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Research Article

Reconfiguring Urban Halal Creative Ecosystems: Overcoming Structural Barriers through Community-Driven Triple Helix Innovation in Emerging Global Cities

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Abstract

This research is motivated by the enormous potential of Pekalongan City as a global creative city currently facing the urgency of integrating global halal standards. The main issue studied is the formation of a halal creative ecosystem amidst structural bureaucratic barriers and limited urban infrastructure. Using a qualitative case study approach, data was collected through in-depth interviews, field observations, and documentation studies of regulations and MSME statistics to ensure validity through triangulation. The results show a significant empirical disparity between the regulatory mandate and MSME readiness, evidenced by the exceptionally low halal certification rate in the fashion (batik) sector, which stands at only 6.1%. This gap is further exacerbated by the lack of standardized urban facilities and limited access to formal sharia capital. As a solution, this study formulates a community-based acceleration strategy and a Triple Helix synergy model (Government, Academics, Community). These findings contribute to the development of a more inclusive, adaptive, and sharia-compliant creative economy policy model in urban areas.

[*Penelitian ini dilatarbelakangi oleh potensi strategis Kota Pekalongan sebagai bagian dari jejaring kota kreatif dunia UNESCO yang kini menghadapi tantangan besar dalam upaya integrasi standar halal global ke dalam industri lokal. Masalah utama yang dieksplorasi adalah proses pembentukan ekosistem kreatif halal di tengah berbagai hambatan institusional, birokrasi, serta keterbatasan infrastruktur fisik perkotaan yang tersedia. Dengan menggunakan pendekatan kualitatif studi kasus, data dikumpulkan secara sistematis melalui teknik wawancara mendalam dengan pemangku kepentingan terkait, observasi lapangan di berbagai sentra industri, serta studi dokumentasi terhadap regulasi pemerintah dan data statistik UMKM untuk menjamin validitas melalui metode triangulasi. Hasil penelitian mengungkapkan adanya disparitas empiris yang cukup tajam antara mandat*



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regulasi sertifikasi halal dengan realitas kesiapan teknis para pelaku UMKM di lapangan. Hal ini dibuktikan dengan rendahnya tingkat sertifikasi halal pada sektor unggulan fesyen batik yang baru menyentuh angka 6,1%. Kesenjangan tersebut diperburuk oleh minimnya ketersediaan fasilitas urban yang terstandarisasi serta keterbatasan akses terhadap skema permodalan syariah formal yang fleksibel bagi pelaku usaha mikro. Sebagai solusi strategis, penelitian ini merumuskan model akselerasi berbasis komunitas melalui sinergi Triple Helix yang mengintegrasikan peran aktif pemerintah, akademisi, dan komunitas praktisi lokal. Temuan ini diharapkan mampu memberikan kontribusi teoritis maupun praktis pada pengembangan model kebijakan ekonomi kreatif yang lebih inklusif, adaptif, dan patuh syariah di wilayah perkotaan yang memiliki karakteristik padat industri.]

Keywords: Halal Ecosystem, Creative Economy, MSMEs, Institutional Barriers, Triple Helix Model, Urban Governance.

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INTRODUCTION

The halal creative industry has transformed into a new pillar within the global economic architecture, driven by increased halal lifestyle awareness that transcends religious boundaries. Indonesia, as the country with the largest Muslim population, holds strategic ambitions to become the world's halal industry center by strengthening the Halal Value Chain across various creative sectors (Qardhawi, 2020). This strengthening does not only involve the formality of labeling but also encompasses the substance of *Maqasid al-Shari'ah* in every production process carried out by business actors (Busyro et al., 2023). In this context, an integrated ecosystem is an absolute prerequisite to ensure the sustainability of a sharia-compliant creative industry.

Pekalongan City, internationally recognized as part of the UNESCO Creative Cities Network, occupies a central position on the national creative economy map. As a city with a strong religious identity, Pekalongan possesses a creative industry ecosystem—particularly batik—that is historically and culturally well-established (Khairuddin et al., 2024). However, its status as a world creative city does not automatically foster a halal ecosystem in the region without significant structural barriers. The interaction between local traditional values and Islamic legal principles often requires profound adjustments in daily business practices (Mansur et al., 2020).

A standardization paradox emerges when cultural aspects collide with modern regulatory demands. Although Pekalongan's society is known for being religious, the implementation of *thayyiban* standards—which include aspects of cleanliness, quality, and environmental sustainability in the creative production process—still faces technical constraints (Busyro et al., 2023). This aligns with findings that business actors' understanding of the essence of halal product assurance is often limited to mere symbolism, without touching upon comprehensive operational standardization (Setyawan & Alfian,

2023; Purwaningsih & Lawal, 2026). For instance, in the batik industry, the use of dyes and liquid waste management often do not fully align with Islamic environmental ethics principles that demand public benefit (*maslahah*) (Iska et al., 2022).

Structural barriers in urban areas like Pekalongan are becoming more complex due to the dynamics of Halal Product Assurance (JPH) regulations. While the free halal certification program (SEHATI) offers great opportunities, it also presents technical challenges for creative MSMEs in meeting the complex requirements of the halal product assurance system (Jakiyudin & Fedro, 2022). This mandatory certification imposes bureaucratic challenges and hidden costs on grassroots artisans (Khairuddin et al., 2024). Furthermore, access to sharia-based financing, which should serve as a solution for the halal creative ecosystem, is still often perceived as difficult to reach for small business actors due to limited financial literacy and rigid administrative requirements (Qardhawi, 2020).

In academic literature, there is a distinct research gap regarding the development of the halal creative ecosystem in urban areas, particularly when viewed through the lens of community resilience against institutional rigidities. Recent international studies on halal ecosystems predominantly focus on macro-level policy adoption or consumer trust in globalized markets (Al-Shami & Abdullah, 2023), while others emphasize top-down standardization in large-scale manufacturing without considering the micro-sociocultural barriers (Rahman & Kamarulzaman, 2024). Even when discussing the Triple Helix model in the halal sector, global discourse often positions communities merely as passive recipients of government and academic interventions (Othman & Hasan, 2025). In the local context, previous research in Pekalongan has tended to focus more on preserving batik cultural values or conventional marketing strategies, yet it is still rare to find studies that critically examine the interaction between regulatory barriers and local community adaptive strategies within an Islamic law framework (Mansur et al., 2020). Studies on the readiness of micro-business actors for mandatory halal certification also indicate the need for more intensive community mentorship rather than mere regulatory socialization (Putra & Rahayu, 2023; Asmawi & Lutfiadi, 2026). What conceptually distinguishes this study from previous global and local literature is its positioning of creative communities not just as objects of regulation, but as key actors possessing resilience—acting as the core driver within a community-driven Triple Helix framework to accelerate the halal ecosystem in emerging urban areas (Iska et al., 2022).

To bridge the gap between government top-down policies and the sociocultural realities of MSMEs, this research is directed at answering three primary research questions: (1) What are the forms of structural barriers related to regulation, capital access, and facility availability faced by creative MSMEs in Pekalongan City? (2) What are the forms of adaptive strategies and community-based collective solutions used to overcome these barriers? and (3) What is the precise formulation of the Triple Helix synergy model to be implemented in this region? Through these questions, this article aims to comprehensively analyze structural challenges while offering a more inclusive, competitive, and sharia-compliant urban creative economy ecosystem model (Khairuddin et al., 2024).

METHOD

This research employs a qualitative method with a case study approach to explore the challenges and strategies for developing the halal creative ecosystem in Pekalongan City in-depth and contextually. This approach was chosen because it provides a comprehensive understanding of contemporary phenomena within complex real-life environments (Creswell & Poth, 2018). The research location was determined to be Pekalongan City, considering its status as a world creative city currently transitioning toward the integration of halal standards in its creative industry. Field research was conducted over a period of three weeks, from the last week of February to the last week of March 2025, to ensure comprehensive data collection regarding the dynamics of the creative ecosystem.

Data collection techniques were carried out using three main instruments: in-depth interviews, field observations, and documentation studies. In-depth interviews were conducted deliberately (*purposive sampling*) with creative industry actors, particularly in the batik and culinary sectors, to explore their perspectives on capital barriers and regulatory complexities (Sugiyono, 2019). Informants were selected based on the criteria of active involvement in the creative industry production chain and their experience in interacting with the halal product assurance system. A total of 8 informants were involved, consisting of: 4 representative batik artisans, 2 traditional culinary MSME actors, and 2 community members active in the halal creative industry. In accordance with research ethics guidelines, interview results are presented with in-depth interpretation to capture the underlying meaning of the obtained data.

Field observations were conducted to directly observe the availability of supporting facilities for the halal ecosystem in the urban area of Pekalongan, such as sanitation facilities in industrial centers and the presence of halal labels in trade centers. Specifically and participatively, observations were carried out at two central points of economic activity, namely Setono Wholesale Market (as a center for product distribution and downstreaming) and Kauman Batik Village (representing a production center in a densely populated area). Meanwhile, documentation studies were used as an instrument to analyze relevant secondary data, including regional regulatory documents, medium-term development plans, and MSME statistical data published by relevant agencies, specifically the Halal Product Assurance Law (UU JPH) and statistical data from the Central Bureau of Statistics (BPS) of Pekalongan City. The use of these various data sources aims to conduct data triangulation to ensure the validity and reliability of the research findings (Moleong, 2021). The collected data were then analyzed inductively through the stages of data reduction, data display, and conclusion drawing in accordance with the characteristics of qualitative research.

Results and Discussion

Structural Barriers: Between Regulation and MSME Realities

An analysis of the halal creative ecosystem in Pekalongan indicates that the mandatory halal certification policy often clashes with the traditional managerial capacities of MSMEs. The implementation of the Halal Product Assurance Law (UU JPH) at the local level requires an approach that is not merely legalistic but also sociological. While formal institutional theory often assumes that mandatory state regulations will automatically drive industry compliance (DiMaggio & Powell, 1983), the findings in Pekalongan demonstrate a theoretical divergence. Regulatory pressure, when applied to informal creative sectors

without corresponding upstream infrastructural capacity, actually generates systemic bottlenecks rather than compliance. This explains why the policy implementation stalls at the grassroots level. This aligns with the research by Huda et al. (2021), which states that the primary barrier to adopting halal certification in small industries is the perception of high costs and bureaucratic procedures that micro-business actors find intimidating. In Pekalongan, this phenomenon is evident in the lower rate of certificate ownership in the craft sector compared to the culinary sector, primarily due to the complexity of proving the halal status of additives in chemical dyes.

Developing the halal creative ecosystem in Pekalongan City faces significant challenges in synchronizing central regulatory mandates with technical readiness at the local level. Based on the Pekalongan City Regional Medium-Term Development Plan (RPJMD) document, the creative industry sector, particularly batik, is the main contributor to the Gross Regional Domestic Product (GRDP). However, the implementation of Law Number 33 of 2014 concerning Halal Product Assurance (UU JPH), which mandates halal certification for all creative products (especially culinary and fashion products involving chemical/animal-based substances), creates administrative pressure for business actors.

Statistical data shows a wide gap between the number of creative MSMEs and the number of issued halal certificates. Based on data from Pekalongan City Open Data and the integration of the SEHATI (Free Halal Certification) program, the following is the distribution of halal certification in leading sectors:

Table 1. Halal Certification Achievements for Creative MSMEs in Pekalongan City (2024-2025)

Creative Industries Sector	Estimated Number of MSMEs	Halal Certified	Percentage
Culinary (Souvenir Center)	1.250	450	36%
Fashion (Batik & Textiles)	3.400	210	6,1%
Crafts & More	850	45	5,2%

It is evident from Table 1 above that the fashion sector, which serves as the backbone of Pekalongan's creative economy, has a considerably low halal certification percentage. This is caused by the complexity of identifying dyes and a raw material supply chain that has not been fully verified as halal by the Halal Product Assurance Organizing Agency (BPJPH).

These structural barriers are exacerbated by the minimal technical readiness of MSMEs. Observations in batik industrial centers show that most artisans still use traditional production methods that struggle to meet the criteria of the Halal Product Assurance System (SJPH) without intensive mentoring. This is reinforced by the results of an interview with a batik artisan in the Jetayu area:

> *"Our obstacle is not our intention, but the administration. The requirement to prove that our wax (malam) and dyes are truly halal requires documents from suppliers that we do not possess ourselves. We only buy at the wholesale market without*

> *knowing whether the factory has a halal certificate or not."* (Interview with Mr. Fab, Batik Artisan, February 5, 2026; Researcher Translation).

The interpretation of the interview results above indicates a structural halal supply chain discontinuity. MSME actors are in a difficult position because they are the end consumers of industrial chemical raw materials whose halal regulation is beyond their control. Theoretically, conventional Halal Value Chain (HVC) models assume a linear, transparent, and formalized flow of materials from verified suppliers to end consumers (Qardhawi, 2020). However, the empirical reality in Pekalongan's urban creative sector challenges this theoretical assumption by revealing a fragmented, informal market structure where upstream traceability is nearly impossible. This explains why and how the fashion sector's certification rate is critically low; the primary barrier is not a lack of religious compliance intent among artisans, but rather a structural friction between rigid formal auditing standards and the informal, deeply ingrained procurement behaviors of traditional markets.

Consequently, how this structural barrier operates is by inadvertently acting as an exclusionary mechanism that marginalizes micro-enterprises relying on uncertified wholesale chemical markets. This disparity demonstrates that regulations are often top-down without considering the technical and sociocultural capacities on the ground. Acceleration strategies through community mentoring are highly crucial, as emphasized in studies stating that the understanding of halal standardization among creative economy actors cannot be approached solely administratively but must go through an inclusive cultural approach (Setyawan & Alfian, 2023; Maulana et al., 2026). Without simplifying access and strengthening the raw material supply chain, mandatory halal certification risks becoming a barrier to the growth of the local creative industry.

Access to Capital and Facilities in Urban Areas

The dependence of Pekalongan MSMEs on informal capital is not without reason. Nugroho et al. (2023) highlight that the effectiveness of sharia financial institutions in supporting the halal value chain is significantly influenced by the flexibility of collateral requirements. In the urban areas of Pekalongan, the absence of specialized infrastructure such as a Halal Dedicated Hub makes the Halal Assurance System (HAS) difficult to implement consistently. Fathoni & Syahri (2022) emphasize that without the support of standardized halal public facilities, local creative products will struggle to compete in global export markets that increasingly demand supply chain transparency.

The availability of physical infrastructure in the urban areas of Pekalongan serves as the primary foundation for supporting the halal creative ecosystem. As an urban city with a high density of home industries, facilities such as the Setono Wholesale Market and batik center areas (such as Kauman and Landungsari) have become the circulation hubs of the creative economy. However, field observations indicate that these infrastructures still predominantly support conventional trade functions and are not yet fully integrated with halal facility standards (*halal facilities*). Facilities like the Setono Wholesale Market have long been the main meeting point for thousands of creative MSME actors in Pekalongan and its

surroundings. As a high-density distribution center, this market represents the strength of an urban economy based on crafts and fashion.



Figure 1. Trading Activity Atmosphere at Setono Wholesale Market, Pekalongan

Figure 1 above illustrates the massive dynamics of creative industry goods flow in urban areas. From the perspective of the halal creative ecosystem, public infrastructure such as this is a crucial point in the halal value chain. However, field observations show that the commercial space layout in this market is still oriented toward conventional transactions. There is no visible specialized zoning or visual branding indicating support for integrated halal standardization. The absence of supporting facilities, such as halal certification consultation corners or information centers for *thayyib* raw materials in these strategic locations, indicates facility barriers in accelerating the halal ecosystem at the downstream level (Putra & Rahayu, 2023). This phenomenon can be critically analyzed through the lens of urban agglomeration theory, which posits that traditional markets prioritize economic density and cost-efficiency over specialized infrastructure zoning (Glaeser, 2010). In the context of the Halal Value Chain, this spatial agglomeration without segregation explains how cross-contamination risks occur seamlessly. The absence of a Halal Hub is not merely a lack of administrative awareness, but a structural spatial deficit where urban physical planning has not evolved to accommodate halal logistical demands.

Within the Halal Value Chain framework, every distribution point must ensure cleanliness (*thaharah*) and product integrity. In Pekalongan's trade centers, sanitation facilities and logistic separation between halal-certified products and non-certified ones remain mixed. The absence of a Halal Hub or specialized creative spaces standardized by BPJPH in this urban area poses an obstacle for MSMEs to scale up to the global market (Putra & Rahayu, 2023).

Regarding the capital aspect, there is a dichotomy between the religious culture of the Pekalongan people and the accessibility of sharia banking. Although sharia financial institutions thrive in this city, in reality, many creative industry actors are still trapped in informal or conventional financing schemes perceived as faster. This paradox can be analytically explained using rational choice theory within behavioral economics. Although

the community possesses strong Islamic sociocultural values, the high transaction costs, rigid physical collateral requirements, and information asymmetry associated with formal Islamic banking drive micro-entrepreneurs toward informal alternatives (Hasan & Masyita, 2021). This explains why ideological preferences for sharia compliance are frequently overridden by the pragmatic, survival-based need for rapid liquidity to sustain daily operations. Data analysis reveals that literacy regarding sharia financing products for creative industry working capital is still low. This creates structural barriers to the formation of a complete halal value chain (Qardhawi, 2020).

This gap can be observed in the comparison of capital access in the following table:

Table 2. Access to Financing for Halal Creative Industry Players in Pekalongan

Capital Sources	Access Characteristics	Obstacles for Creative MSMEs
Islamic Banking	Formal, Competitive Margin	Strict administrative and collateral requirements.
Conventional Banking	Formal, Spacious	Contrary to the principles of sharia ethics.
Micro Institution (BMT)	Communal, Flexible	The loan ceiling limit is relatively small.

Connecting the Halal Value Chain theory with the facts in Pekalongan, the creative ecosystem here is still at the stage of *halal compliance* (basic compliance) and has not yet reached the *halal excellence* stage. The absorption of sharia capital should be the driving force for MSMEs to certify products and improve production facilities; however, the low synergy between banking policies and the accelerated halal certification program causes this integration to progress slowly (Setyawan & Alfian, 2023). Therefore, overcoming this barrier dictates that moving from basic compliance to halal excellence is not merely an educational issue, but how institutional rigidities of sharia banking can be dismantled to match the agility of the informal financing sector.

Community-Based Acceleration Strategies

Facing rigid structural barriers, the creative community in Pekalongan City demonstrates resilience through collective solution mechanisms. This strategy stems from strong social capital among artisans, where trust and community networks temporarily substitute for the lack of access to formal capital and certification (Jamaluddin & Al Haq, 2026). In overcoming market and capital barriers, the artisan community frequently employs a "maklun" (toll manufacturing or joint production) system, allowing for the internal sharing of operational costs and quality standardization.

Interview results with one of the creative community movers in Pekalongan show that collective initiatives act as a safety valve amidst complex formal regulations:

> *"We in the community started forming small groups to collectively purchase raw materials from distributors who already possess halal certificates. If we buy individually, we have no bargaining power. Through this group, we also implement internal guarantees (joint liability) when a member needs sudden capital to fulfill a*

large order." (Interview with Mrs. Iza, Creative Community Member, February 10, 2026).

This phenomenon aligns with economic sociology theory, which states that social networks can function as an alternative economic infrastructure in highly religious societies (Mansur et al., 2020). These collective solutions are the embryo of a Halal Creative Hub based on local wisdom.

To formally accelerate this ecosystem, this research formulates a Triple Helix synergy model specific to the Pekalongan context. This synergy involves the active roles of the Government, Academics (specifically Islamic Higher Education Institutions), and the Community as the main driving forces.

Table 3. Model Sinergi Triple Helix untuk Ekosistem Kreatif Halal Pekalongan

Aktor	Peran Strategis	Output Akselerasi
Pemerintah	Regulator & Enabler	Penyederhanaan birokrasi perizinan dan subsidi biaya sertifikasi halal UMKM.
Akademisi	Knowledge & Certification	Pendampingan teknis Sistem Jaminan Produk Halal (SJPH) dan riset bahan baku *thayyib*.
Komunitas	Operator & Aggregator	Konsolidasi pelaku usaha, kontrol kualitas kolektif, dan pemasaran bersama.

So that this proposed Triple Helix model does not merely remain a conceptual discourse, an adaptive and measurable technical implementation roadmap is required. Operationally, the execution of this mentoring can be realized through the following concrete steps: First, from the Local Government side, the role of facilitator must be executed by integrating halal certification registration services (BPJPH) directly into the Public Service Mall (MPP) of Pekalongan City (Asmawi & Lutfiadi, 2026). The government also needs to allocate a special financing scheme in the Regional Budget (APBD) to subsidize laboratory testing costs for craft (batik) MSMEs that struggle to verify their chemicals. Second, from the Academics side, local universities must take the role of mentoring executors in the field by converting the Community Service Program (KKN) into a mass deployment of students certified as Halal Product Process Assistants (P3H) to production centers like Kauman Batik Village. Furthermore, university laboratories are obligated to conduct applied research to find substitutions for synthetic batik dyes that meet the *thayyib* standards. Third, from the Community side, artisan associations act as aggregators ensuring these research results are applied collectively through the 'maklun' system, as well as conducting cross-quality control among members prior to formal audit submissions. Through this technical roadmap, the Triple Helix synergy will transform into a structured movement that tangibly unravels bureaucratic barriers at the grassroots level.

This model demands a shift in the government's role from merely an issuer of permits to a facilitator connecting academics with the real needs of the community. Academics, in this case, universities in Pekalongan, play a crucial role in providing halal mentors who understand the technical characteristics of the local batik and culinary industries. This strategy is expected to transform structural barriers into collaborative opportunities, allowing the "Creative City" and "Halal City" identities to merge organically (Iska et al., 2022).

This community-based acceleration strategy emphasizes that the halal creative ecosystem in urban areas cannot be enforced solely through top-down regulations. Its success highly depends on the extent to which formal policies can adopt and strengthen collective initiatives already existing at the grassroots level. With this integration, Pekalongan City can serve as a model for other cities in developing an independent and sharia-compliant creative industry (Khairuddin et al., 2024).

The resilience of the creative community in Pekalongan is a manifestation of effective collective action. Setyaningsih & Azis (2020) argue that open innovation in the creative industry grows best through solid community networks. The collective "maklun" strategy practiced by Pekalongan batik artisans is not only an economic solution but also a form of adaptation to formal sharia capital barriers. Therefore, the Triple Helix model we formulated must position universities as a technical bridge. As suggested by Hassan et al. (2022), the role of academics in technical mentoring (such as Halal Supervisors) is a determinant factor in the success of the halal ecosystem's digitalization in densely populated urban areas.

Global Contextualization and Policy Implications

To position Pekalongan's findings within a broader global discourse, a comparative analysis reveals stark differences in halal ecosystem development. Unlike the highly centralized halal ecosystem models observed in global metropolitan hubs such as Kuala Lumpur or Dubai—which rely heavily on top-down state corporatism, formal banking integration, and large-scale industrial zoning (Shirazi & Nurina, 2023)—Pekalongan presents a distinct, decentralized paradigm. In global comparative studies, rigid top-down models often struggle to integrate informal micro-economies because they impose high transaction costs (Henderson, 2022). Pekalongan's community-driven model offers an alternative global blueprint where grassroots social capital acts as the primary catalyst, effectively compensating for urban infrastructure deficits.

From a conceptual standpoint, this research offers a significant theoretical contribution. Traditional Triple Helix frameworks (Etzkowitz & Leydesdorff, 2000) typically emphasize University-Industry-Government relations in formal, technology-driven economies. This study theoretically expands the framework by substituting formal 'Corporate Industry' with the 'Informal Creative Community' as a core helix. It demonstrates that in emerging urban cities with high religiosity, social capital and indigenous practices (such as *maklun*) are not barriers to modernization but are essential institutional drivers for forming a Halal Value Chain.

Regarding practical implications, so that this proposed Triple Helix model does not merely remain a conceptual discourse, it requires concrete, measurable policy interventions:

1. Local Government as Facilitator
   The government must shift from merely an issuer of permits to an active facilitator. Operationally, this is executed by integrating halal certification registration services (BPJPH) directly into the Public Service Mall (MPP) of Pekalongan City (Asmawi & Lutfiadi, 2026). Furthermore, the government needs to allocate a special financing scheme in the Regional Budget (APBD) to subsidize laboratory testing costs for craft MSMEs struggling to verify chemical inputs.

2. Academics as Technical Bridges
   Local universities must take the role of mentoring executors. As suggested by Hassan et al. (2022), the role of academics in technical mentoring is a determinant factor. This is realized by converting the Community Service Program (KKN) into a mass deployment of students certified as Halal Product Process Assistants (P3H) to production centers. Additionally, university laboratories are obligated to conduct applied research to find substitutions for synthetic batik dyes that meet the *thayyib* standards.
3. Community as Quality Aggregators
   Artisan associations must be formally recognized to act as aggregators ensuring research results are applied collectively through the *maklun* system, as well as conducting cross-quality control among members prior to formal audit submissions.

Through this integrated roadmap, the Triple Helix synergy transforms structural barriers into collaborative opportunities, allowing the "Creative City" and "Halal City" identities to merge organically (Iska et al., 2022). With this integration, Pekalongan City can serve as a robust model for other emerging cities globally in developing an independent and sharia-compliant creative industry (Khairuddin et al., 2024).

CONCLUSION

This research concludes that the development of a halal creative ecosystem in Pekalongan City is still hindered by structural constraints, including the complexity of certification regulations for MSMEs, the lack of supporting infrastructure for halal standards in urban areas, and limited access to formal sharia capital. Despite the legal mandate through the Halal Product Assurance Law (UU JPH), the reality on the ground reveals significant technical and administrative gaps, particularly in the batik industry, which faces a complex chemical raw material supply chain. Nevertheless, the resilience demonstrated by the community through collective solution strategies and social capital serves as a primary strength capable of filling government policy gaps. Theoretically, this study contributes by explicitly expanding the traditional Triple Helix framework, demonstrating that in emerging urban contexts, informal social networks and grassroots community actions can function as robust institutional substitutes for lacking formal infrastructure. The acceleration strategy through the Triple Helix synergy model—integrating the roles of regulators, academic assistance, and community operators—proves to be the key to transforming structural barriers into inclusive and sharia-compliant collaborative opportunities.

Based on these findings, as an urgent first step, the Pekalongan City Government is advised to immediately conduct halal mapping at the Setono Wholesale Market to separate certified product areas from uncertified ones. The initiation of a Halal Creative Hub can begin by providing a free halal consultation booth at that location, serving as an information center and administrative aid for business actors to start the certification process without navigating complex bureaucracy in the city center. Additionally, sharia financial institutions need to formulate more flexible financing schemes by considering the community's social capital rather than relying solely on physical collateral. The role of universities should also

be optimized in providing halal mentors and conducting applied research on thayyib creative industry raw materials. For future researchers, it is recommended to move beyond basic readiness assessments and explore the digitalization of the halal supply chain, specifically through the implementation of blockchain-based halal traceability systems adapted for fragmented traditional markets, to strengthen the competitiveness of Pekalongan's creative ecosystem on a global scale.

This study has limitations in its spatial scope, focusing on the urban area of Pekalongan City and the dominant fashion-culinary sectors; thus, dynamics in other creative sectors may exhibit different barrier characteristics. Furthermore, limited access to the private internal financial data of MSMEs presented a challenge in analyzing the efficiency of sharia capital in greater depth. Ultimately, bridging the gap between local grassroots realities and rigorous halal standardization is not merely a matter of bureaucratic compliance, but a vital strategic transformation required to position emerging creative cities as resilient, inclusive, and highly competitive actors within the global halal economy.

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AUTHOR CONTRIBUTIONS STATEMENT

DY, Conceptualization, Methodology, Data Curation, Writing – Original Draft. HH, Supervision, Validation, Writing – Review & Editing. BY, Formal Analysis, Writing – Review & Editing. All authors have read and agreed to the published version of the manuscript.

AI USAGE STATEMENT

The authors declare that no artificial intelligence (AI) tools or AI-assisted technologies were used to generate the core intellectual content, data analysis, or primary arguments of this manuscript. AI tools were solely utilized for basic language editing and translation assistance to improve readability, with the authors taking full responsibility for the final content

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article. All data sources, interview results, and field observations presented in this research were conducted independently for academic purposes. Furthermore, the results and discussions formulated in this manuscript were not influenced by any financial, personal, or

institutional interests that could compromise the objectivity or integrity of the findings related to the halal creative ecosystem in Pekalongan City.

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