

Halal Certification as a Strategic Instrument for Cultural Preservation and Market Expansion: Community Engagement with Batik SMEs in Giriloyo

Indah Hartati^{1*}, Ratih Pratiwi², Laeli Kurniasari¹, Farikha Maharani¹, Fadjar Setiyo Anggraeni², Windi Novia Ratri Wardhani², Arif Budiarto²

¹Chemical Engineering Department, Faculty of Engineering, Universitas Wahid Hasyim, Indonesia

²Management Department, Faculty of Economic and Business, Universitas Wahid Hasyim, Indonesia

*Email: indahhartati@unwahas.ac.id

Abstract

This paper presents a community engagement initiative highlighting the role of halal certification in strengthening the sustainability and competitiveness of SMEs in Kampung Batik Giriloyo, Yogyakarta. Historically tied to the royal legacy of Mataram Islam, Giriloyo has transformed into a hub of community-based tourism and batik entrepreneurship. Through participatory engagement, artisans were introduced to the urgency, procedures, and critical points of halal certification. The program emphasized certification not only as a religious safeguard but also as a strategic necessity for market expansion, consumer trust, and alignment with global sustainability standards. Artisans gained practical knowledge of documentation, audits, and theological review by the Indonesian Ulema Council (MUI), while critical points such as raw materials, production processes, supply chain integrity, and human resources were identified as areas requiring vigilance. The initiative demonstrated that halal certification empowers SMEs to reposition batik as ethical consumer goods, integrating cultural heritage with modern regulatory frameworks. Despite challenges in branding and market penetration, the program underscores the importance of education, participatory methods, and continuous mentoring to ensure resilience and global integration of traditional batik enterprises. These outcomes directly support the SDGs, particularly Goal 8 (Decent Work and Economic Growth), Goal 12 (Responsible Consumption and Production), and Goal 11 (Sustainable Cities and Communities), by enhancing competitiveness, safeguarding cultural heritage, and promoting sustainable production practices.

Keywords: batik, certification, community engagement, halal, SDGs.

INTRODUCTION

Giriloyo, located at the foothills of Imogiri in Bantul, Yogyakarta, is widely recognized as a locus of cultural heritage and traditional craftsmanship in Indonesia (Sari and Akbar, 2020). Historically, the hamlet is closely linked to the royal legacy of the Mataram Islam kingdom, as Imogiri serves as the burial site of its monarchs (Sari and Akbar, 2020; Mitasari, Zefanya and Puspitasari, 2022; Maulani, 2025). Beyond its historical prominence, Giriloyo has long been acknowledged as a center of batik production (Mitasari, Zefanya and Puspitasari, 2022; Maulani, 2025). The tradition of batik-making is believed to have originated in the 17th century, when local residents which many of whom

were caretakers of the royal graves were engaged by the keraton to produce batik textiles (Adisty, Indriani and Primananda, 2025). For centuries, Giriloyo artisans functioned primarily as laborers, supplying semi-finished batik to urban merchants. A turning point occurred after the 2006 Yogyakarta earthquake, when the community, supported by government agencies and non-governmental organizations, established cooperative groups to strengthen technical skills, produce finished batik independently, and expand their market reach both domestically and internationally (Sari and Akbar, 2020; Krismaretya and Akbar, 2025).

Subsequent developments have positioned Giriloyo as a model of community-based tourism, where batik serves not only as a cultural legacy but also as a driver of local economic development. The establishment of Kampung Batik Giriloyo has consolidated collective organization, enabling artisans to transition from dependency on urban merchants to independent entrepreneurship (Sari and Akbar, 2020; Adisty, Indriani and Primananda, 2025; Krismaretya and Akbar, 2025). This transformation has been accompanied by product diversification, empowerment of women, and regeneration of younger artisans, thereby ensuring the sustainability of the craft. Nevertheless, challenges persist in branding and market penetration. Although tourist arrivals have increased, conversion rates from cultural experience to product purchase remain low, suggesting that Giriloyo's cultural and ecological values have not yet been fully integrated into effective brand communication strategies (Krismaretya and Akbar, 2025).

In the contemporary global marketplace, the sustainability and competitiveness of traditional industries such as batik are increasingly contingent upon compliance with modern ethical and regulatory frameworks (Maulani, 2025; Harsanto, Kasumaningrum and Hadjielias, 2026). Halal certification has emerged as a critical requirement (Putri, 2025; Yuanita and Poetry, 2025). For Muslim consumers, halal status is not merely a matter of preference but a religious obligation that directly influences purchasing behavior (Herdiana *et al.*, 2024; Changelima, 2025). Within batik production, which involves diverse raw materials including dyes, waxes, and chemical additives, the absence of certification can generate uncertainty and erode consumer trust. Halal certification therefore functions not only as a religious safeguard but also as an assurance of product safety, hygiene, and ethical accountability which attributes valued by both Muslim and non-Muslim consumers.

For small and medium enterprises (SMEs) in Giriloyo, halal certification constitutes a strategic imperative. It strengthens consumer confidence, facilitates entry into broader domestic and international markets, and harmonizes traditional craftsmanship with global standards of sustainability and good manufacturing practices (Putri, 2025; Yuanita and Poetry, 2025). Education and community engagement in halal certification enable Giriloyo artisans to reposition batik as ethical, globally competitive products. The program pursues five objectives: raising SME awareness of certification as both religious duty and business strategy; providing knowledge of its benefits such as market expansion, consumer trust, and sustainability; explaining structured procedures from application to issuance; identifying critical points in production and supply chains to prevent non-compliance; and strengthening SME capacity to integrate certification into business models. Through these aims, the initiative not only ensures compliance but also safeguards Giriloyo's cultural heritage, positioning batik as sustainable and globally market-ready. Importantly, the outcomes resonate with the Sustainable Development Goals (SDGs). By fostering entrepreneurship

and strengthening SME resilience, the program advances Goal 8. Its emphasis on ethical production, resource integrity, and consumer trust aligns with Goal 12. Meanwhile, the preservation of cultural heritage and promotion of community-based tourism contribute directly to Goal 11. Thus, the integration of halal certification in Giriloyo's batik industry not only enhances competitiveness but also situates traditional craftsmanship within a broader global agenda of sustainability and inclusive development.

METHODS

The community engagement process in Kampung Batik Giriloyo was carried out through a participatory and inclusive approach that placed artisans at the center of every activity (Figure 1). The first step involved identifying local needs through informal discussions, interviews, and observations with artisans, community leaders, and members of Kampung Batik Giriloyo. Following this, awareness-building sessions were organized in the form of community meetings where the importance of halal certification was introduced not only as a religious obligation but also as a means of enhancing consumer trust and expanding market opportunities.

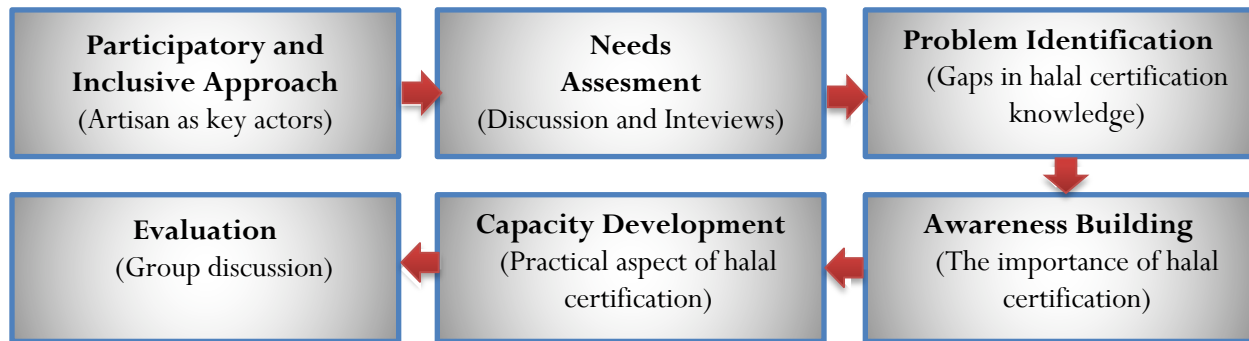


Figure 1. Community engagement activity scheme

Once awareness was established, activities were followed by sessions that focused on practical aspects such as identifying halal-compliant materials, maintaining hygiene standards, documenting production processes, and exploring product diversification and branding strategies. Finally, reflection and evaluation were facilitated through group discussions and feedback sessions, allowing artisans to share experiences, assess outcomes, and propose improvements. This cyclical process of needs identification, awareness, training, and evaluation ensured that the program was not imposed externally but emerged organically from the community, reinforcing both collective ownership and long-term sustainability.

RESULT AND DISCUSSION

The needs assessment constituted the initial and foundational stage of the community engagement process. Conducted through structured interviews and participatory discussions with artisan stakeholders, this stage sought to elicit both explicit concerns and implicit challenges related to halal certification practices. The qualitative data generated from these interactions revealed a substantive gap in knowledge, particularly in relation to the halal certification procedure, the halal assurance system as well as the halal critical points in batik industry. The batik artisans also frequently

expressed uncertainty regarding the permissibility of such substances under halal standards, with several acknowledging reliance on conventional materials without adequate consideration of their compliance status.

This finding is consistent with broader literature on halal certification, which underscores that technical aspects of production are often poorly understood by small-scale producers (Giyanti and Indriastiningsih, 2018, 2019; Hidayat and Witta, 2024). The artisans' limited awareness reflects not only a lack of access to authoritative information but also the absence of systematic training mechanisms tailored to their specific production contexts. Importantly, the discussions highlighted that the artisans' motivation to comply with halal principles was strong; however, their capacity to operationalize these principles was constrained by insufficient technical knowledge. This tension between intent and capacity illustrates a critical juncture where community engagement can play a transformative role.



Figure 2. The awareness building in form of education on the urgency of halal certification in Kampung Batik Giriloyo, Yogyakarta

The identification of these knowledge gaps provided a robust empirical foundation for designing subsequent interventions. In particular, the findings informed the development of capacity-building modules emphasizing the practical aspects of halal certification. Furthermore, the assessment underscored the necessity of awareness-building initiatives that extend beyond technical compliance to encompass the broader socio-religious significance of halal certification. Such initiatives are essential not only for enhancing consumer trust but also for expanding market access for artisan products in increasingly regulated halal markets (Jannah, Fuad Fauzul Mu and Asfan, 2020; Changalima, 2025). The community engagement process was then followed by the awareness building, especially with the education on the urgency of halal certification. The community engagement team explained that halal certification has become a critical requirement in the global marketplace, particularly for industries with complex raw materials such as batik (Figure 2). For Muslim consumers, halal status is a religious obligation that directly influences purchasing decisions, while for non-Muslim consumers it serves as a broader marker of product safety, hygiene, and ethical accountability (Yeo, Mohamed and Muda, 2016; Briliana and Mursito, 2017; Herdiana *et al.*, 2024). Its absence creates uncertainty, reduces consumer trust, and limits market access. For SMEs, certification is not merely a regulatory formality but a strategic necessity that enhances

competitiveness, strengthens brand credibility, and opens opportunities for international trade (Jannah, Fuad Fauzul Mu and Asfan, 2020; Assidiq and Vanany, 2021; de Castro *et al.*, 2021; Sucipto *et al.*, 2022). In terms of Giriloyo batik, halal certification represents both a safeguard of cultural integrity and a pathway to global integration, transforming traditional craftsmanship into ethical consumer goods that remain relevant in modern commerce.

Initially, many participants viewed certification as a technical and bureaucratic requirement; however, the engagement process reframed it as a strategic necessity that could elevate batik from a traditional cultural product into an ethical consumer good with international appeal. From the discussion after the explanation of explained the urgency of halal certification. One of the key outcomes was the heightened awareness of the strategic importance of halal certification. Artisans recognized that certification is not merely a religious safeguard but also a marker of product integrity, hygiene, and ethical accountability. This understanding helped participants appreciate that halal certification resonates with both Muslim and non-Muslim consumers, thereby broadening the potential market for Giriloyo batik. The program emphasized that certification functions as a gateway to global integration, enabling SMEs to align with international standards and participate in the rapidly expanding halal economy.

The program also highlighted the potential benefits of certification for SMEs. It was explained that halal certification offers significant advantages for SMEs, particularly batik enterprises, by enabling market expansion into domestic and international halal economies. It strengthens consumer trust through assurance of ethical, hygienic, and religious compliance, fostering loyalty and credibility (Masrukhan *et al.*, 2025). Certification also adds value and differentiation, positioning batik as both cultural heritage and ethical consumer goods. Moreover, it aligns SMEs with global standards of sustainability and good manufacturing practices, ensuring resilience and modernization without losing authenticity (Giyanti and Indriastiningsih, 2019; Akbar and Rohman, 2023). Ultimately, halal certification transforms batik from traditional artifacts into globally marketable products, serving as a strategic instrument for growth, sustainability, and cultural preservation. From the discussion section after the explanation, artisans acknowledged that halal status could serve as a unique selling proposition, differentiating their products in saturated markets and reinforcing consumer loyalty. Moreover, participants understood that certification contributes to sustainability by requiring transparent processes, hygienic facilities, and supply chain integrity practices that strengthen long-term business resilience while preserving cultural authenticity.

Another important result was the clarification of the procedural steps required for certification since the community engagement team described the halal certification procedures. The structured procedure of halal certification represents a formalized regulatory pathway designed to safeguard transparency, accountability, and adherence to Islamic ethical principles (Fauzi *et al.*, 2023; Parakkasi and Muthiadin, 2025). The process commences with the submission of an application to the authorized body, notably the Badan Penyelenggara Jaminan Produk Halal (BPJPH) in Indonesia, which formally records the enterprise's intent to comply with halal regulations. This initial stage establishes the legal and institutional foundation for subsequent evaluation. Following registration, enterprises are required to prepare comprehensive documentation encompassing raw materials, production processes, and supply chain management (Fauzi *et al.*, 2023; Parakkasi and Muthiadin, 2025). Within the batik industry, this disclosure extends to dyes, waxes, and auxiliary chemicals,

thereby enabling auditors to trace material integrity and exclude prohibited substances. The subsequent audit and inspection phase involves on-site evaluations of facilities, equipment, and workforce practices, ensuring that production environments conform to hygienic standards and remain free from contamination.

The findings are then submitted to the Halal Fatwa Committee of the Indonesian Ulema Council (MUI), which provides theological legitimacy by assessing conformity with Islamic jurisprudence. Upon approval, certification is issued for a defined validity period, subject to renewal and continuous monitoring (Fauzi *et al.*, 2023; Parakkasi and Muthiadin, 2025). Thus, halal certification is not a static achievement but an enduring responsibility, requiring enterprises to maintain consistent transparency and compliance. In this respect, certification functions simultaneously as a regulatory instrument, a theological validation, and a mechanism for sustaining ethical production within global commerce.



Figure 3. Production steps in batik SMEs of Giriloyo

The program also addressed critical points of halal certification, which became a focal area of discussion. Halal certification, while structured and regulated, requires SMEs to exercise vigilance at several critical points where risks of non-compliance are most likely to occur. The first critical point concerns raw materials (Soesanti and Syahputra, 2016; Kusumawati, Samik and Muslim, 2021). Within the batik industry, dyes, waxes, and chemical additives must be scrutinized to ensure they are free from prohibited substances such as alcohol-based solvents or animal-derived components from non-halal sources. The substitution of these inputs with halal-certified alternatives is essential to safeguard product integrity and maintain consumer confidence. The second critical point lies in the production process. Risks of contamination may arise during manufacturing, storage, or packaging. The SMEs must therefore implement strict segregation protocols to prevent cross-contact with non-halal materials. Cleanliness, hygiene, and proper handling procedures are indispensable to sustaining halal status. Supply chain integrity represents another critical dimension (Kurniawati and Cakravastia, 2023; Mabkhot, 2023). SMEs must verify that suppliers and distributors adhere to halal standards, as a single non-compliant input can compromise the entire certification. This underscores the importance of transparency and accountability across the supply chain network. Finally, human resources and facilities constitute an additional critical point. Workers must be trained in halal awareness to ensure compliance at

every stage of production, while facilities must be maintained to meet halal hygiene standards, with clear separation between halal and non-halal processes (Liza *et al.*, 2023; Changelima, 2025). By identifying and controlling these critical points, SMEs not only protect product integrity but also reinforce consumer trust. For batik enterprises, such vigilance ensures that traditional craftsmanship is preserved while meeting contemporary ethical and religious expectations. From this section, artisans identified raw materials such as dyes, waxes, and chemical additives as the most vulnerable to non-compliance risks. Supply chain integrity was emphasized, as a single non-compliant input could compromise the entire certification. Additionally, the program underscored the need for worker training and facility management to ensure halal awareness and hygiene standards were consistently maintained.

From a broader perspective, the engagement program demonstrated that halal certification education contributes to both economic resilience and cultural preservation. By equipping SMEs with knowledge and skills, the initiative empowered artisans to reposition batik as globally recognized ethical consumer goods. This transformation aligns with sustainable development goals, reinforcing Giriloyo's role as a community-based tourism village that integrates cultural heritage with modern ethical standards. The program succeeded in raising awareness, building capacity, and fostering confidence among SMEs in Kampung Batik Giriloyo regarding halal certification. It revealed that certification is not only a religious safeguard but also a strategic necessity for competitiveness, consumer trust, and global integration. Sustaining these outcomes will require continuous mentoring, support in addressing critical compliance points, and enhanced branding strategies. The results underscore the importance of combining education, participatory engagement, and long-term collaboration to ensure that traditional batik enterprises can thrive in the global halal economy.

CONCLUSION

The community engagement program on halal certification for SMEs in Kampung Batik Giriloyo produced significant insights into the urgency of halal certification, its potential benefits, the structured procedures involved, and the critical points that require careful attention as well as the challenges and opportunities faced by local batik enterprises. The community engagement program in Kampung Batik Giriloyo revealed that halal certification is both an economic imperative and a cultural opportunity. By equipping artisans with knowledge of certification procedures and critical compliance points, the initiative enhanced awareness, built capacity, and fostered confidence among SMEs. Certification was reframed as a strategic instrument that safeguards product integrity, strengthens consumer trust, and facilitates entry into international halal markets. For Giriloyo batik, halal certification ensures that traditional craftsmanship is preserved while simultaneously integrated into global commerce as ethical consumer goods. Sustaining these outcomes requires ongoing mentoring, supply chain vigilance, and improved branding strategies to translate cultural experiences into marketable products. Ultimately, halal certification positions Giriloyo as a model of community-based tourism and ethical entrepreneurship, reinforcing its role in cultural preservation and sustainable economic development.

REFERENCES

- Adisty, P., Indriani, R. and Primananda, R. (2025) 'The perspective of giriloyo batik artisans on the use of dyes : balancing market demands and environmental sustainability', 05(01), pp. 44-52.
- Akbar, G.R. and Rohman, I.K. (2023) 'Analysis of the Impact of Halal Certificate on the Performance of Micro and Small Enterprises (SMEs) with the Propensity Score Matching (PSM) Method Analysis of the Impact of Halal Certificate on the Performance of Micro and', 6(1). Available at: <https://doi.org/10.7454/jsgs.v6i1.1108>.
- Assidiq, M.N. and Vanany, I. (2021) 'Halal Operation Assessment using Quality Function Deployment in Indonesian Cosmetics Industry', *Proceedings of the Second Asia Pacific International Conference on Industrial Engineering and Operations Management*, 2(September 2021), pp. 1412-1423. Available at: <http://ieomsociety.org/proceedings/2021indonesia/252.pdf>.
- Briliana, V. and Mursito, N. (2017) 'Exploring antecedents and consequences of Indonesian Muslim youths' attitude towards halal cosmetic products: A case study in Jakarta', *Asia Pacific Management Review*, 22(4), pp. 176-184. Available at: <https://doi.org/10.1016/j.apmr.v.2017.07.012>.
- de Castro, M.M. *et al.* (2021) 'Philippine halal food export industry: life cycle, trends, and global outlook', *E3S Web of Conferences*, 316, pp. 1-13. Available at: <https://doi.org/10.1051/e3sconf/202131602044>.
- Changalima, I.A. (2025) 'Halal supply chain management: A bibliometric analysis of the 100 most-cited publications from Scopus-indexed journals', *Social Sciences and Humanities Open*, 11(November 2024), p. 101248. Available at: <https://doi.org/10.1016/j.ssaho.2024.101248>.
- Fauzi, U. *et al.* (2023) 'The Transformation of Halal Certification Regulations in Indonesia', 8(2).
- Giyanti, I. and Indriastiningsih, E. (2018) 'Impact of Halal Certification on The Performance of Food Small Medium Enterprises'. Available at: <https://doi.org/10.23917/jiti.v18i2.7242>.
- Giyanti, I. and Indriastiningsih, E. (2019) 'Effect of SME Food Entrepreneurs Knowledge on Halal Certification for Certified Awareness Using Partial Least Square', 20(2), pp. 36-47.
- Harsanto, B., Kasumaningrum, Y. and Hadjielias, E. (2026) *Sustainable innovation in craft - based SMEs : a mixed - method study of Indonesian batik communities*, *Small Business Economics*. Springer US. Available at: <https://doi.org/10.1007/s11187-026-01201-y>.
- Herdiana, Y. *et al.* (2024) 'Towards halal pharmaceutical: Exploring alternatives to animal-based ingredients', *Heliyon*, 10(1), p. e23624. Available at: <https://doi.org/10.1016/j.heliyon.2023.e23624>.
- Hidayat, M.T. and Witta, S.R. (2024) 'Halal Certification and Implications for MSMEs : A Systematic Literature Review', 03(2), pp. 151-166.
- Jannah, M., Fuad Fauzul Mu, M. and Asfan (2020) 'Analisis Titik Kritis Keharaman Produk pada UMKM Kerupuk Critical Point Analysis of Product Prohibition at Crackers SME', *Jurnal Agroindustri Halal*, 6(2), pp. 205-216.
- Krismaretya, D. and Akbar, S.S. (2025) 'Sales Transformation of Giriloyo Batik : From Traditional Market to Digital Ecosystem', *Journal of International SDGs Community Service* [Preprint].
- Kurniawati, D.A. and Cakravastia, A. (2023) 'A review of halal supply chain research: Sustainability and operations research perspective', *Cleaner Logistics and Supply Chain*, 6(January), p. 100096. Available at: <https://doi.org/10.1016/j.clscn.2023.100096>.

- Kusumawati, N., Samik and Muslim, S. (2021) 'Exploration and Standarization of Coconut Fiber Waste Utilization in Batik Dyeing Process', *IOP Conference Series: Earth and Environmental Science*, 709(1), pp. 0–7. Available at: <https://doi.org/10.1088/1755-1315/709/1/012034>.
- Liza, E. et al. (2023) *Alternative biomanufacturing of bioactive peptides derived from halal food sources, Innovation of Food Products in Halal Supply Chain Worldwide*. INC. Available at: <https://doi.org/10.1016/B978-0-323-91662-2.00007-7>.
- Mabkhot, H. (2023) 'Factors Affecting the Sustainability of Halal Product Performance : Malaysian Evidence'.
- Masrukhan, M. et al. (2025) 'Integration of Halal Lifestyle in the Value Chain of Tegal Batik Industry : Umkm Perspective Through Phenomenological Approach', 6(3), pp. 2478–2489.
- Maulani, N.R. (2025) 'Strengthening the Role of the Giriloyo Batik Center in Improving Community Welfare and Sustainable Village Economy in', 1(02).
- Mitasari, R., Zefanya, R.A. and Puspitasari, D. (2022) *Batik Giriloyo : The Way of Life on a Sheet of Hand-Painted Fabric*. Atlantis Press SARL. Available at: <https://doi.org/10.2991/978-2-494069-73-2>.
- Parakkasi, I. and Muthiadin, C. (2025) 'Halal Certification Standards (LPPOM MUI , HAS 23000 , etc .)', 4(6), pp. 2647–2660.
- Putri, W.S.T. (2025) 'The impact of sustainable sourcing on halal certification', *Journal of Halal Review* [Preprint].
- Sari, H.S. and Akbar, S.S. (2020) 'Giriloyo Batik Association : From Plain Cloth to Artwork - Batik Production Process in Wukirsari Village , Imogiri District , Bantul Yogyakarta'.
- Soesanti, I. and Syahputra, R. (2016) 'Batik production process optimization using particle swarm optimization method', *Journal of Theoretical and Applied Information Technology*, 86(2), pp. 272–278.
- Sucipto, S. et al. (2022) 'Decision Tree of Materials: A Model of Halal Control Point (HCP) Identification in Small-Scale Bakery to Support Halal Certification', *International Journal of Food Science*, 2022. Available at: <https://doi.org/10.1155/2022/5244586>.
- Yeo, B.L., Mohamed, R.H.N. and Muda, M. (2016) 'A Study of Malaysian Customers Purchase Motivation of Halal Cosmetics Retail Products: Examining Theory of Consumption Value and Customer Satisfaction', *Procedia Economics and Finance*, 37(16), pp. 176–182. Available at: [https://doi.org/10.1016/s2212-5671\(16\)30110-1](https://doi.org/10.1016/s2212-5671(16)30110-1).
- Yuanita, T. and Poetry, R.N.C. (2025) 'Evolving Halal Certification Regulations and Indonesia ' S Competitive Position in the Global Halal Market : Challenges and Opportunities for Market Access', 3(3), pp. 481–488.