The Role of Islamic Higher Education in Developing Human Resources for the Global Halal Industry: Synchronizing Curriculum

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Article Info	ABSTRACT
	The worldwide halal business is growing exponentially, yet Islamic Higher Education Institutions (PTI) graduates lack the skills needed to handle sharia, science, and halal. Current courses typically overemphasize normative knowledge without appropriately integrating global industrial standards, accreditation, and technology. This study examines PTI's strategic role in growing global halal sector human resources and develops a curriculum synchronization model to meet market expectations in halal assurance systems, Islamic finance, and halal tourism. This study uses a descriptive qualitative method with a case study approach at several leading PTI with halal-related study programs. Data were collected through analysis of curriculum documents (syllabus, RPS), in-depth interviews with stakeholders (academics, halal industry practitioners, and the Halal Product Assurance Agency/BPJPH), and FGDs (focus group discussions) for data triangulation. The results of the study indicate that effective curriculum synchronization requires modification of three main pillars: (1) integration of professional certification courses (such as Halal Slaughterer and Halal Auditor) into the compulsory curriculum, (2) increasing the portion of internships and project-based Field Work Practices (PKL) in global halal-certified companies, and (3) implementation of the "Triple Helix Model" (Campus-Industry-Halal Institution) in learning design. It was found that PTI, that implemented this model, produced graduates with a much higher employment rate in the halal sector. This article enhances the literature on higher education and Islamic economics and proposes an integrated curriculum model for Islamic universities in Indonesia and worldwide to produce competitive halal industry human resources.

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1. INTRODUCTION

The global halal industry has transformed from a purely religious sector into a significant global economic force (Izberk-Bilgin & Nakata, 2016). According to the State of the Global Islamic Economy Report, the market value of the halal industry

(food, pharmaceuticals, cosmetics, fashion, tourism, and Islamic finance) has exceeded trillions of US dollars and is projected to continue growing aggressively (Ahmadova, 2019; Yusup & Sulaiman, 2025). The growing global Muslim population and growing consumer awareness of the halal (lawful and good) aspects of lifestyle drive this growth (Ab Halim et al., 2022; Bahrudin et al., 2024).

In Indonesia, as the country with the largest Muslim population in the world, the enactment of Law Number 33 of 2014 concerning Halal Product Assurance (JPH) further strengthens the industry's position, requiring all products in circulation to be halal certified (Hamizar et al., 2024). This regulation creates a massive need for a workforce with dual competencies: a profound understanding of Sharia (Fiqh Muamalah) and mastery of the technical and managerial aspects of the global industry.

Despite the enormous market potential, the main challenge facing the halal ecosystem today is the availability and quality of qualified Human Resources (HR) (Harahap et al., 2024). The halal industry requires human resources who understand halal-haram laws and are capable of operating a Halal Assurance System (HAS), mastering halal supply chain technology, and possessing managerial, auditing, and global leadership skills (Sapsuha et al., 2025).

The reality is that there is a significant skills gap. Many graduates from various educational levels, including those from Islamic Universities (PTI) (Syarnubi et al., 2023), still struggle to meet the qualification standards set by the industry (Nuryana, 2022), particularly the Halal Inspection Institution (LPH) and the Halal Product Guarantee Agency (BPJPH). This gap indicates that current educational output is not fully "connected" to the input needs of the job market (Aljohani et al., 2022; Permana et al., 2023).

Islamic universities, including UIN (State Islamic University), IAIN (State Islamic University), and STAIN (State Islamic University), have historically and through their institutional mandates been centers of excellence in the development of Islamic sciences (Afrizal, 2022; Gumanti et al., 2023). The uniqueness of PTI lies in its ability to integrate sharia sciences, such as Fiqh Muamalah (Islamic Law), Usul al-Fiqh (Islamic Jurisprudence), and Islamic Economics, with general sciences. In the context of the halal industry, Islamic universities (PTI) should be the main driver in producing human resources with strong Sharia core competencies (Risza, 2024), which are lacking in general universities. We expect PTI graduates to become professional and high-integrity halal auditors, halal assurance managers (HAS managers), Islamic finance experts, and regulators.

However, this strategic role is often hampered by curriculum disparities. Most curricula at PTI still tend to be normative-theoretical and lack a focus on practical, industry-application aspects. Several critical issues identified include: Lack of Link and Match: The curriculum is designed without a comprehensive and ongoing survey of industry needs. Lecturer Gap: Some lecturers, particularly in the Sharia field, have a strong theoretical understanding but lack practical experience in the field of halal assurance systems. Infrastructure Limitations: Practical facilities, food/chemistry laboratories, and professional certification centers on campus are inadequate to support

industry-based learning. Misplaced Focus: Study programs that should be the primary source of halal human resources (such as Islamic Economics, Food Science, and Science) have not yet made halal competency a major competency for graduates.

Curriculum synchronization is not simply about adding new courses; it demands an integrative approach (Sun et al., 2023). The curriculum must be redesigned to produce human resources who master the three main domains of the halal industry: Sharia: Understanding the sources of halal and haram laws and relevant Islamic jurisprudence principles (Dian et al., 2022). Science and Technology: Mastering the technical aspects of products (lab testing, production processes, traceability, blockchain technology for the halal supply chain). Management and Audit: Capable of developing and implementing a Halal Assurance System (HAS) and conducting internal and external audits in accordance with BPJPH standards or global standards (such as the Gulf Standards Organization/GSO).

The Indonesian government's programs, particularly the Independent Learning and Independent Campus (MBKM) policy, provide a golden opportunity for universities to synchronize their curriculum (Wibisono & Umiyati, 2023; Saa, 2025). MBKM allows students to take courses outside their study program, undertake a semester-long internship in the halal industry, and undertake village or research projects (Syaifuddin & Annur, 2025). These opportunities must be optimized to ensure students' practical experience aligns with the needs of Halal Auditors, Halal Supervisors, or Halal Supply Chain Specialists.

While numerous studies have addressed the halal industry and the role of universities (Ismanto, 2022; Riofita & Iqbal, 2022; Risza, 2024; Firdaus et al., 2025), this study offers a novelty by focusing on strategic aspects, synchronization models, and specific human resource needs in the global market. Previous research has tended to focus solely on the Sharia or economic dimensions. The novelty of this research lies in its approach, which analyzes the multidimensional gap between the curriculum and the market.

The methodological and conceptual novelty of this research lies in the formulation of a concrete and applicable curriculum synchronization model, based on a Triple Helix Partnership involving universities (PTIs): as curriculum designers and centers of knowledge; and the Halal Industry: as users of human resources and providers of case studies/internships. Halal Regulators & Institutions (BPJPH & LPH): Act as determinants of competency and certification standards. This model explicitly integrates core courses (e.g., Halal Assurance System Audit, Halal Supply Chain Management, and Halal Product Laboratory Analysis) as compulsory courses and requires project-based work experience (BPJPH, 2023).

Theoretically, this research contributes by positioning PTI not merely as a religious educational institution, but as a key actor in the global economic value chain. Practically, this research provides a blueprint for PTI administrators, Rectors, Deans, and Heads of Study Programs to revitalize their curricula to meet 21st-century demands. This research is crucial because it increases the competitiveness of PTI graduates in the global job market. It supports Indonesia's vision as a global halal hub. It provides a clear framework for PTI to transform from a developer of normative knowledge to an

institution that produces human resources with integrity and competence in both hard and soft skills in the industry.

Based on the above background, the research questions to be answered are:

1. How do Islamic Higher Education Institutions formulate and implement curricula to respond to the current human resource needs of the global halal industry?
2. What are the inhibiting and driving factors in aligning the Islamic Higher Education Institutions (PTI) curriculum with the competency standards set by the BPJPH (Indonesian Halal Product Development Agency) and the global halal industry?
3. How can an ideal curriculum synchronization model based on the Triple Helix Partnership approach be formulated to produce competitive graduates in the halal sector?

2. METHOD

This study uses a qualitative approach with a descriptive analytical approach. The qualitative approach was chosen because this study aims to deeply understand, interpret, and analyze a social phenomenon, namely the process and strategies for curriculum synchronization at Islamic Higher Education Institutions (PTI) in responding to the specific needs of the global halal industry. The research locations were several Islamic Higher Education Institutions (PTI), divided into two categories: Leading PTI: PTI that have halal-related study programs (such as Sharia Economics, Food Science, or Science) and have established active partnerships with the halal industry or have an established Halal Study Center. Reference PTI, which has recently pioneered halal-related study programs, provides a comparison of the challenges involved in curriculum implementation.
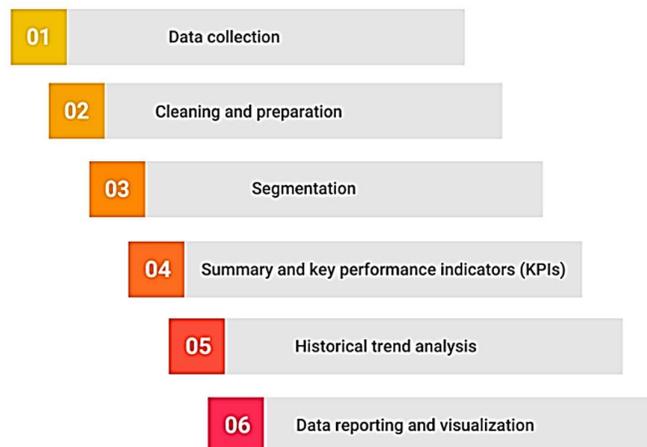

Figure 1. Descriptive Analytical Design

The selection of subjects/informants used purposive sampling and snowball sampling techniques to obtain rich and credible information. The key informants consisted of:

Table 1. Informants

Informant Category	Estimated Number	Roles in Research
PTI Academic	7 people	Head/Secretary of Study Program, Lecturer in charge of halal-related courses, Head of the Halal Study Center.
Halal Industry Practitioner	5 people	Halal Assurance System (HAS) Manager of a halal-certified company, CEO/Director of a private Halal Inspection Institution (LPH).
Regulator/Policy Expert	2 people	Representative of the Halal Product Assurance Organizing Agency (BPJPH) or the Indonesian Ulema Council (MUI)/National Professional Certification Agency (BNSP) related to halal competency standards.

This research used two main data sources:

1. Primary Data: Obtained directly from informants through interviews and focus groups, providing insights, experiences, and recommendations related to the curriculum and industry needs.

2. Secondary Data: Obtained from documents and archives, including: Curriculum documents (Syllabus, Semester Learning Plans/RPS) of halal-related study programs at the referenced PTI. Tracer study reports for PTI graduates. Regulations and Indonesian National Work Competency Standards (SKKNI) related to the halal profession (Halal Supervisor, Halal Auditor). Annual reports from BPJPH and global halal institutions.

Data were collected through three main techniques:

1. In-depth Interviews: Conducted in a structured and semi-structured manner with key informants. The interviews aimed to elicit information regarding the curriculum design process, learning implementation, challenges encountered, and industry expectations regarding the competencies of PTI graduates.

2. Documentary Study: Collecting and analyzing official curriculum documents to identify content, learning outcomes, and the integration of Sharia-Science-Halal Management aspects.

3. Focus Group Discussion (FGD): Involving a mix of informants (academics, practitioners, and regulators) to discuss the ideal model for curriculum synchronization. The FGD was used as a tool to validate initial findings (triangulation) and generate recommendations for the Triple Helix Partnership model.

Data were analyzed using the interactive model by Miles and Huberman (1994), which involves three continuous cycle stages:

1. Data Reduction: Selecting, focusing, simplifying, abstracting, and transforming data emerging from field notes and interview transcripts. In this stage, data were classified based on key themes (normative vs. applicable curriculum, competency gaps, partnership models).

2. Data Display: Presenting the reduced data in the form of a matrix, flowchart, or descriptive narrative to facilitate conclusion drawing and understand the

relationships between variables. A comparison matrix of the PTI curriculum with the SKKNI standards will be presented at this stage.

3. Conclusion Drawing/Verification: Drawing conclusions based on the findings of the processed data. Conclusions are verified with the collected primary and secondary data, ultimately resulting in a Curriculum Synchronization Model Based on the Needs of the Global Halal Industry.

Data validity testing is carried out through:
1. Source Triangulation: Comparing the same information from various sources (e.g., the views of Lecturers, Practitioners, and Regulators regarding graduate skill gaps).
2. Method Triangulation: Testing findings obtained from interviews with the results of documentary studies (e.g., comparing curriculum claims with the RPS document).
3. Extension of Participation: Conducting intensive visits and communication with informants until no significant new information emerges (saturation point).

3. RESULTS AND DISCUSSION

Results

1. Graduate Competency Gap Profile (The Skill Gap Profile)

Research results indicate a significant competency gap among graduates of Islamic Higher Education Institutions (PTI) who wish to enter the Global Halal Industry. This gap can be classified into three main dimensions:

1.1. Normative-Applicative Gap

Most curricula at PTI, particularly in Sharia-based study programs (such as Islamic Economics and Islamic Family Law), have a very strong theoretical basis in Islamic jurisprudence (fiqh muamalah). However, there are weaknesses in its practical application:
- Identification of Critical Points of Haram: Graduates are still weak in identifying critical points (TPK) in non-food production processes (cosmetics, pharmaceuticals, fashion).
- Global Fatwa Standards: The curriculum does not adequately address the differences and harmonization of fatwa standards between international halal institutions (for example, differing views between MUI, JAKIM, and MUIS), even though the global halal industry demands cross-border understanding.

1.2. Technical-Certification Gap

This gap is the most highlighted by industry practitioners. The market demand for Halal Supervisors and Halal Auditors is very high, but graduates are not ready because:
- Auditor Skills: Graduates lack mastery of field audit techniques, Halal Assurance System (HAS) document preparation, and pre-audit procedures.

- Professional Certification: The majority of PTI (Islamic Higher Education Institutions) do not require or facilitate students to take the Halal Professional Competency Certification from the National Professional Certification Agency (BNSP) as part of the Graduate Learning Outcomes (CPL). This certification standard is a mandatory entry point into the job market.

1.3. Value Chain Gap

The global halal industry requires human resources to understand the entire supply chain. It was found that PTI graduates still focus on the product:

- Halal Logistics: The curriculum rarely specifically addresses warehousing management, transportation, and information systems that ensure the halal quality of products from end-to-end (H-to-H).
- Technological Literacy: Students have low literacy levels regarding new technologies in the halal supply chain, such as blockchain for halal product traceability.

2. Barriers and Drivers for PTI Curriculum Synchronization

2.1. Main Inhibitors

Table 2. Main Inhibitors

Inhibiting Factors	Explanation of Key Findings
Limited Number of Practicing Lecturers	Lecturers teaching the Halal Audit/HAS course mostly have a purely academic background (Sharia/Economics) and lack auditor certification or adequate field experience.
Nominative Curriculum Load	The curriculum is still dominated by normative courses (e.g., 144 credits of Pure Sharia), leaving little room (flexibility) for applied courses and credit conversion for MBKM activities.
Budget and Infrastructure	Budget limitations for halal-based laboratories (e.g., chemistry or microbiology laboratories for detecting haram substances) and the establishment of a First-Party Professional Certification Institution (LSP) on campus.

2.2. Driving Factors and Initial Capital

Table 3. Driving Factors and Initial Capital

Driving Factors	Explanation of Key Findings
MBKM Policy	The Independent Learning and Independent Campus Program has become a key lever. Several leading universities have successfully converted halal-certified industrial internships into the equivalent of 20 credits.
JPH Law Mandate	The Halal Product Assurance Law (UU JPH) creates regulatory obligations that force universities to open halal study programs or concentrations, thus stimulating curriculum innovation.
LPH and BPJPH Partnership	A strategic partnership initiative exists between universities and the Halal Inspection Institution (LPH) and the Halal Product Assurance Organizing Agency (BPJPH) to develop a curriculum based on the Indonesian National Work Competency Standards (SKKNI).

3. Ideal Triple Helix-Based Curriculum Synchronization Model

Based on gap analysis and FGDs with stakeholders, it was found that the ideal curriculum synchronization model should adopt the Triple Helix Partnership model involving Academics, Industry, and Regulators. This model encompasses three fundamental transformations:

3.1. Curriculum Structure Transformation (40:40:20)

Ideally, the curriculum should be allocated as follows:
- 40% Sharia/Normative Science: Building a strong foundation of ethics and the maqasid of Sharia.
- 40% Applied Science/Halal Science: Covering courses (MK) such as Halal Laboratory Analysis, Halal Audit, and Halal Supply Chain.
- 20% Structured Work Experience (MBKM): Mandatory, converted from internships at companies with HAS or at LPH/BPJPH.

3.2. Integration of Professional Certification as Mandatory Graduate Learning Outcomes

Every study program oriented towards the halal industry must establish professional certification as a mandatory, not optional, Graduate Learning Outcome (CPL).

Example of Integration: The Halal Assurance Management course must conclude with a competency test recognized by the National Agency for Standardization (BNSP), so that students immediately obtain an academic degree and professional certificate (e.g., Halal Supervisor).

3.3. Implementation of Co-Teaching and Co-Curricular

It was found that PTIs successfully implemented this curriculum implemented:
- Co-Teaching: Collaboration between Sharia Lecturers and Practicing Halal Auditors in teaching the HAS course.
- Co-Curricular: Extracurricular activities focusing on contemporary halal cases, comparative studies at certified factories, and audit simulations.

This model aims to ensure that Islamic College or PTI graduates not only understand halal (normative aspects) but are also able to perform it (technical and managerial aspects) in accordance with global standards.

Discussion

This discussion section aims to interpret research findings regarding the competency gap of halal human resources in Islamic Higher Education Institutions (PTI) and analyze the effectiveness of the Triple Helix Partnership model as a strategic solution for curriculum synchronization.

1. Understanding the Multi-Dimensional Gap in Halal Human Resources

The research findings confirm a multi-dimensional gap between the output of PTI, and the input needed by the Global Halal Industry. This gap extends beyond the

normative Sharia knowledge dimension, extending into the application, technical, and managerial domains.

1.1. Decontextualization of Applied Fiqh Muamalah

The research findings indicate that although Islamic College/PTI graduates are strong in the theoretical foundations of Fiqh Muamalah, they are weak in identifying critical points (Critical Points of Haram) in contemporary production processes. This reinforces the view (e.g., Arifudin, 2023; Asnawi & Rahmawati, 2024) that Islamic College remains trapped in a text-centric curriculum and lacks context-centricity (based on the industry context). In this context, curriculum synchronization should focus on contemporary halal case studies and the application of qawa'id fiqh (jurisprudence principles) in business decision-making, rather than simply memorizing the law (Jalili & Syukri, 2025).

1.2. Gap Between Professional Certification and Regulatory Mandate

The largest gap is between the PTI (Indonesian Halal Institute)'s CPL (Certification of Professional Certification) and the demands of professional certification (Halal Auditor, Halal Supervisor). The Halal Product Assurance (JPH) Law has made professional certification a regulatory mandate that practitioners must fulfill. PTI's failure to make this certification a mandatory CPL indicates a disharmony between educational institutions and regulatory agencies (BPJPH/BNSP). Literature shows that the success of an industrial ecosystem depends heavily on close collaboration between academics and certification bodies (Ranga et al., 2017; Shvetsova & Lee, 2021; O'Dwyer et al., 2023). Therefore, this skills gap can be interpreted as a failure of graduate quality management in meeting national standards.

2. Effectiveness of the Triple Helix Partnership Synchronization Model

The main findings of this study recommend the Triple Helix model (Academics-Industry-Regulator) as the ideal framework for curriculum synchronization. This model has a strong theoretical and practical foundation:

2.1. Integration within the MBKM Framework

The implementation of the Triple Helix is highly relevant to the spirit of Independent Learning and Independent Campus (MBKM) (Firdaus et al., 2021). Internships at halal-certified companies (Industry), facilitated by the PTI (Academics) and supervised by competency standards from BPJPH/LPH (Regulators), are a concrete implementation of this model.

2.2. Curriculum Structure Transformation (40:40:20)

The division of the curriculum proportions (40% Sharia, 40% Applied/Science, 20% Experience) is a systematic effort to address the dichotomy of knowledge that has hampered PTI. Relevance of Integration Theory: This structure aligns with the concept of scientific integration (for example, the concept of unity of science), which seeks to

unite religious knowledge (naqli) and general knowledge (aqli). In the halal context, integration means that Fiqh is not only studied as a text, but also as a tool for ethical analysis of laboratory analysis results (Science) and management efficiency (Application).

3. Institutional Solutions: Improving the Quality of Lecturers and Infrastructure

The main obstacles identified, namely the limited number of practicing lecturers and infrastructure, indicate the need for serious institutional intervention.

3.1. Lecturers as Catalysts for Change

Co-teaching involving lecturers and practicing Halal Auditors is an effective solution. This not only transfers practical knowledge to students but also increases the capacity and understanding of academic lecturers regarding industry dynamics. PTI needs to allocate special funds to facilitate professional certification of lecturers as Halal Supervisors/Auditors. This is the first prerequisite before the curriculum can be synchronized.

3.2. Development of a Halal Teaching Factory

The limited laboratory space can be addressed by developing a Teaching Factory or Halal Center on campus. This will transform the Halal Institute from merely transferring knowledge to becoming a knowledge creator and skill producer. This facility will enable students to conduct audit simulations and TPK analysis, which are mandatory skills for Halal Supervisors.

4. Challenges and Future Research Directions

While the Triple Helix model is promising, the challenge lies in maintaining the sustainability of partnerships, especially with rapidly changing industry and limited resources to support students long-term (Lawton Smith & Leydesdorff, 2014; Galvao, 2019; Zhou & Etzkowitz, 2021).

Future Research Directions: Further research is needed to measure the long-term effectiveness of the Triple Helix model, including (1) retention rates and performance of certified graduates in industry, (2) cost-benefit analysis of establishing a first-party LSP at the Halal Institute, and (3) comparison of the Indonesian Halal Institute curriculum with leading halal education institutions in Malaysia or the Middle East.

4. CONCLUSION

From the findings of comprehensive research and discussion, several key conclusions can be drawn regarding the role of Islamic Higher Education (PTI) in developing human resources for the Global Halal Industry, namely the Multidimensional Competency Gap: PTI currently faces a clear competency gap in its graduates, which is multidimensional in nature. This gap includes (a) the Sharia-Applicative Knowledge Gap (strength in fiqh theory but weakness in contemporary cases of halalan tayyiban), (b) the Technical-

Certification Gap (minimal mastery of Halal Audit and Halal Assurance System/HAS), and (c) the gap in mastery of the global Halal Supply Chain. The Urgency of Curriculum Synchronization: The solution to this gap involves a comprehensive synchronization of the curriculum, which adds courses and shifts the learning mindset from a normative-theoretical approach to one that is applicable in the industry. The old curriculum has proven inadequate to produce the professionals needed by the Halal Product Assurance Organizing Agency (BPJPH) and multinational industries. Additionally, the Triple Helix Partnership Model serves as a solution: The most effective and recommended curriculum synchronization model is the Triple Helix Partnership model, which connects academics (PTI), industry, and regulators (BPJPH/LPH). This model enables PTI to implement a 40:40:20 (Sharia: Application: Work Experience) curriculum structure transformation, ensuring the relevance and accountability of Graduate Learning Outcomes (CPL). Using MBKM as a tool: The Independent Learning Campus (MBKM) program has proven to be a key catalyst enabling the practical implementation of the Triple Helix model, particularly through the conversion of mandatory structured internship credits to those based on halal professional certification.

As a recommendation, Islamic College/PTI is advised to revitalize the curriculum immediately by integrating the Halal Assurance System (HAS) and Halal Audit courses as mandatory subjects. The 40:40:20 structure should serve as a guideline, ensuring an adequate proportion of application and work experience. PTI should make Professional Competency Certification (such as Halal Supervisor or Halal Auditor from BNSP) a graduation requirement (mandatory CPL), not optional. PTI is encouraged to establish or collaborate intensively with a first-party professional certification institution (LSP). Furthermore, allocate a budget for certification of lecturers in the field of Halal Auditor/Supervisor and encourage co-teaching with industry practitioners to improve the quality of applied learning.

REFERENCES

Ab Halim, M. A., Salleh, M. M. M., Ahmad, A. A., Ab Rahman, S., & Nusran, M. (2022). Economic growth of halal industry: Enhancing governance and halal legal framework in the ASEAN (Goal 12). In *Good governance and the sustainable development goals in Southeast Asia* (pp. 140-154). Routledge. https://doi.org/10.4324/9781003230724-13

Afrizal, A. (2022). Perkembangan Perguruan Tinggi Islam Di Indonesia (Kasus STAIN, IAIN, UIN Dan Perguruan Tinggi Islam). *Berkala Ilmiah Pendidikan*, *2*(1), 18-32.

Ahmadova, L. E. O. (2019). Global Islamic Economy: Current state and future perspectives. *2. ERASMUS Uluslararası Akademik Araştırmalar Sempozyumu*, 55.

Aljohani, N. R., Aslam, A., Khadidos, A. O., & Hassan, S. U. (2022). Bridging the skill gap between the acquired university curriculum and the requirements of the job market: A data-driven analysis of scientific literature. *Journal of Innovation & Knowledge*, *7*(3), 100190. https://doi.org/10.1016/j.jik.2022.100190

Arifudin, Y. F. (2023). Strategi Implementasi Kurikulum Pendidikan Islam di Era Digital. *Manajemen Pendidikan Islam di Era Digital*, 127.

Asnawi, A., & Rahmawati, N. L. (2024). Perencanaan Kurikulum Perguruan Tinggi di era Industri 4.0. *AL-MIKRAJ Jurnal Studi Islam dan Humaniora (E-ISSN 2745-*

4584), *4*(02),   647-655.
https://ejournal.insuriponorogo.ac.id/index.php/almikraj/article/view/4854

Bahrudin, M., Iqbal, M., Saefurrohman, G. U., & Walsh, J. (2024). Halal food industry: Reinforcing the Halal Product Assurance Organizing Body (bpjph) in the development of the among urban Muslim community in Indonesia. *Akademika: Jurnal Pemikiran Islam*, *29*(1), 61-72. https://doi.org/10.32332/akademika.v29i1.9039

BPJPH (Badan Penyelenggara Jaminan Produk Halal). (2023). *Laporan Tahunan dan Roadmap Sertifikasi Halal Nasional 2023-2029.* Jakarta: Kementerian Agama RI.

Dian, C., Lestari, S., & Hasan, S. H. (2022). Sinergisitas Kurikulum Ekonomi Islam Dan Potensi Industri Halal di Indonesia. *Journal Of Economic Science (JECS)*, *8*(1), 37-51. https://doi.org/10.33143/jecs.v8i1.3379

Firdaus, R., Hakam, K. A., Somad, M. A., & Rizal, A. S. (2021). The Concept of Triple Helix Mohammad Natsir as a Character Education Strategy in the Era of Merdeka Belajar-Kampus Merdeka.". In *The 1st Virtual Conference on Social Science in Law, Political Issue and Economic Development* (pp. 128-32).

Firdaus, D. H., Ma'arif, A. S., & Rouf, A. (2025). The Role of Islamic Higher Education in Strengthening the Halal Ecosystem in Indonesia. *Peradaban Journal of Religion and Society*, *4*(1), 1-14. https://doi.org/10.59001/pjrs.v4i1.277

Galvao, A., Mascarenhas, C., Marques, C., Ferreira, J., & Ratten, V. (2019). Triple helix and its evolution: a systematic literature review. *Journal of Science and Technology Policy Management*, *10*(3), 812-833. https://doi.org/10.1108/JSTPM-10-2018-0103

Gumanti, M., Maisaroh, I., Warisno, A., Andari, A. A., & Anshori, M. A. (2023). Development of Islamic Higher Education in Indonesia. *JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan)*, *8*(1), 237-252. https://jurnal.univpgri-palembang.ac.id/index.php/JMKSP/article/view/11079

Hamizar, A., Hunsouw, M. T., & Roup, M. M. (2024). From Certification to Consumption: Shariah-Compliant Postmarket Halal Assurance. *Hikmatuna: Journal for Integrative Islamic Studies*, *10*(2), 176-186. https://e-journal.uingusdur.ac.id/hikmatuna/article/view/pps1025

Harahap, A. K. Z., Ramadhan, M., & Harahap, I. (2024). Enhancing human resource development as a strategic imperative for halal certification in food MSMEs. *al-Uqud: Journal of Islamic Economics*, *8*(2), 227-238. https://doi.org/10.26740/al-uqud.v8n2.p227-238

Ismanto, K. (2022). The Role of Islamic Universities in the Development of the Halal Industry Case Study in Central Java Province of Indonesia. *Proceeding International Conference on Islam and Education (ICONIE)* (Vol. 2, No. 1, pp. 955-970). https://proceeding.uingusdur.ac.id/index.php/iconie/article/view/744

Izberk-Bilgin, E., & Nakata, C. C. (2016). A new look at faith-based marketing: The global halal market. *Business horizons*, *59*(3), 285-292. https://doi.org/10.1016/j.bushor.2016.01.005

Jalili, I., & Syukri, I. (2025). Utilizing Qawā'id Fiqhiyyah In Legal Analysis: A Review Of Their Evolution And Application In Indonesian Islamic Jurisprudence. *istinbath*, *24*(1), 51-65. https://istinbath.or.id/index.php/ijhi/article/view/776

Lawton Smith, H., & Leydesdorff, L. (2014). The Triple Helix in the context of global change: dynamics and challenges. *Prometheus*, *32*(4), 321-336. https://doi.org/10.1080/08109028.2014.972135

Nuryana, Z. (2022). Academic reform and sustainability of Islamic higher education in Indonesia. *International Journal of Educational Development*, *89*, 102534. https://doi.org/10.1016/j.ijedudev.2021.102534

O'Dwyer, M., Filieri, R., & O'Malley, L. (2023). Establishing successful university–industry collaborations: barriers and enablers deconstructed. *The Journal of Technology Transfer*, *48*(3), 900-931. https://doi.org/10.1007/s10961-022-09932-2

Permana, T. W., Yudoko, G., & Prasetio, E. A. (2023). Forecasting the potential output and growth of the manufacturing industry: a case study of Indonesia's manufacturing sector. *Jurnal Ekonomi & Studi Pembangunan*, *24*(2), 368-389. https://doi.org/10.18196/jesp.v24i2.18716

Ranga, M., Mroczkowski, T., & Araiso, T. (2017). University–industry cooperation and the transition to innovation ecosystems in Japan. *Industry and Higher Education*, *31*(6), 373-387. https://doi.org/10.1177/0950422217738588

Riofita, H., & Iqbal, M. A. (2022). Enhancing Islamic higher education image as the halal industry driving Indonesian halal industries. *Journal of Digital Marketing and Halal Industry*, *4*(1), 77-90. https://doi.org/10.21580/jdmhi.2022.4.1.12439

Risza, H. (2024). The role of universities in pioneering halal product innovation and education in Indonesia. *AL-ISHLAH: Jurnal Pendidikan*, *16*(2), 821-829. http://journal.staihubbulwathan.id/index.php/alishlah/article/view/5218

Saa, S. (2025). The Role of MBKM Policy in Enhancing Higher Education Quality in Indonesia. *Side: Scientific Development Journal*, *2*(4), 127-135. https://ojs.arbain.co.id/index.php/side/article/view/191

Sapsuha, M. U., Siradjuddin, S., & Lutfi, M. (2025). Halal Industry Development Strategy in The Cosmetics Sector: A Study of Islamic Business Ethics. *J-CEKI: Jurnal Cendekia Ilmiah*, *4*(3), 248-268. https://ulilalbabinstitute.co.id/index.php/J-CEKI/article/view/7677

Shvetsova, O. A., & Lee, S. K. (2021). Living labs in university-industry cooperation as a part of innovation ecosystem: Case study of South Korea. *Sustainability*, *13*(11), 5793. https://doi.org/10.3390/su13115793

Syaifuddin, M., & Annur, A. F. (2025). *Kurikulum Berbasis MBKM dan Moderasi Beragama di Perguruan Tinggi Islam*. Penerbit NEM.

Syarnubi, S., Syarifuddin, A., & Sukirman, S. (2023). Curriculum Design for the Islamic Religious Education Study Program in the Era of the Industrial Revolution 4.0. *Al-Ishlah: Jurnal Pendidikan*, *15*(4), 6333-6341. http://www.journal.staihubbulwathan.id/index.php/alishlah/article/view/3421

Sun, D., Kinney, J., Hintz, A., Beck, M., & Chen, A. M. (2023). Advancing pharmacy education by moving from sequenced "integration" to true curricular integration. *American Journal of Pharmaceutical Education*, *87*(6), 100056. https://doi.org/10.1016/j.ajpe.2023.100056

Wibisono, E., & Umiyati, E. (2023). Kampus Merdeka (Independent Campus) Policy in Indonesia: An Evidence-Based Critical Review. *Jurnal Teknologi Pendidikan*, *11*(01).

Yusup, M., & Sulaiman, N. S. (2025). Islamic Finance and Halal Industry: Building a Sustainable Shariah Ecosystem. In *Implementing Halal Principles and Regulations in Business Governance* (pp. 61-80). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-3917-7.ch003

Zhou, C., & Etzkowitz, H. (2021). Triple helix twins: a framework for achieving innovation and UN sustainable development goals. *Sustainability*, *13*(12), 6535. https://doi.org/10.3390/su13126535