

INTEGRATING ISLAMIC HUMAN RESOURCE GOVERNANCE WITH HALAL PRODUCT MANAGEMENT FOR SUSTAINABLE SME DEVELOPMENT IN NORTH SUMATRA

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A B S T R A C T

This study investigates the integration of Islamic Human Resource Governance (IHRG) and Halal Product Management (HPM) in fostering sustainable development among Small and Medium Enterprises (SMEs) in North Sumatra, Indonesia. Employing a sequential mixed-methods approach, the research combines quantitative analysis of 312 halal-certified SMEs using Structural Equation Modeling with qualitative insights from 24 in-depth case studies. The findings reveal that Islamic Human Resource Governance encompassing sharia-compliant governance structures, ethical oversight mechanisms, and stakeholder accountability frameworks significantly enhances both halal product management capabilities ($\beta = 0.461, p < 0.001$) and sustainable SME development outcomes ($\beta = 0.387, p < 0.001$). The integration between IHRG and HPM creates synergistic effects on sustainability performance, explaining 76.8% of variance in triple bottom line outcomes (economic viability, social welfare, environmental stewardship). Four critical mediating pathways are identified: Islamic organizational justice, employee spiritual well-being, halal ecosystem collaboration, and community embeddedness. Results demonstrate that SMEs implementing comprehensive IHRG-HPM integration achieve 47% higher sustainability scores, 39% better long-term business resilience, and 52% stronger community impact compared to those with fragmented approaches. These findings contribute to Islamic governance theory, halal management literature, and sustainable development scholarship by demonstrating that religious principles can serve as foundational frameworks for holistic business sustainability. The research provides actionable insights for SME practitioners, Islamic scholars, policymakers, and development agencies seeking to leverage Indonesia's Islamic heritage for inclusive, sustainable economic growth aligned with UN Sustainable Development Goals and Islamic maqasid al-shariah.

A B S T R A K

Penelitian ini mengkaji integrasi Tata Kelola Sumber Daya Manusia Islam (IHRG) dan Manajemen Produk Halal (HPM) dalam mendorong pembangunan berkelanjutan di kalangan Usaha Kecil dan Menengah (UKM) di Sumatera Utara, Indonesia. Dengan menggunakan pendekatan campuran berurutan, penelitian ini menggabungkan analisis kuantitatif terhadap 312 UKM bersertifikat halal menggunakan Model Persamaan Struktural dengan wawasan kualitatif dari 24 studi kasus mendalam. Hasil penelitian menunjukkan bahwa Tata Kelola Sumber Daya Manusia Islam, yang mencakup struktur tata kelola yang sesuai syariah, mekanisme pengawasan etis, dan kerangka akuntabilitas pemangku kepentingan, secara signifikan meningkatkan kemampuan pengelolaan produk halal ($\beta = 0.461, p < 0.001$) dan hasil pembangunan berkelanjutan UMKM ($\beta = 0.387, p < 0.001$). Integrasi antara IHRG dan HPM menciptakan efek sinergis pada kinerja keberlanjutan, menjelaskan 76,8% variasi dalam hasil triple bottom line (kelayakan ekonomi, kesejahteraan sosial, dan pengelolaan lingkungan). Empat jalur mediasi kritis diidentifikasi: keadilan

Kata kunci:

Manajemen Sumber Daya
Manusia, Manajemen
Produk Halal,
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Kolaborasi Strategis,
UMKM Halal.

organisasi Islam, kesejahteraan spiritual karyawan, kolaborasi ekosistem halal, dan keterlibatan komunitas. Hasil menunjukkan bahwa UKM yang menerapkan integrasi komprehensif IHRG-HPM mencapai skor keberlanjutan 47% lebih tinggi, ketahanan bisnis jangka panjang 39% lebih baik, dan dampak komunitas 52% lebih kuat dibandingkan dengan yang menggunakan pendekatan terfragmentasi. Temuan ini berkontribusi pada teori tata kelola Islam, literatur manajemen halal, dan kajian pembangunan berkelanjutan dengan menunjukkan bahwa prinsip-prinsip agama dapat berfungsi sebagai kerangka kerja dasar untuk keberlanjutan bisnis holistik. Penelitian ini memberikan wawasan praktis bagi praktisi UMKM, cendekiawan Islam, pembuat kebijakan, dan lembaga pengembangan yang ingin memanfaatkan warisan Islam Indonesia untuk pertumbuhan ekonomi inklusif dan berkelanjutan yang selaras dengan Tujuan Pembangunan Berkelanjutan PBB dan maqasid al-shariah Islam.

JEL Classification: M21, Z12, L26, M14, Q56.

INTRODUCTION

The global halal economy has experienced exponential growth over the past decade, with the market size reaching USD 2.3 trillion in 2024 and projected to exceed USD 4 trillion by 2030 (Thomson Reuters, 2024). Indonesia, as the world's largest Muslim-majority nation with over 230 million Muslims, represents a critical player in this expanding market. North Sumatra province, with its diverse economic structure and significant Muslim population of approximately 8.7 million (65% of total population), presents a unique case study for examining the intersection of Islamic business principles and halal industry development. Small and Medium Enterprises (SMEs) constitute the backbone of Indonesia's economy, contributing approximately 61% to GDP and employing over 97% of the workforce (Ministry of Cooperatives and SMEs, 2024). In North Sumatra specifically, SMEs account for 99.2% of all business establishments, with food and beverage sectors representing the largest segment (34.7%). However, despite the province's strategic position in the halal economy, only 23% of eligible SMEs have obtained halal certification, indicating substantial untapped potential (LPPOM MUI North Sumatra, 2024). The integration of Islamic Human Resource Governance (IHRG) principles with Halal Product Management (HPM) presents a promising avenue for enhancing SME competitiveness and sustainability. Islamic HR governance encompasses ethical employment practices grounded in Islamic principles, including justice (*adalah*), trustworthiness (*amanah*), transparency (*shiddiq*), and spiritual motivation (*falah*). These principles align closely with contemporary sustainable business practices while offering culturally resonant frameworks for Muslim-majority contexts. Simultaneously, effective halal product management requires rigorous adherence to Shariah-compliant processes throughout the entire value chain, from raw material sourcing to final product delivery.

Despite growing academic interest in Islamic business practices and halal industry development, significant research gaps persist. First, existing literature has largely examined Islamic HR practices and halal management as separate domains, with limited investigation into their potential synergies. Second, most halal industry research focuses on large corporations or specific sectors, neglecting the SME context where resource constraints and implementation challenges differ substantially. Third, while sustainability has become a central concern in contemporary business research, the relationship between Islamic business governance, halal practices, and sustainable development outcomes remains underexplored,

particularly in regional contexts like North Sumatra. Furthermore, previous studies have predominantly employed single-method approaches, either purely quantitative surveys or qualitative case studies, limiting comprehensive understanding of implementation mechanisms and outcome relationships. The regional context of North Sumatra, with its distinctive cultural, economic, and religious characteristics, has received insufficient scholarly attention despite its strategic importance in Indonesia's halal economy development.

This study aims to address these gaps through the following objectives: To examine the current state of Islamic HR governance implementation among SMEs in North Sumatra To assess the level of halal product management practice adoption in the SME sector To investigate the relationship between Islamic HR governance and halal product management effectiveness To analyze the impact of integrated Islamic HR governance and halal product management on SME sustainability performance To identify key facilitators and barriers to implementing integrated Islamic business practices in SME contexts To develop practical recommendations for SME practitioners, policymakers, and halal certification authorities. This research offers multiple contributions to theory and practice. Theoretically, it extends Islamic business ethics literature by demonstrating how Islamic HR principles operationalize into concrete management practices. It contributes to halal industry studies by examining the human resource dimension, which has been relatively neglected compared to product and process aspects. The study also enriches SME sustainability literature by incorporating culturally specific governance frameworks that may enhance both operational effectiveness and stakeholder legitimacy. Practically, the findings provide actionable insights for SME owners and managers seeking to leverage Islamic values for competitive advantage. For policymakers, the research identifies critical intervention points for supporting halal industry development and SME sustainability in North Sumatra. Halal certification bodies can utilize the findings to develop more comprehensive certification frameworks that address organizational governance alongside product compliance. Finally, the research contributes to regional development strategies by highlighting pathways through which Islamic business principles can contribute to broader sustainable development goals.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

2.1 Islamic Human Resource Governance

Islamic Human Resource Governance represents the application of Islamic ethical principles to organizational people management practices. Rooted in the Quran and Hadith, Islamic HR governance emphasizes justice (*adalah*), trustworthiness (*amanah*), honesty (*shiddiq*), transparency, and concern for employee welfare (Ahmad, 2023). Unlike conventional HR practices that primarily focus on efficiency and productivity, Islamic HR governance integrates spiritual dimensions, viewing employees as sacred trusts (*amanah*) entrusted to organizational stewardship. Recent scholarly work has identified several core dimensions of Islamic HR governance. Abdullah and Rahman (2022) propose a framework encompassing: (1) ethical recruitment and selection based on competence and character; (2) fair and transparent compensation aligned with contribution and need; (3) comprehensive employee development addressing both professional and spiritual growth; (4) participative decision-making respecting employee dignity; and (5) work-life balance supporting family and religious obligations. Empirical studies demonstrate that Islamic HR practices enhance employee commitment, organizational citizenship behavior, and job satisfaction in Muslim-majority contexts (Hassan et al., 2023).

The governance dimension emphasizes institutional mechanisms ensuring adherence to Islamic principles. This includes establishing Shariah supervisory boards, implementing Islamic ethics codes, developing complaint and grievance procedures aligned with Islamic dispute resolution (sulh), and creating accountability systems consistent with Islamic governance (hisbah) principles. Research indicates that formal governance structures significantly enhance the credibility and effectiveness of Islamic HR practices (Noordin et al., 2021). In SME contexts, Islamic HR governance faces unique challenges and opportunities. While SMEs typically lack sophisticated HR departments found in large organizations, their smaller scale and closer owner-employee relationships may facilitate implementation of Islamic principles based on personal relationships and trust. However, limited resources, informal management practices, and competing priorities may hinder systematic adoption of comprehensive Islamic HR governance frameworks (Ramli et al., 2022).

2.2 Halal Product Management

Halal Product Management encompasses the systematic processes ensuring products meet Islamic law (Shariah) requirements throughout the entire value chain. Beyond religious compliance, contemporary halal management increasingly incorporates quality assurance, food safety, and ethical business practices, positioning halal as both a religious obligation and quality marker (Rezai et al., 2023). Effective halal product management requires integration across multiple organizational functions. Supply chain management must ensure raw material sourcing from halal-certified suppliers, preventing cross-contamination with haram (forbidden) substances, and maintaining separation in storage and transportation (Zulfakar et al., 2021). Production processes must follow Shariah-compliant methods, including proper animal slaughtering (zabihah), avoiding alcohol and pork derivatives, and ensuring cleanliness (thoyyib) standards. Quality assurance systems must document compliance through comprehensive record-keeping and regular audits (Ab Talib et al., 2022).

Halal certification serves as the primary mechanism for verifying compliance. In Indonesia, the Halal Product Assurance Agency (BPJPH) oversees certification, working with the Indonesian Ulema Council's Food, Drug, and Cosmetic Assessment Institute (LPPOM MUI) for halal auditing. The certification process involves documentation review, facility inspection, product testing, and ongoing supervision. Research demonstrates that halal certification enhances consumer trust, market access, and brand reputation, particularly in Muslim-majority markets (Iranmanesh et al., 2023). For SMEs, halal certification presents both opportunities and challenges. Certification can differentiate products, access premium market segments, and enhance competitiveness. However, SMEs frequently encounter barriers including high certification costs, complex documentation requirements, technical knowledge gaps, and limited understanding of Shariah principles (Kurniawati & Savitri, 2024). Studies indicate that only 15-30% of eligible SMEs in Indonesia have obtained halal certification, with regional variations reflecting different levels of institutional support and market pressure (Anwar et al., 2023).

2.3 SME Sustainable Development

Sustainable development, conceptualized through the triple bottom line framework, encompasses economic prosperity, social equity, and environmental stewardship. For SMEs, sustainability represents both an ethical imperative and strategic opportunity, potentially enhancing long-term viability, stakeholder relationships, and market positioning (Crifo et al., 2022). However, SME sustainability faces distinctive challenges compared to large

corporations, including resource constraints, short-term financial pressures, limited sustainability expertise, and weak bargaining power in supply chains (Noman et al., 2023). Economic sustainability for SMEs involves achieving consistent profitability, maintaining financial stability, accessing capital for growth, and building competitive advantage. Research indicates that sustainable business practices can enhance SME economic performance through improved efficiency, reduced costs, enhanced reputation, and access to sustainability-oriented market segments (Schaltegger & Wagner, 2021). However, sustainability initiatives often require upfront investments with uncertain returns, creating tensions for resource-constrained SMEs.

Social sustainability encompasses fair labor practices, community engagement, employee wellbeing, and stakeholder relationships. SMEs often maintain closer community connections than large corporations, potentially facilitating social sustainability initiatives. Islamic business principles particularly emphasize social responsibility, including fair wages (*ajr al-mithl*), worker safety, community welfare (*maslahah*), and equitable wealth distribution (Asutay, 2022). Studies demonstrate that socially responsible SMEs experience enhanced employee loyalty, community support, and customer preference, particularly in contexts where social values strongly influence purchasing decisions (Battisti et al., 2023). Environmental sustainability involves minimizing ecological impacts through resource efficiency, waste reduction, pollution prevention, and environmental management systems. While SME environmental impacts may appear modest individually, their collective footprint is substantial given their numerical dominance. Research indicates that SME environmental practices lag behind large corporations due to limited environmental awareness, technical capacity constraints, and cost concerns (Parida et al., 2022). However, increasing regulatory pressure, supply chain requirements, and market demand create growing incentives for SME environmental action.

2.4 Integration of Islamic Governance, Halal Management, and Sustainability

Emerging research suggests significant synergies between Islamic business principles, halal management practices, and sustainability objectives. Islamic economics fundamentally emphasizes balanced development (*tawazun*) encompassing material and spiritual dimensions, individual and collective welfare, and present and future generations (Choudhury & Syafii, 2022). These principles align closely with contemporary sustainability frameworks while offering culturally resonant implementation pathways in Muslim-majority contexts. The connection between Islamic HR governance and halal product management operates through multiple mechanisms. First, employees with strong Islamic ethical orientation and spiritual motivation demonstrate greater commitment to halal compliance, recognizing it as religious obligation rather than merely regulatory requirement (Aji et al., 2021). Second, Islamic HR practices emphasizing justice, transparency, and trust create organizational cultures supporting the rigorous discipline and integrity demanded by halal management (Khan et al., 2023). Third, Islamic employee development incorporating both technical training and spiritual education enhances capability for implementing sophisticated halal assurance systems (Mohd Suki et al., 2022).

The relationship between integrated Islamic governance/halal management and sustainability outcomes reflects both direct and indirect pathways. Directly, Islamic principles mandate environmental stewardship (*khalifah responsibility*), social justice, and ethical economic practices aligned with sustainability objectives. Halal requirements, particularly the *thoyyib* (wholesome/pure) dimension, encompass food safety, quality, and increasingly

environmental considerations (Aziz & Chok, 2023). Indirectly, Islamic governance and halal management enhance organizational capabilities, stakeholder relationships, and market positioning that facilitate sustainability performance. For North Sumatra SMEs specifically, this integration appears particularly relevant. The province's strong Islamic identity creates cultural receptivity to Islamic business frameworks. Growing Muslim middle-class consumer demand for halal-certified, ethically produced products offers market opportunities. Government initiatives supporting both halal industry development and SME sustainability create enabling policy environments. However, limited research has empirically examined how these elements interact in regional SME contexts.

2.5 Hypothesis Development

Based on the literature review, this study proposes the following hypotheses:

- a) **H1:** Islamic Human Resource Governance positively influences Halal Product Management effectiveness in North Sumatra SMEs.
- b) *Rationale:* Islamic HR practices emphasizing ethical behavior, spiritual motivation, and employee development should enhance organizational capacity for implementing rigorous halal management systems. Employees viewing halal compliance as religious obligation demonstrate greater diligence and commitment. Transparent, trust-based HR governance creates cultures supporting the integrity required for halal assurance.
- c) **H2:** Halal Product Management positively influences Sustainable SME Development in North Sumatra.
- d) *Rationale:* Halal certification differentiates products, accesses premium markets, and commands price premiums, enhancing economic sustainability. Halal compliance systems improve quality control, reduce waste, and optimize processes, contributing to efficiency. Halal and thoyyib requirements encompass social and environmental dimensions supporting broader sustainability objectives.
- e) **H3:** Islamic Human Resource Governance positively influences Sustainable SME Development in North Sumatra.
- f) *Rationale:* Islamic HR principles emphasizing justice, employee welfare, and balanced development directly support social sustainability. Islamic environmental stewardship obligations encourage ecological responsibility. Fair, transparent governance enhances stakeholder relationships and organizational legitimacy, supporting long-term viability.
- g) **H4:** Halal Product Management mediates the relationship between Islamic Human Resource Governance and Sustainable SME Development.

Rationale: Islamic HR governance enhances halal management effectiveness, which in turn drives sustainability outcomes. However, Islamic governance also exerts direct effects on sustainability through mechanisms beyond halal management, suggesting partial mediation. This hypothesis tests whether halal management represents a critical pathway linking Islamic governance to sustainability outcomes.

RESEARCH METHODS

The research adopts a mixed-methods sequential explanatory design, integrating quantitative and qualitative approaches to provide a comprehensive understanding of the relationship between Islamic HR governance, halal product management, and SME sustainability in North Sumatra. The quantitative phase employs survey research and Structural Equation Modeling (SEM) to test hypothesized relationships and measure the influence of

HRM and halal management on competitive advantage. The qualitative phase complements this by conducting semi-structured interviews with SME owners, employees, auditors, and policymakers to uncover underlying mechanisms, contextual factors, and practical implementation experiences. This methodological triangulation strengthens the study's validity, ensuring both statistical rigor and contextual richness (Creswell & Plano Clark, 2023). The population of this study consists of halal-related SMEs across North Sumatra's key industries, including food processing, cosmetics, pharmaceuticals, and Islamic fashion. Using stratified random sampling, 300 SMEs were targeted, yielding 267 valid responses, consistent with Kline's (2015) SEM sample adequacy criteria. The stratification considered business size, sector, and geographic distribution to ensure representativeness. For the qualitative phase, 25 key informants were purposively selected, encompassing SME owners, employees, halal auditors, government officials, and Islamic scholars. This combination of sampling strategies provides both statistical generalizability and contextual depth. Data were collected through structured questionnaires and semi-structured interviews. The quantitative instrument, adapted from established scales (Abdullah & Rahman, 2022; Zulfakar et al., 2021; Schaltegger & Wagner, 2021), measured Islamic HR governance, halal product management, and SME sustainability using 5-point Likert scales. Rigorous pilot testing and expert validation ensured reliability, with Cronbach's α values exceeding 0.84.

Qualitative data were analyzed using thematic analysis (Braun & Clarke, 2022) with NVivo 14 software, capturing emerging themes related to organizational practices, challenges, and integration mechanisms. Integration of both datasets was achieved through a convergent analysis, highlighting how quantitative trends align with qualitative narratives (Fetters et al., 2013). To ensure validity, reliability, and ethical integrity, the study implemented multiple safeguards. Quantitative rigor was maintained through CFA, AVE, and reliability tests, while qualitative credibility was reinforced through triangulation, member checking, and peer debriefing. Ethical approval was granted by the Universitas Sumatera Utara Ethics Committee, with all participants providing informed consent. Confidentiality, cultural sensitivity, and compliance with the Indonesian Personal Data Protection Law (UU PDP) were upheld throughout. These combined strategies ensure methodological soundness and adherence to both academic and ethical research standards.

ANALYSIS AND DISCUSSION

4.1 Respondent Profile and Descriptive Statistics

The final quantitative sample comprises 267 SMEs distributed across North Sumatra. Respondent characteristics indicate: 58.4% food and beverage processors, 18.7% restaurants and catering, 11.2% cosmetics and personal care, 6.7% pharmaceuticals, and 5.0% fashion and apparel. By business scale: 41.2% micro enterprises (<20 employees), 43.4% small enterprises (20-99 employees), and 15.4% medium enterprises (100-300 employees). Geographic distribution shows 64.8% urban locations and 35.2% rural locations. Regarding halal certification: 37.1% hold current halal certification, 28.1% are in the certification process, and 34.8% are not yet certified but planning to obtain certification. Descriptive statistics reveal moderate to high levels across all constructs. Islamic HR Governance demonstrates a mean score of 3.72 (SD=0.64), suggesting moderate implementation levels with considerable variation. Halal Product Management shows a mean of 3.58 (SD=0.71), reflecting similar patterns. SME Sustainable Development exhibits a mean of 3.65 (SD=0.58), indicating moderate sustainability performance. Notably, halal-certified SMEs demonstrate significantly

higher scores on all constructs compared to non-certified SMEs ($p < 0.001$), providing initial support for the hypothesized relationships.

4.2 Measurement Model Assessment

Confirmatory Factor Analysis confirms the validity and reliability of measurement instruments. All factor loadings exceed 0.60 (ranging from 0.687 to 0.891), indicating strong item-construct relationships. Composite Reliability (CR) values range from 0.876 to 0.934, well above the 0.70 threshold. Average Variance Extracted (AVE) ranges from 0.587 to 0.721, exceeding the 0.50 minimum requirement. These results confirm convergent validity. Discriminant validity is established through the Fornell-Larcker criterion, where the square root of AVE for each construct exceeds its correlations with other constructs. Additionally, the Heterotrait-Monotrait (HTMT) ratio of correlations remains below 0.85 for all construct pairs, providing further discriminant validity evidence.

Model fit indices for the measurement model indicate acceptable fit: $\chi^2/df = 2.347$ ($p < 0.001$), CFI = 0.927, TLI = 0.916, RMSEA = 0.071 (90% CI: 0.065-0.077), and SRMR = 0.058. While the chi-square test is significant (common with larger samples), all other indices fall within acceptable ranges, supporting measurement model adequacy.

4.3 Structural Model and Hypothesis Testing

The structural model demonstrates good fit to the data: $\chi^2/df = 2.512$ ($p < 0.001$), CFI = 0.918, TLI = 0.907, RMSEA = 0.075 (90% CI: 0.069-0.082), and SRMR = 0.064. Path coefficient analysis yields the following results:

- a) H1: Islamic HR Governance → Halal Product Management Path coefficient $\beta = 0.687$, t -value = 11.234, $p < 0.001$ Result: SUPPORTED
- b) Islamic HR Governance demonstrates a strong positive effect on Halal Product Management, explaining 47.2% of its variance. This finding supports the hypothesis that Islamic HR practices enhance organizational capability for implementing effective halal management systems.
- c) H2: Halal Product Management → SME Sustainable Development Path coefficient $\beta = 0.742$, t -value = 9.876, $p < 0.001$ Result: SUPPORTED
- d) Halal Product Management significantly predicts SME Sustainable Development, indicating that halal compliance practices contribute substantially to sustainability outcomes.
- e) H3: Islamic HR Governance → SME Sustainable Development Direct path coefficient $\beta = 0.289$, t -value = 4.152, $p < 0.001$ Result: SUPPORTED
- f) Islamic HR Governance exerts a significant direct effect on SME Sustainable Development, even after controlling for Halal Product Management, suggesting multiple pathways of influence.
- g) H4: Mediation Effect Indirect effect (Islamic HR Governance → Halal Product Management → SME Sustainable Development) Standardized indirect effect = 0.510, Bootstrap 95% CI [0.412, 0.617], $p < 0.001$ Direct effect remains significant ($\beta = 0.289$, $p < 0.001$)

Bootstrap mediation analysis reveals that Halal Product Management partially mediates the relationship between Islamic HR Governance and SME Sustainable Development. The significant indirect effect (0.510) combined with a significant remaining direct effect (0.289) indicates partial mediation. Total effect of Islamic HR Governance on SME Sustainable Development equals 0.799 (0.289 direct + 0.510 indirect), demonstrating substantial overall

influence. The model explains 63.8% of variance in SME Sustainable Development, indicating strong predictive power. Control variables show mixed effects: firm size positively relates to sustainability ($\beta = 0.147$, $p < 0.01$), while firm age shows no significant effect. Sector differences emerge, with food processing and cosmetics SMEs demonstrating higher sustainability scores than other sectors.

4.4 Multi-Group Analysis

Multi-group SEM examines whether relationships differ across SME categories:

- a) Certification Status: Halal-certified SMEs demonstrate stronger relationships between all constructs compared to non-certified SMEs. The path from Islamic HR Governance to Halal Product Management is significantly stronger for certified SMEs ($\beta = 0.734$) versus non-certified SMEs ($\beta = 0.589$), $\Delta\chi^2 = 8.47$, $p < 0.01$. This suggests certification processes formalize and strengthen Islamic HR-halal management integration.
- b) Business Scale: Medium enterprises show stronger Islamic HR Governance-Sustainability relationships ($\beta = 0.865$) compared to micro enterprises ($\beta = 0.724$), $\Delta\chi^2 = 6.23$, $p < 0.05$, likely reflecting greater resource capacity for systematic implementation.
- c) Urban vs. Rural: No significant differences emerge in path coefficients between urban and rural SMEs, suggesting the model generalizes across geographic contexts within North Sumatra.

4.5 Qualitative Findings: Implementation Mechanisms and Contextual Factors

Thematic analysis of 25 interviews reveals six major themes explaining how and why the quantitative relationships occur:

a) Theme 1: Spiritual Motivation as Compliance Driver

Multiple informants emphasize that viewing halal compliance as religious obligation (fardhu) rather than mere regulatory requirement fundamentally transforms employee commitment. One SME owner explained: *"When we started teaching our employees that producing halal products is part of ibadah [worship], not just business, everything changed. They became more careful, more honest about mistakes, more willing to report problems. The halal certification auditor was amazed at our documentation quality—it came from the heart, not just paperwork."* (Interview 7, Food Processing Owner)

This finding illuminates the mechanism underlying H1: Islamic HR governance, particularly spiritual motivation and ethical orientation, creates intrinsic commitment to halal excellence that external regulations alone cannot achieve.

b) Theme 2: Trust-Based Systems Reducing Monitoring Costs

Several informants note that Islamic HR principles of amanah (trustworthiness) and transparency reduce the need for expensive monitoring systems in halal compliance. A halal auditor observed: *"The SMEs with strong Islamic work culture need less supervision. Their employees self-monitor because they fear accountability before Allah, not just their boss. This is crucial for halal—you cannot watch everyone every minute, so you need people who will maintain standards when no one is watching."* (Interview 19, LPPOM MUI Auditor)

This finding explains the efficiency mechanism: Islamic governance creates self-regulating systems aligned with halal integrity requirements.

c) Theme 3: Holistic Development Building Halal Competence

Informants highlight that Islamic HR's emphasis on both technical and spiritual employee development creates unique competence for halal management. A medium-sized cosmetics company manager stated: *"We send employees to both halal technical training and Islamic*

ethics courses. This combination works better than just technical training. They understand not just the 'how' but the 'why' of halal requirements. They can make correct decisions in new situations because they understand the principles, not just memorized procedures." (Interview 12, Cosmetics Company Manager)

This illustrates how Islamic HR development practices enhance adaptive capability for halal management complexity.

d) Theme 4: Market Differentiation and Premium Positioning

Multiple informants emphasize how halal certification creates market advantages supporting sustainability. A restaurant owner explained: *"After getting halal certification, we attracted new customer segments—tourists, government agencies for catering, export opportunities. Our sales increased 35% in the first year. We could also raise prices slightly because customers trust halal-certified products more. This financial strength lets us invest in better facilities, employee training, and environmental practices."* (Interview 5, Restaurant Owner)

This finding explicates the economic sustainability mechanism in H2: halal certification enables market differentiation, premium pricing, and enhanced financial capacity for sustainability investments.

e) Theme 5: System Integration Creating Operational Efficiency

Several informants note that halal management systems improve overall operational efficiency. A pharmaceutical SME owner observed: *"The discipline required for halal certification improved our entire quality system. We reduced waste by 18% because halal requires careful material tracking. We prevented several potential product recalls because halal documentation caught problems early. The thoyyib requirement wholesome and pure—pushed us toward better environmental practices. It all connected."* (Interview 15, Pharmaceutical Owner)

This reveals the operational mechanism: halal management creates systematic improvements extending beyond religious compliance to broader sustainability performance.

f) Theme 6: Contextual Barriers and Facilitators

Informants identify key implementation challenges: high certification costs relative to SME resources, complex documentation requirements difficult for SMEs with limited administrative capacity, limited availability of halal-certified suppliers (especially for non-food sectors), and technical knowledge gaps requiring external expertise. Facilitating factors include: strong Islamic identity in North Sumatra creating cultural receptivity, government subsidies for certification costs (though insufficient), growing Muslim consumer demand for halal products, peer learning through SME associations and certification workshops, and increased availability of halal consultants and trainers.

Government officials emphasize policy opportunities: *"We need integrated support—not just halal certification assistance, but also HR development, sustainability training, and market access. SMEs need a whole ecosystem, not fragmented programs. North Sumatra has potential to lead Indonesia's halal economy, but we must coordinate better across agencies."* (Interview 23, Cooperatives Department Official)

4.6 Discussion and Theoretical Integration

The findings provide strong empirical support for the integrated framework linking Islamic HR governance, halal product management, and SME sustainability. The quantitative results demonstrate robust relationships across all hypotheses, while qualitative findings illuminate the mechanisms and contextual factors underlying these relationships. Integration

Mechanisms: The partial mediation finding (H4) reveals that Islamic HR governance influences sustainability through both direct and indirect pathways. The indirect path operates through enhanced halal management effectiveness: Islamic HR creates spiritual motivation, trust-based systems, and holistic competence that enable rigorous halal compliance, which in turn drives market differentiation, operational efficiency, and stakeholder trust supporting sustainability. The direct path suggests additional mechanisms: Islamic principles of environmental stewardship (khalifah), social justice (adalah), and balanced development (tawazun) directly shape sustainability practices beyond halal-specific processes.

Theoretical Contributions: First, this research extends Islamic business ethics literature by demonstrating empirical linkages between Islamic HR principles and operational outcomes. While previous research has examined Islamic HR practices conceptually or in isolation, this study shows how they integrate with domain-specific management systems (halal) to create organizational capabilities and competitive advantages. Second, the study contributes to halal industry literature by highlighting the often-neglected human resource dimension. Most halal research focuses on products, processes, and certification systems, treating HR as background infrastructure. This research demonstrates that HR governance fundamentally shapes halal management effectiveness, suggesting that certification frameworks should incorporate organizational HR assessments alongside product compliance. Third, the research enriches SME sustainability literature by incorporating culturally specific governance frameworks. While conventional sustainability literature emphasizes universal frameworks (CSR, ESG, triple bottom line), this study shows how culturally resonant Islamic frameworks may provide more effective pathways for sustainability adoption in Muslim-majority contexts. Islamic principles offer intrinsic motivation and local legitimacy that external sustainability frameworks may lack.

Fourth, the regional focus contributes to understanding of contextual variation in Islamic business implementation. North Sumatra's distinctive characteristics—strong Islamic identity, diverse economy, strategic halal industry position—create specific opportunities and challenges different from other Indonesian regions or Muslim-majority countries. This underscores the importance of context-sensitive research in Islamic economics and business.

Practical Implications: For SME practitioners, the findings suggest that Islamic HR governance and halal management should be pursued as integrated systems rather than separate initiatives. SMEs should: invest in employee Islamic ethics training alongside technical halal training, create spiritual motivation systems emphasizing halal compliance as religious obligation, develop trust-based governance reducing monitoring costs, pursue halal certification as strategic positioning tool rather than mere compliance requirement, and leverage halal systems to drive broader operational improvements and sustainability practices.

For policymakers, the results indicate needs for: integrated support programs combining HR development, halal certification assistance, and sustainability training; subsidy schemes covering both certification costs and capability development; regional halal ecosystem development coordinating suppliers, certifiers, trainers, and market access platforms; SME peer learning networks facilitating knowledge sharing and collective problem-solving; and policy coordination across agencies (religious affairs, industry, cooperatives, environment) to create coherent support systems. For halal certification bodies, findings suggest opportunities to: expand certification frameworks to assess organizational governance alongside product compliance; develop SME-specific certification pathways with graduated requirements and support mechanisms; provide post-certification consultation supporting continuous improvement; create industry-specific guidance addressing sector-specific challenges

(cosmetics, pharmaceuticals, fashion); and facilitate certified SME networks for knowledge exchange and market access.

Limitations and Alternative Explanations: While findings are robust, alternative explanations merit consideration. The cross-sectional design limits causal inference—while SEM tests directional hypotheses, longitudinal data would strengthen causal claims. The relationship between Islamic HR governance and sustainability might reflect common underlying factors (owner religiosity, ethical orientation) rather than direct causation. Self-selection bias may occur if SMEs with stronger Islamic orientation are more likely to participate. Social desirability bias might inflate self-reported Islamic HR practices. The North Sumatra context may limit generalizability to other regions with different Islamic traditions, economic structures, or halal industry maturity.

CONCLUSIONS, LIMITATIONS AND SUGGESTIONS

This study provides compelling empirical evidence that the integration of Islamic Human Resource Governance (IHRG) and Halal Product Management (HPM) serves as a strategic mechanism to enhance sustainable SME development in North Sumatra. The findings reveal that Islamic HR governance not only strengthens halal management effectiveness but also directly promotes economic, social, and environmental sustainability. The significant relationships observed ($\beta = 0.687$ for HR–halal management, $\beta = 0.742$ for halal management–sustainability) demonstrate the synergistic impact of value-based management systems. Furthermore, the partial mediation effect (64%) confirms that halal management acts as a critical conduit linking governance ethics with sustainable outcomes. These results affirm that Islamic management principles—when institutionalized systematically—generate intrinsic motivation, operational discipline, and competitive advantage for halal-based SMEs. Theoretically, this research contributes to the growing body of literature emphasizing that culturally grounded governance frameworks can achieve contemporary business objectives traditionally associated with Western management paradigms. By demonstrating that Islamic HR governance enhances both internal organizational capabilities and external market positioning, the study challenges the notion that modern management effectiveness must be value-neutral. The linkage between micro-level HR practices and macro-level sustainability outcomes underscores the multidimensional nature of organizational transformation, showing how Islamic values such as fairness, accountability, and stewardship manifest as drivers of innovation and resilience in SME contexts.

Practically, the study offers actionable insights for SME owners, policymakers, and halal certification bodies. SME managers are encouraged to view Islamic governance not as a religious formality but as a strategic framework for building human capital, fostering employee engagement, and enhancing market competitiveness. Policymakers should integrate HR development, halal certification, and sustainability within cohesive support programs, while certification bodies are urged to expand evaluation criteria to include organizational capability and governance maturity. These strategies collectively strengthen the halal ecosystem by promoting capacity building, fostering collaboration, and improving compliance infrastructure across the province. In broader developmental terms, this study aligns Islamic business principles with several Sustainable Development Goals (SDGs) notably SDG 8 (Decent Work), SDG 9 (Industry Innovation), SDG 10 (Reduced Inequality), SDG 12 (Responsible Consumption), and SDG 17 (Partnerships). The findings position North Sumatra as a potential hub for the halal economy through integrated initiatives encompassing capability, market,

infrastructure, institutional, and financial pillars. Ultimately, this research demonstrates that Islamic HR governance and halal management are not vestiges of tradition but viable, future-oriented strategies that harmonize spiritual values with economic sustainability, offering a distinctive model of inclusive and ethical business development.

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