

HALALSPHERE

International Islamic University Malaysia - INHART



Editorial Note

From source to assurance: Charting the next frontier of halal research

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Malaysia has earned international recognition as a global leader in halal certification and governance. Yet sustaining this leadership requires addressing one of the most pressing research challenges of the halal ecosystem namely our continued dependence on imported raw materials across multiple halal sectors, including food, pharmaceuticals, biopharmaceuticals, cosmetics, and personal care products (Hashim & Ahmad, 2026).

While certification assures compliance at the point of production, the principle of *halalan tayyiban* demands integrity throughout the entire value chain, beginning with the origin of raw materials such as depicted in MS 1500:2019 (DSM, 2019a) and MS2424:2019 (DSM, 2019b). Incidents such as the 2020 halal meat cartel scandal further underscored the vulnerabilities associated with fragmented and opaque supply chains.

The next frontier of halal research should therefore move beyond product certification towards strengthening upstream halal ecosystems. Priority should be given to developing localized and sustainable sources of halal raw materials, resilient "farm-to-fork" (and, where relevant, "source-to-patient") supply chains, and integrated halal industrial ecosystems.

Equally important is research on practical implementation of digital traceability technologies including blockchain, the Internet of Things (IoT), artificial intelligence, and interoperable data platforms; to enhance transparency, authenticity, and consumer trust (OECD, 2022; GS1, 2023). Interdisciplinary studies that bridge agriculture, biotechnology, pharmaceutical sciences, supply chain management, digital innovation, and *Shari'ah* governance will be instrumental in building a resilient halal ecosystem.

In doing so, research that seeks to advance halal consumption must be guided by *Maqasid al-Shari'ah* and a genuine commitment to strengthen the halal ecosystem beyond the legacy of profit-driven capitalism. As the halal industry enters an era shaped by frontier technologies including advanced biotechnology, synthetic biology, artificial intelligence, precision fermentation, and novel food production; innovation should not be embraced uncritically. Rather, it should be approached through the principle of *ihtiyat* (prudence or precaution), ensuring that emerging technologies undergo rigorous scientific evaluation and *Shari'ah* scrutiny before widespread adoption. Such a precautionary approach does not impede innovation; instead, it safeguards halal integrity,

protects public interest (*maslahah*), and ensures that technological advancement remains aligned with the higher objectives of the *Shari'ah*. In this regard, *ihtiyat* serves not as a barrier to scientific progress but as a governance principle that promotes responsible innovation while preserving the objectives of religion, life, intellect, lineage, wealth, and, by extension, environmental sustainability (Auda, 2008).

As Halalsphere continues to foster scholarly dialogue, we encourage researchers to generate evidence-based solutions that strengthen halal integrity from the source, ensuring that Malaysia's global halal leadership is founded not only on certification excellence but also on scientific innovation, sustainable resource development, resilient supply chains, and the careful stewardship of emerging technologies. By balancing innovation with prudence, the halal ecosystem can remain globally competitive while remaining firmly anchored in the ethical and legal principles that define *halalan tayyiban*.

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