizational learning and performance: Evidence from moroccan SMEs. *Multidisciplinary Science Journal*, 7(4), 2025180. <https://doi.org/10.31893/multiscience.2025180>

Allammari, Y., Taqi, A., & Rahou, E. H. (2025). Impact of entrepreneurial orientation on Moroccan SME performance: the role of commitment to organisational learning. *International Journal of Work Innovation*, 6(3), 271–298. <https://doi.org/10.1504/IJWI.2025.147773>

Almansoori, S. I., Araci, Z. C., & Dweiri, F. (2025). A structural equation modeling approach to evaluating innovation dynamics' effect on SME performance in the United Arab Emirates. *Discover Applied Sciences*, 7(5), 357. <https://doi.org/10.1007/s42452-025-06865-x>

Aloqaily, A. N., Qawasmeh, E. F., Masa'd, F. M., Alrousan, A., & Al-Zaqeba, M. A. A. (2024). The mediating effect of green culture on the relationship between GHRM and green sustainable performance in Jordanian SME logistics companies. *International Journal of Advanced And Applied Sciences*, 11(10), 232–240. <https://doi.org/10.21833/ijaas.2024.10.025>

Alwakid, W. N., & Dahri, N. A. (2025). Harnessing AI capabilities and green entrepreneurial orientation for sustainable SME performance using SEM analysis approach. *Technology in Society*, 83, 103007. <https://doi.org/10.1016/j.techsoc.2025.103007>

Amoa-Gyarteng, K., & Dhliwayo, S. (2024). Cultivating success: organizational culture's influence on innovation and performance in SMEs. *Cogent Business & Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2397070>

Anim, P. A., Arthur, E., & Amoako, G. K. (2024). Entrepreneurial orientation, social media and SME performance: an emerging economy perspective. *Asia-Pacific Journal of Business Administration*, 16(5), 1037–1066. <https://doi.org/10.1108/APJBA-12-2022-0514>

Arif, Moh. E., & Herawan, T. (2025). Driving performance in SMEs: Exploring entrepreneurial ecosystems, leadership, and dynamic capability in emerging economies. *Journal of the International Council for Small Business*, 1–24. <https://doi.org/10.1080/26437015.2025.2531873>

Arifin, N. R., & Hartono, A. (2025). The Effect of Absorptive Capacity and Innovation Strategy on Indonesian SMEs' Performance with Open Innovation as the Mediator. *International Review of Management and Marketing*, 15(3), 343–351. <https://doi.org/10.32479/irmm.18431>

Arshad, M. Z., Arshad, D., Lamsali, H., Alshuaibi, A. S. I., Alshuaibi, M. S. I., Albashar, G., Shakoor, A., & Chuah, L. F. (2023). Strategic resources alignment for sustainability: The impact of innovation capability and intellectual capital on SME's performance. Moderating role of external environment. *Journal of Cleaner Production*, 417, 137884. <https://doi.org/10.1016/j.jclepro.2023.137884>

Arthur, J. B., Herdman, A. O., & Yang, J. (2021). Which Way to High Performance? Comparing Performance Effects of High-Performance Work System Components in Small- to Medium-Sized Establishments. *ILR Review*, 74(2), 352–387. <https://doi.org/10.1177/0019793919893668>

Aslam, M., Ahmad, B., & Rasheed, T. (2025). Navigating the Impact of Green Innovation, Technological Linkages, and Knowledge Management on Sustainable Performance of SMEs. *Journal of International Entrepreneurship*. <https://doi.org/10.1007/s10843-024-00371-8>

Bai, T., Jia, D., Liu, S., & Shahzad, F. (2024). Psychological ownership and ambidexterity influence the innovative work behavior and job performance of SME employees: a mediating role of job embeddedness. *Current Psychology*, 43(16), 14304–14323. <https://doi.org/10.1007/s12144-023-05399-y>

- Barber, D., Peake, W. O., & Harris, M. L. (2024). Can playing defense yield gains? Examining the relationships among regulatory focus, innovation, and SME performance. *Journal of Small Business Management*, 62(3), 1469–1497. <https://doi.org/10.1080/00472778.2022.2141762>
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>.
- Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, 27(6), 643–650. <https://doi.org/10.1177/014920630102700602>.
- Bashir, M. (2023). The influence of strategic flexibility on SME performance: is business model innovation the missing link? *International Journal of Innovation Science*, 15(5), 799–816. <https://doi.org/10.1108/IJIS-06-2021-0110>
- Beebejaun, A. (2025). Corporate social responsibility (CSR) policies for SMEs in Mauritius: a comparative study with Sweden. *Journal of Entrepreneurship and Public Policy*, ISSN 2045-2101, <https://doi.org/10.1108/JEPP-06-2024-0098>.
- Becerra-Vicario, R., Ruiz-Palomo, D., LeÃfÂ³n-GÃfÂ³mez, A., & Santos-JaÃfÂ©n, J. M. (2023). The Relationship between Innovation and the Performance of Small and Medium-Sized Businesses in the Industrial Sector: The Mediating Role of CSR. *Economies*, 11(3), 92. <https://doi.org/10.3390/economies11030092>
- Bekpayeva, Z. (2025). Corporate governance in agricultural holdings: Ensuring transparency and efficiency in management decisions. *Scientific Horizons*, 28(3), 133-145, ISSN 2663-2144, <https://doi.org/10.48077/scihor3.2025.133>.
- Benjamin, A., Shee, H., & Vass, T. de. (2023). Sequential Impact of Green Supply Chain Initiatives on Sustainable Performance: Food and Beverage Processing SMEs in Australia. *Operations and Supply Chain Management: An International Journal*, 214–228. <https://doi.org/10.31387/oscm0530384>
- Bianchi, C., Cosenz, F., & MarinkoviÄ,â€¦, M. (2015). Designing dynamic performance management systems to foster SME competitiveness according to a sustainable development perspective: empirical evidences from a case-study. *International Journal of Business Performance Management*, 16(1), 84. <https://doi.org/10.1504/IJBPM.2015.066042>
- Binh, T. van, Thy, N. G., Vu, P. M., Khoa, H. D., & Thong, N. D. (2022). Association of Innovation and Entrepreneurial Orientation on SME Performance: The Case of Soc Trang Province Vietnam. *International Journal of Management and Sustainability*, 11(2), 92–102. <https://doi.org/10.18488/11.v11i2.3051>
- Boari, C., Kadriu, A., & Krasniqi, B. A. (2019). The impact of institutions on SMEs' innovation in transition economies. *International Journal of Entrepreneurship and Innovation Management*, 23(4), 399. <https://doi.org/10.1504/ijeim.2019.10021654>.
- Boateng, H., Ampong, G. O. A., Adam, D. R., Ofori, K. S., & Hinson, R. E. (2022). The relationship between social interactions, trust, business network, external knowledge access and performance: a study of SMEs in Ghana. *VINE Journal of Information and Knowledge Management Systems*, 52(5), 633–649. <https://doi.org/10.1108/VJIKMS-05-2020-0088>
- 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>
- Cahaya, Y. F., Prasetyo, J. H., Winarti, C. E., Erasashanti, A. P., & Rachman, H. A. (2024). SMEs in Indonesia: How do market and entrepreneurial approaches shape dynamic capabilities and performance? *Edelweiss Applied Science and Technology*, 8(3), 197–209. <https://doi.org/10.55214/25768484.v8i3.923>

Carlsson, R. (2025). Measuring sustainable transformation of small and medium-sized enterprises using management systems standards. *Business Strategy and the Environment*, 34(1), 708-723, ISSN 0964-4733, <https://doi.org/10.1002/bse.3995>.

Carrasco-Carvajal, O., Garc  a-P  rez-de-Lema, D., & Castillo-Vergara, M. (2023). Impact of innovation strategy, absorptive capacity, and open innovation on SME performance: A Chilean case study. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2), 100065. <https://doi.org/10.1016/j.joitmc.2023.100065>

Chabbouh, H., & Boujelb  ne, Y. (2021). Coupled Open Innovation And Performance In Smes: The Role Of Knowledge Capabilities And Environmental Dynamism. *International Journal of Innovation Management*, 25(9). <https://doi.org/10.1142/S1363919621500973>

Chac  n, E. Vel  squez (2025). Digital adoption in post-pandemic micro and small businesses in Arequipa, Peru. *European Public and Social Innovation Review*, 10, ISSN 2529-9824, <https://doi.org/10.31637/epsir-2025-1849>.

Chan, Y. E., Denford, J. S., & Jin, J. Y. (2016). Competing Through Knowledge and Information Systems Strategies: A Study of Small and Medium-Sized Firms. *Journal of Information & Knowledge Management*, 15(3), 1650027. <https://doi.org/10.1142/S0219649216500271>

Changalima, I. A., Ismail, I. J., & Amani, D. (2025). Driving SME performance through technological absorptive capacity and e-business innovation. *Sustainable Technology and Entrepreneurship*, 4(1), 100089. <https://doi.org/10.1016/j.stae.2024.100089>

Chatterjee, M., & Bhattacharjee, T. (2021). Ownership concentration, innovation and firm performance: empirical study in Indian technology SME context. *South Asian Journal of Business Studies*, 10(2), 149–170. <https://doi.org/10.1108/SAJBS-10-2019-0185>

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>

Choudhary, A. I., & Shahid, S. (2025). Leading and innovating organisational performance: a cross-country comparative analysis of entrepreneurial SME ventures. *The Bottom Line*. <https://doi.org/10.1108/BL-06-2024-0081>

Dabi  , M., La  njak, J., Smallbone, D., &   varc, J. (2019). Intellectual capital, organisational climate, innovation culture, and SME performance. *Journal of Small Business and Enterprise Development*, 26(4), 522–544. <https://doi.org/10.1108/JSBED-04-2018-0117>

Dai, R. M., Sam  , N. A., & Raharja, un J. (2020). Effects of innovation factors on SME performance: study on SMEs in food and beverages centers in Cimahi, Indonesia. *International Journal of Monetary Economics and Finance*, 13(3), 306. <https://doi.org/10.1504/IJMEF.2020.108823>

Dom  , S., Capelleras, J.-L., & Musabelliu, B. (2020). Customer orientation and SME performance in Albania: A case study of the mediating role of innovativeness and innovation behavior. *Journal of Vacation Marketing*, 26(1), 130–146. <https://doi.org/10.1177/1356766719867374>

Dura, C. C., Iordache, A. M. M., Ionescu, A., Isac, C., & Breaz, T. O. (2022). Analyzing Performance in Wholesale Trade Romanian SMEs: Framing Circular Economy Business Scenarios. *Sustainability*, 14(9), 5567. <https://doi.org/10.3390/su14095567>

Fard, M. H., & Amiri, N. S. (2018). The effect of entrepreneurial marketing on halal food SMEs performance. *Journal of Islamic Marketing*, 9(3), 598–620. <https://doi.org/10.1108/JIMA-12-2016-0097>

Farida, N., & Nuryakin. (2021). Network capability, relational capability and Indonesian manufacturing SME performance: an empirical analysis of the mediating role of product

innovation. *Engineering Management in Production and Services*, 13(1), 41–52. <https://doi.org/10.2478/emj-2021-0003>

Fatima, T., & Bilal, A. R. (2019). Achieving SME performance through individual entrepreneurial orientation. *Journal of Entrepreneurship in Emerging Economies*, 12(3), 399–411. <https://doi.org/10.1108/JEEE-03-2019-0037>

Feng, Q., Kot, S., Chaveesuk, S., & Chaiyasoonthorn, W. (2024). The impact of competitive strategy on enterprise performance: An empirical study of small and medium-sized manufacturing enterprises. *Journal Of International Studies*, 17(3), 9–37. <https://doi.org/10.14254/2071-8330.2024/17-3/1>

Ferreira, J., & Coelho, A. (2020). Dynamic capabilities, innovation and branding capabilities and their impact on competitive advantage and SME's performance in Portugal: the moderating effects of entrepreneurial orientation. *International Journal of Innovation Science*, 12(3), 255–286. <https://doi.org/10.1108/IJIS-10-2018-0108>

Gautam, P. K., Gautam, D. K., & Silwal, P. P. (2025). Business Model Innovation and Firm Performance of SMEs During the COVID-19 Pandemic: Test of Serial Mediation Model. *SAGE Open*, 15(2). <https://doi.org/10.1177/21582440251342148>

Giyanti, I., Indrasari, A., Sutopo, W., & Liquiddanu, E. (2021). Halal standard implementation in food manufacturing SMEs: its drivers and impact on performance. *Journal of Islamic Marketing*, 12(8), 1577–1602. <https://doi.org/10.1108/JIMA-11-2019-0243>

Guliyev, M. (2025). Impact Of Government Open Data Initiatives On Innovation, Entrepreneurship, And Economic Growth. *Intellectual Economics*, 19(1), 32-61, ISSN 1822-8011, <https://doi.org/10.13165/IE-25-19-1-02>.

Gumieri, L. (2025). Management factors analysis associated with the financial performance of Micro and Small Businesses in Barretos (SP). *International Journal of Innovation*, 13(2), ISSN 2318-9975, <https://doi.org/10.5585/2025.26464>.

Gusenbauer, M. (2025). A remedy for the liability of smallness? How digital work platforms augment the smallest enterprises. *Review of Managerial Science*, 19(9), 2867-2898, ISSN 1863-6683, <https://doi.org/10.1007/s11846-025-00834-9>.

Gutiérrez-Broncano, S., Linuesa-Langreo, J., Rubio-Andrés, M., & Sastre-Castillo, M. Á. (2024). Can hybrid strategy improve SME performance? The role of innovation and adaptive capacity. *European Journal of Innovation Management*, 27(9), 173–197. <https://doi.org/10.1108/EJIM-07-2023-0566>

Hafeez, M. H., Umrani, W. A., Shariff, M. N. M., Ahmed, U., Haroon, U., & Ramayah, T. (2022). Mediating the impact of innovation on the relationship between branding, organisational learning capability and SMEs performance. *International Journal of Trade and Global Markets*, 16(1), 122. <https://doi.org/10.1504/IJTGM.2022.128117>

Hanoum, S., Palalic, R., Durman, T. Y., & Shubbak, M. (2025). Enhancing SME performance through e-business: the interplay of ambidexterity and entrepreneurial orientation in technology parks. *Journal of Innovation and Entrepreneurship*, 14(1), 72. <https://doi.org/10.1186/s13731-025-00556-y>

Hariputra, A. (2024). Examining The Relationship Of Compensation, Trust, Organizational Learning, Commitment And Performance: An Empirical Study Of Food And Beverage SMEs. *Quality-Access to Success*, 25(199). <https://doi.org/10.47750/QAS/25.199.40>

Hart, S. L. (1995). A natural-resource-based View of the Firm. *The Academy of Management Review*, 20(4), 986–1014.

Harwiki, W., & Malet, C. (2020). Quintuple helix and innovation on performance of SMEs within ability of SMEs as a mediator variable: A comparative study of creative industry in

Indonesia and Spain. *Management Science Letters*, 1389–1400.
<https://doi.org/10.5267/j.msl.2019.11.018>

Hasanova, J. (2025). Digitization, Automation Problems and Solutions in Small Business on the Example of Azerbaijan. *Wseas Transactions on Business and Economics*, 22, 1358-1369, ISSN 1109-9526, <https://doi.org/10.37394/23207.2025.22.110>.

Hidayat, A.R. (2025). Utilization of innovation in digital marketing: Qualitative study of SMEs in Indonesia. *Multidisciplinary Science Journal*, 7(10), ISSN 2675-1240, <https://doi.org/10.31893/multiscience.2025489>.

Imjai, N. (2025). Exploring the impact of digital financial literacy to effective financial planning and control: Perspectives on competitiveness of Thai micropreneurs. *Social Sciences and Humanities Open*, 11, ISSN 2590-2911, <https://doi.org/10.1016/j.ssaho.2025.101307>.

Jackson, S. E., & Seo, J. (2010). The greening of strategic HRM scholarship. *Organization Management Journal*, 7(4), 278–290. <https://doi.org/10.1057/omj.2010.37>.

Jalil, M. F., Ali, A., & Kamarulzaman, R. (2022). Does innovation capability improve SME performance in Malaysia? The mediating effect of technology adoption. *The International Journal of Entrepreneurship and Innovation*, 23(4), 253–267. <https://doi.org/10.1177/14657503211048967>

Johnston, A. (2025). Collaborations between universities and entrepreneurial ventures: a micro-firm perspective. *Journal of Small Business and Enterprise Development*, ISSN 1462-6004, <https://doi.org/10.1108/JSBED-04-2024-0217>.

Kamarulzaman, N. I., Ahmad, A., Ariff, A. M., & Muda, M. S. (2021). Innovation Capabilities and Performance of Malaysian Agricultural SMEs: The Moderating Role of Strategic Alliance. *International Journal of Business and Society*, 22(2), 675–695. <https://doi.org/10.33736/ijbs.3751.2021>

Keelson, S. A., Cúg, J., Amoah, J., Petráková, Z., Addo, J. O., & Jibril, A. B. (2024). The Influence of Market Competition on SMEs' Performance in Emerging Economies: Does Process Innovation Moderate the Relationship? *Economies*, 12(11), 282. <https://doi.org/10.3390/economies12110282>

Khalatur, S. (2025). Digitalisation As A Modern Trend In The Development Of Financial Management In Small Business. *Financial and Credit Activity Problems of Theory and Practice*, 3(62), 370-382, ISSN 2306-4994, <https://doi.org/10.55643/fcaptp.3.62.2025.4758>.

Khan, U., Zhang, Y., & Salik, M. (2020). The Financial Performance of Korean Manufacturing SMEs: Influence of Human Resources Management. *The Journal of Asian Finance, Economics and Business*, 7(8), 599–611. <https://doi.org/10.13106/jafeb.2020.vol7.no8.599>

Kim, W., Fang, M., Pang, Q., & Su, M. (2024). SME innovation, supply chain strategy fit and business performance: the moderating role of environmental uncertainty. *Technology Analysis & Strategic Management*, 36(11), 3772–3785. <https://doi.org/10.1080/09537325.2023.2223713>

Kitchot, S., Siengthai, S., & Sukhotu, V. (2021). The mediating effects of HRM practices on the relationship between SCM and SMEs firm performance in Thailand. *Supply Chain Management: An International Journal*, 26(1), 87–101. <https://doi.org/10.1108/SCM-05-2019-0177>

Kumar, J., Rani, G., Rani, M., & Rani, V. (2025). Big Data Analytics Adoption and Its Impact on SME Market and Financial Performance: An Analysis Using the Technology–Organisation–Environment (TOE) Framework. *Creativity and Innovation Management*, 34(3), 760–777. <https://doi.org/10.1111/caim.12666>

Kustiningsih, N., Andayani, W., Gati, V., Kuswandi, K., & Sidarta, A. L. (2024). The mediating role of innovation in the impact of entrepreneurial bricolage on SME performance

in the tourism sector. *Edelweiss Applied Science and Technology*, 8(6), 4349–4361. <https://doi.org/10.55214/25768484.v8i6.2935>

Lee, C., & Hallak, R. (2020). Investigating the effects of offline and online social capital on tourism SME performance: A mixed-methods study of New Zealand entrepreneurs. *Tourism Management*, 80, 104128. <https://doi.org/10.1016/j.tourman.2020.104128>

Maflahah, I., Omar, E. N., Firmansyah, R. A., Asfan, D. F., & Hadiguna, R. A. (2025). Evaluation of the Performance of the Halal Supply Chain in Fish Processing SMEs: An Empirical Study Utilizing the PLS-SEM Approach. *Mathematical Modelling of Engineering Problems*, 12(3), 957–970. <https://doi.org/10.18280/mmep.120322>

Martin-Rios, C. (2025). Sustainability transitions in small, entrepreneurial food services through systems innovation. *Journal of the International Council for Small Business*, 6(1), 99–113, ISSN 2643-7015, <https://doi.org/10.1080/26437015.2024.2396077>.

Mashavira, N., Chipunza, C., & Dzansi, D. Y. (2019). Managerial interpersonal competencies and the performance of family- and non-family-owned small and medium-sized enterprises in Zimbabwe and South Africa. *SA Journal of Human Resource Management*, 17. <https://doi.org/10.4102/sajhrm.v17i0.1130>

Matloob, S., Limón, M. L. S., Montemayor, H. M. V., Raza, A., & Rodriguez, J. C. C. (2023). Does Strategic Change Enhance the Relationship between Firms' Resources and SMEs Performance in Pakistan? *Sustainability*, 15(3), 1808. <https://doi.org/10.3390/su15031808>

Mejia-Duque, J.G. (2025). A TRIZ-based algorithm for business model innovation in manufacturing SMEs: a systematic framework for strategic innovation integrated with the business model canvas. *Cogent Business and Management*, 12(1), ISSN 2331-1975, <https://doi.org/10.1080/23311975.2025.2542427>.

Milovanova, M.M. (2025). Hacking in Agribusiness as the Flip Side of Digitalization of Agriculture: Legal Aspect. *Intelligent Systems Reference Library*, 276, 307–319, ISSN 1868-4394, https://doi.org/10.1007/978-3-031-93474-2_27.

Mora-Esquivel, R., & Leiva, J. C. (2025). The role of digital service innovation strategy on SME performance: an international study. *Journal of Enterprise Information Management*. <https://doi.org/10.1108/JEIM-02-2024-0099>

Muchtar, Y. C. (2024). Sustainable Performance of SMEs Through Social Media Usage and Innovation Capabilities. *Quality-Access to Success*, 25(203). <https://doi.org/10.47750/QAS/25.203.15>

Mulolli, E., Islami, X., & Hashani, M. (2024). Enhancing SME performance through innovation: evidence from a transition economy – Kosovo. *Business, Management and Economics Engineering*, 22(02), 401–420. <https://doi.org/10.3846/bmee.2024.21800>

Namagembe, S., Ryan, S., & Sridharan, R. (2019). Green supply chain practice adoption and firm performance: manufacturing SMEs in Uganda. *Management of Environmental Quality: An International Journal*, 30(1), 5–35. <https://doi.org/10.1108/MEQ-10-2017-0119>

Nawaz, S. S., & Thelijjagoda, S. (2025). Sri Lankan SMEs' Performance Through Cloud Computing Adoption: An SEM-ANN Analysis. *IEEE Access*, 13, 75448–75465. <https://doi.org/10.1109/ACCESS.2025.3564339>

Nguyen, T. T., Bekrar, A., Le, T. M., Artiba, A., Chargui, T., Vo, T. L. H., & Trinh, T. T. H. (2024). The effects of technology and innovation adoption on firm performance among small and medium enterprises: Evidence from Vietnam's logistics sector. *Economics and Business Review*, 10(4), 129–164. <https://doi.org/10.18559/eb.2024.4.1123>

Niyi Anifowose, O., Ghasemi, M., & Olaleye, B. R. (2022). Total Quality Management and Small and Medium-Sized Enterprises' (SMEs) Performance: Mediating Role of Innovation Speed. *Sustainability*, 14(14), 8719. <https://doi.org/10.3390/su14148719>

Nkwinika, S.E.R. (2025). Business Skills, Corporate Governance, and Competitiveness of Small Businesses in South Africa. *International Review of Management and Marketing*, 15(1), 159-167, ISSN 2146-4405, <https://doi.org/10.32479/irmm.17064>.

Novianty, R., & Hermanto, Y. B. (2024). Improving SME performance through entrepreneurial orientation and green innovation: The mediating role of green knowledge sharing. *Journal of Infrastructure, Policy and Development*, 8(11), 7733. <https://doi.org/10.24294/jipd.v8i11.7733>

Nugroho, M. A., Novitasari, B. T., & Timur, R. P. (2024). The Mediating Role of E-Commerce Adoption in the Relationship Between Government Support and SME Performance in Developing Countries. *International Journal of Sustainable Development and Planning*, 19(3), 1023–1032. <https://doi.org/10.18280/ijstdp.190320>

Odoom, R., Agbemabiese, G. C., Anning-Dorson, T., & Mensah, P. (2017). Branding capabilities and SME performance in an emerging market. *Marketing Intelligence & Planning*, 35(4), 473–487. <https://doi.org/10.1108/MIP-08-2016-0138>

Odoom, R., & Mensah, P. (2019). Brand orientation and brand performance in SMEs. *Management Research Review*, 42(1), 155–171. <https://doi.org/10.1108/MRR-12-2017-0441>

Omri, W., Courrent, J.-M., & Nemeh, A. (2024). To Go or to Not Go Green for SMEs: Toward the Twinning Effect of Ecodesign Practices and Radical Innovativeness on SME Performance. *IEEE Transactions on Engineering Management*, 71, 6370–6381. <https://doi.org/10.1109/TEM.2022.3233521>

Ozemoyah Ugheoke, S., Faizal Mohd Isa, M., & Wan Mohd Noor, W. S. (2015). Antecedents of Strategic Human Resource Management Practices on Intangible Firm Performance: Analytical Investigation of SMEs. *Asian Social Science*, 11(13). <https://doi.org/10.5539/ass.v11n13p33>

Pathan, Z. H., Jianqiu, Z., Gilal, F. G., & Salam, S. (2017). Linking ICT utilisation to SME's performance: miracle or mirage? The empirical evidence and lesson from Pakistan. *International Journal of Information Systems and Change Management*, 9(2), 149. <https://doi.org/10.1504/IJISCM.2017.087987>

Prívar, A. (2025). From Survival to Growth: Digital Strategies for Micro and Small Enterprises. *Strategic Change*, ISSN 1099-1697, <https://doi.org/10.1002/jsc.2666>.

Pusung, C. S., Narsa, N. P. D. R. H., & Wardhaningrum, O. A. (2023). Innovation, Competitive Strategy And Msme Performance: A Survey Study On Culinary Smes In Indonesia During The Covid-19 Pandemic. *Business: Theory and Practice*, 24(1), 160–172. <https://doi.org/10.3846/btp.2023.16676>

Qalati, S. A., Ostic, D., Shuibin, G., & Mingyue, F. (2022). A mediated–moderated model for social media adoption and small and medium-sized enterprise performance in emerging countries. *Managerial and Decision Economics*, 43(3), 846–861. <https://doi.org/10.1002/mde.3422>

Qamruzzaman, Md., & Kler, R. (2023). Do Clean Energy and Financial Innovation Induce SME Performance? Clarifying the Nexus between Financial Innovation, Technological Innovation, Clean Energy, Environmental Degradation, and SMEs Performance in Bangladesh. *International Journal of Energy Economics and Policy*, 13(3), 313–324. <https://doi.org/10.32479/ijeep.14185>

Ramadan, J., Alzubi, A., & Khadem, A. (2024). The Impact of Strategic Entrepreneurship Behaviors on Business Performance in Turkish SMES: The Role of Business Model Innovation and Competitive Intensity. *Sustainability*, 16(18), 8035. <https://doi.org/10.3390/su16188035>

Renwick, D. W. S., Redman, T., & Maguire, S. (2013). Green Human Resource Management: a Review and Research Agenda. *International Journal of Management Reviews*, 15(1), 1–14. <https://doi.org/10.1111/j.1468-2370.2011.00328.x>.

Ren, S., Tang, G., & Jackson, S. (2018). Green human resource management research in emergence: A review and future directions. *Asia Pacific Journal of Management*, 35(3), 769–803. <https://doi.org/10.1007/s10490-017-9532-1>.

Riwayati, H.E. (2025). The Role of Social Responsibility on the Influence of Financial Inclusion of Small and Medium Business Actors in Increasing Business Competitiveness. *Lecture Notes in Networks and Systems*, 1572, 423-434, ISSN 2367-3370, https://doi.org/10.1007/978-3-032-00441-3_41.

Roman, A., & Rusu, V. D. (2022). Digital Technologies and the Performance of Small and Medium Enterprises. *Studies in Business and Economics*, 17(3), 190–203. <https://doi.org/10.2478/sbe-2022-0055>

Rumanti, A. A., Rizana, A. F., & Achmad, F. (2023). Exploring the role of organizational creativity and open innovation in enhancing SMEs performance. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2), 100045. <https://doi.org/10.1016/j.joitmc.2023.100045>

Rustiarini, N. W. (2023). Does Risk Management and Intellectual Capital Improving Sme's Performance During Covid-19 Outbreak? *Montenegrin Journal of Economics*, 19(3). <https://doi.org/10.14254/1800-5845/2023.19-3.12>

Sabil Hussein, A., Rahayu, M., Hirfiyana Rosita, N., & Fitri Ayuni, R. (2018). Knowledge Management Orientation, Market Orientation, and SME's Performance: A Lesson from Indonesia's Creative Economy Sector. *Interdisciplinary Journal of Information, Knowledge, and Management*, 13, 183–199. <https://doi.org/10.28945/4089>

Salem Al Qaydi, E. M., & Aris, A. (2021). Model of Human Resources Management (HRM) Practices Factors Affecting Small and Medium Enterprises (SMEs) Performance. *International Journal of Sustainable Construction Engineering and Technology*, 12(5). <https://doi.org/10.30880/ijscet.2021.12.05.010>

Salfore, N., Ensermu, M., & Kinde, Z. (2023). Business model innovation and firm performance: Evidence from manufacturing SMEs. *Heliyon*, 9(6). <https://doi.org/10.1016/j.heliyon.2023.e16384>

Sancho, M. P. Lechuga. (2018). Understanding the link between socially responsible human resource management and competitive performance in SMEs. *Personnel Review*. <https://doi.org/10.1108/PR-05-2017-0165>

Sarfo, C., Zhang, J. A., O'Kane, C., & O'Kane, P. (2024). Perceived value of microfinance and SME performance: The role of exploratory innovation. *International Journal of Innovation Studies*, 8(2), 172–185. <https://doi.org/10.1016/j.ijis.2024.02.003>

Schrank, J. S. J., & Kijkasiwat, P. K. P. (2025). Unlocking SME Potential: The Role of Digital Financial Innovations and Human Capital in Enhancing Performance. *GLOBAL BUSINESS FINANCE REVIEW*, 30(7), 158–173. <https://doi.org/10.17549/gbfr.2025.30.7.158>

Selamet Riadi, S., Hapsari, P., Wahyu Budiman, P., Anwar, K., & Yudaruddin, R. (2023). The impact of knowledge management on SMES' performance during the COVID-19 pandemic: Assessing the significance of digital variables. *Knowledge and Performance Management*, 7(1), 76–90. [https://doi.org/10.21511/kpm.07\(1\).2023.06](https://doi.org/10.21511/kpm.07(1).2023.06)

Selivanovskikh, L. (2023). Exploring Firm Innovation Capability As The 'Black Box' Between Human Capital And Performance In Russian Smes. *Journal of Developmental Entrepreneurship*, 28(01). <https://doi.org/10.1142/S1084946723500073>

Shirokova, G., Khrabust, K., Fedotova, E., & Solesvik, M. (2025). Proactive learning culture and SME performance in a challenging environment: the mediating role of innovative

capability. *International Journal of Entrepreneurial Behavior & Research*.
<https://doi.org/10.1108/IJEBr-08-2024-0887>

Silva, M.C.J. (2025). Challenges of Digital Transformation and Operations Management on Small Businesses in Araguari. *International Journal of Interdisciplinary Organizational Studies*, 20(1), 167-185, ISSN 2324-7649, <https://doi.org/10.18848/2324-7649/CGP/v20i01/167-185>.

Sinha, K. K., Saunders, C., Raby, S., & Dewald, J. (2022). The moderating role of previous venture experience on breadth of learning and innovation and the impacts on SME performance. *International Journal of Entrepreneurial Behavior & Research*, 28(2), 346–367. <https://doi.org/10.1108/IJEBr-02-2021-0159>

Siregar, M. Y., Lubis, A. N., Absah, Y., & Gultom, P. (2024). Increasing the competitive advantage and the performance of SMEs using entrepreneurial marketing architectural innovation capability in North Sumatera, Indonesia. *Uncertain Supply Chain Management*, 12(2), 965–976. <https://doi.org/10.5267/j.uscm.2023.12.011>

Subhan, E. S. (2024). The Impact of Creativity, Market Orientation, and Entrepreneurial Orientation on SME Marketing Performance: Investigating the Mediating Effect of Product Innovation. *Journal of Logistics, Informatics and Service Science*. <https://doi.org/10.33168/JLISS.2024.0709>

Sukati, I., Awain, A. M. S. B., & Ismaeel, R. I. (2023). The Role of Supply Chain Innovation for New Normal on the Relationship between SCM Practices and SMEs Performance. *International Journal of Information Systems and Supply Chain Management*, 16(1), 1–15. <https://doi.org/10.4018/IJISSCM.321950>

Sulistyawati, D. R., Mutamimah, M., & Hartono, S. (2024). Masalah radical innovation: Breakthrough to achieve corporate sustainability in small and medium industries (SMI) batik in central java province. *Edelweiss Applied Science and Technology*, 8(6), 8740–8751. <https://doi.org/10.55214/25768484.v8i6.3865>

Sumiati, Yasri, Helia, S., Andria, Y., Afriyeni, A., Aryadi, D., & Hasymi, E. (2024). The Impact of Green Human Resource Management on the Economic and Environmental Performance of Small and Medium Enterprises (SMEs) in West Sumatra, Indonesia. *International Journal of Sustainable Development and Planning*, 19(8), 3225–3234. <https://doi.org/10.18280/ijstdp.190834>

Surahman, Shee, H., Fitriani, Z., Sasmoko Adi, A., & Yudaruddin, R. (2023). The effect of digital transformation and innovation on SMEs' performance in times of COVID-19. *Problems and Perspectives in Management*, 21(4), 84–100. [https://doi.org/10.21511/ppm.21\(4\).2023.07](https://doi.org/10.21511/ppm.21(4).2023.07)

Suyuti, M.R. (2025). The role of entrepreneurship in the development of information technology based small businesses in makassar city. *Iop Conference Series Earth and Environmental Science*, 1454(1), ISSN 1755-1307, <https://doi.org/10.1088/1755-1315/1454/1/012043>.

Tiwasing, P., Kim, Y. R., & Sawang, S. (2023). The interplay between digital social capital and family-owned SME performance: a study of social media business networks. *Journal of Family Business Management*, 13(4), 1026–1048. <https://doi.org/10.1108/JFBM-07-2022-0103>

Tsai, F.-S., Cabrilo, S., Chou, H.-H., Hu, F., & Tang, A. D. (2022). Open innovation and SME performance: The roles of reverse knowledge sharing and stakeholder relationships. *Journal of Business Research*, 148, 433–443. <https://doi.org/10.1016/j.jbusres.2022.03.051>

Tumiwa, R. A. F., Ningsih, G. M., Romarina, A., Setyadjit, S., Slamet, B., Waruwu, E., Ie, M., & Utomo, Y. T. (2023). Investigating halal food Supply chain management, halal

certification and traceability on SMEs performance. *Uncertain Supply Chain Management*, 11(4), 1889–1896. <https://doi.org/10.5267/j.uscm.2023.6.003>

Ueasangkomsate, P. (2025). Empowering Thai SMEs through IT competency, digitalization and digital transformation for new product development. *Cogent Business and Management*, 12(1), ISSN 2331-1975, <https://doi.org/10.1080/23311975.2025.2458758>.

Uwizeyemungu, S., Raymond, L., Poba-Nzaou, P., & St-Pierre, J. (2018). The complementarity of IT and HRM capabilities for competitive performance: a configurational analysis of manufacturing and industrial service SMEs. *Enterprise Information Systems*, 12(10), 1336–1358. <https://doi.org/10.1080/17517575.2018.1448118>

Vu, N.H. (2025). Improving business environment for information technology adoption in small business: evidence from a transition economy. *Technology Analysis and Strategic Management*, 37(6), 705-721, ISSN 0953-7325, <https://doi.org/10.1080/09537325.2023.2294978>.

Wijaya, L. I., Zunairoh, Z., Hadi, F. S., Wicaksono, A. P., & Izharuddin, M. (2024). Innovation capability as a survival strategy for MSMEs during the economic recovery from the COVID-19 pandemic. *Asian Economic and Financial Review*, 14(8), 563–579. <https://doi.org/10.55493/5002.v14i8.5148>

Wright, P. M., & McMahan, G. C. (1992). Theoretical Perspectives for Strategic Human Resource Management. *Journal of Management*, 18(2), 295–320. <https://doi.org/10.1177/014920639201800205>.

Wu, Z., & Peng, X. (2022). Exploratory versus exploitative innovation: SME performance implications of managerial ties and empowering leadership in China. *Asian Journal of Technology Innovation*, 30(2), 313–341. <https://doi.org/10.1080/19761597.2020.1848439>

Yamali, F. R., Nuraeni, N., Sarinastiti, N., Suryobuwono, A. A., Limakrisna, N., & Shavkatov, N. (2024). The role of human resource management in the SMEs' financial performance improvement. *Economic Annals-XXI*, 208(3–4), 15–20. <https://doi.org/10.21003/ea.V208-03>

Zacca, R., & Alhoqail, S. (2021). Entrepreneurial and market orientation interactive effects on SME performance within transitional economies. *Journal of Research in Marketing and Entrepreneurship*, 23(2), 268–281. <https://doi.org/10.1108/JRME-08-2019-0067>

Zaridis, A., Vlachos, I., & Bourlakis, M. (2021). SMEs strategy and scale constraints impact on agri-food supply chain collaboration and firm performance. *Production Planning & Control*, 32(14), 1165–1178. <https://doi.org/10.1080/09537287.2020.1796136>

Zhou, Q., Edafioghor, T. E., Wu, C., & Doherty, B. (2023). Building organisational resilience capability in small and medium-sized enterprises: The role of high-performance work systems. *Human Resource Management Journal*, 33(4), 806–827. <https://doi.org/10.1111/1748-8583.12479>.