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Towards Golden Indonesia 2045: A Sharia Circular Economy Model Integrating Halal Value Chain, Zero-Waste Practices, and Maqashid Sharia

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ABSTRACT

The vision of Golden Indonesia 2045 emphasizes sustainable and inclusive development as a key strategy for strengthening the national economy. However, the dominant linear economic model, characterized by the take-make-dispose pattern, has generated significant challenges, including increasing waste generation, environmental degradation, and inefficient resource utilization, particularly within the halal industry and local MSMEs. This study proposes a Sharia Circular Economy model that integrates halal value chain principles with a zero-waste approach grounded in the objectives of Islamic law (maqashid sharia). Employing a qualitative conceptual approach, the study conducts a comprehensive literature review and comparative analysis of existing research on the circular economy, Islamic economics, and sustainable halal industries. The proposed model highlights the roles of hifz al-bi'ah (environmental preservation), hifz al-mal (wealth preservation), and hifz al-nafs (protection of life) as normative foundations for sustainable production, distribution, and consumption practices. The findings suggest that integrating sharia principles with circular economy practices can provide a strategic framework for enhancing the resilience of local industries, reducing environmental impacts, and improving social welfare. Therefore, the Sharia Circular Economy model offers a transformative pathway for supporting Indonesia's transition toward the vision of Golden Indonesia 2045.

Keywords: Sharia Circular Economy; Maqashid Sharia; Halal Value Chain

INTRODUCTION

Indonesia aspires to achieve the vision of Golden Indonesia 2045 by becoming one of the world's largest economies through inclusive, sustainable, and equitable development supported by strong global competitiveness. Achieving this vision requires strengthening strategic economic sectors, particularly local industries and Micro, Small, and Medium Enterprises (MSMEs), which serve as the backbone of the national economy. According to

data from the Indonesian National Committee for Islamic Economy and Finance (KNEKS), more than 64 million MSMEs operated in Indonesia in 2021, contributing approximately 61% of the national Gross Domestic Product (GDP) and absorbing nearly 97% of the workforce (KNEKS, 2020). These figures demonstrate the strategic role of MSMEs in supporting economic growth, employment creation, and social welfare. In addition, Indonesia possesses substantial potential in the halal industry due to its large Muslim population and growing demand for halal products and services. The State of the Global Islamic Economy Report indicated that Indonesia's halal food and beverage expenditure reached USD 135 billion in 2020 and is projected to increase to USD 204 billion by 2025 (KNEKS, 2020). This trend highlights the significant opportunity for Indonesia to strengthen its position as a global halal industry hub while supporting sustainable economic development.

Despite these opportunities, the halal industry and local MSMEs continue to face fundamental challenges related to resource efficiency, waste management, and environmental sustainability. According to the National Development Planning Agency (Bappenas), Indonesia generates approximately 23-48 million tons of food loss and waste annually. Between 2000 and 2019, food loss and waste reached an estimated 115-184 kg per capita per year, placing Indonesia among the largest contributors to food waste globally. This issue not only creates serious environmental consequences but also results in substantial economic losses estimated at IDR 213-551 trillion annually, equivalent to approximately 4-5% of the national GDP (Bappenas, 2021). Furthermore, most economic activities continue to operate under a linear economic model characterized by *the take-make-dispose* pattern, whereby resources are extracted, processed, consumed, and ultimately discarded as waste. Such a model contributes to environmental degradation, inefficient resource utilization, dependence on raw material extraction, and long-term economic vulnerability (Ni'mah *et al*., 2024). In response to these challenges, the circular economy has emerged as a globally recognized framework for achieving sustainable development. Unlike the conventional linear economy, the circular economy emphasizes reducing, reusing, recycling, recovering, and redesigning products and materials to extend their life cycle and minimize waste generation.

The circular economy aims to create a regenerative economic system in which resources remain in productive use for as long as possible, thereby improving resource efficiency, reducing environmental impacts, and generating long-term economic value. Consequently, many countries have incorporated circular economy principles into their national development strategies as part of their commitment to sustainable development and climate action. In the context of Indonesia, the adoption of circular economy practices remains relatively limited, particularly among MSMEs and actors within the halal industry. Most MSMEs continue to face constraints related to technological capabilities, financial resources, waste management systems, and environmental awareness. As a result, opportunities to transform production waste into economic value remain largely underutilized. These challenges are increasingly important as consumers and global markets demand products that are not only halal but also

environmentally responsible and sustainably produced. Therefore, integrating circular economy principles into the halal industry has become a strategic necessity to improve competitiveness while supporting environmental sustainability.

From an Islamic perspective, sustainability is not merely a secular concept but is deeply rooted in the principles of maqashid sharia, which represent the overarching objectives of Islamic law aimed at promoting universal welfare (*maslahah*). Maqashid sharia emphasizes the protection of essential aspects of human life, including religion, life, intellect, lineage, wealth, and, in contemporary Islamic scholarship, environmental preservation (*hifz al-bi'ah*). These principles are closely aligned with the objectives of sustainable development and circular economy practices, particularly in promoting responsible production, resource conservation, social justice, and intergenerational welfare. Therefore, integrating circular economy principles with maqashid sharia offers a promising approach to addressing sustainability challenges while maintaining compliance with Islamic values. Another important dimension is the halal value chain, which ensures halal integrity throughout the entire process of production, processing, distribution, and consumption. The halal value chain plays a crucial role in guaranteeing product quality, traceability, transparency, and compliance with Islamic principles. However, existing halal value chain practices have generally focused on halal assurance, certification, and supply chain governance, while environmental sustainability and circularity have received relatively limited attention. As a result, opportunities to integrate halal principles with resource efficiency and waste reduction strategies remain largely unexplored.

Recent studies have highlighted the need to strengthen sustainability practices within the halal industry. Alfarizi and Hanum (2023) found that halal culinary MSMEs continue to face challenges related to digital transformation, limited adoption of environmentally sustainable business practices, and inadequate access to innovative technologies. Similarly, Musari *et al*., (2025) reported that the implementation of reverse logistics and circularity practices within halal supply chains across ASEAN countries remains limited despite considerable development potential. Furthermore, Fajrah *et al*., (2024) demonstrated that sustainability has become an increasingly important theme within halal supply chain research, indicating growing academic interest in integrating halal business practices with sustainability objectives. Although studies on circular economy, Islamic economics, and halal value chains have expanded significantly in recent years, these areas of research remain largely fragmented. Research on the circular economy has primarily focused on environmental and economic dimensions, while studies in Islamic economics have concentrated on the normative and ethical foundations of maqashid sharia. Meanwhile, research on halal value chains has largely emphasized halal compliance, certification, and product quality. Consequently, limited attention has been given to developing an integrated framework that combines circular economy principles, maqashid sharia objectives, and halal value chain governance within a single sustainability model. This gap is particularly relevant in the Indonesian context, where

the achievement of Golden Indonesia 2045 requires development strategies that simultaneously address economic growth, environmental sustainability, social welfare, and religious values.

To address this gap, the present study proposes a Sharia Circular Economy model that integrates circular economy principles, halal value chain governance, and maqashid sharia objectives into a unified conceptual framework. The proposed model emphasizes the role of *hifz al-bi'ah* (environmental preservation), *hifz al-mal* (wealth preservation), and *hifz al-nafs* (protection of life) as normative foundations for implementing zero-waste practices across production, distribution, and consumption activities. By integrating sustainability principles with Islamic ethical values, this model is expected to strengthen the competitiveness of halal industries and MSMEs, reduce environmental impacts, improve resource efficiency, and contribute to the achievement of the Sustainable Development Goals (SDGs).

Accordingly, this study aims to develop a Sharia Circular Economy model that integrates halal value chain principles with maqashid sharia as a conceptual solution to sustainability challenges in the halal industry and MSME sectors. Furthermore, the study seeks to identify zero-waste practices applicable to the halal industry and evaluate their potential contribution to sustainable development. Ultimately, this research is expected to provide a strategic framework for supporting Indonesia's transformation into a globally competitive, inclusive, and sustainable economy in line with the vision of Golden Indonesia 2045.

METHODOLOGY AND CONCEPTUAL FRAMEWORK

Research Methodology

This study employs a qualitative approach with a conceptual research design. This approach was selected because the objective of the study is not to test empirical hypotheses but to develop a conceptual framework that integrates the principles of the circular economy, maqashid sharia, and halal value chain governance. According to Jaakkola (2020), conceptual research aims to synthesize existing knowledge, identify research gaps, and develop new theoretical models that can serve as a foundation for future empirical investigations.

The study relies on secondary data obtained from various academic and institutional sources. These sources include: (1) scientific articles indexed in Scopus, Web of Science (WoS), and accredited national journals indexed by Sinta that discuss circular economy, Islamic economics, maqashid sharia, halal value chains, and sustainable halal industries; (2) reports published by international organizations, including the United Nations Environment Programme (UNEP), the World Bank, and the State of the Global Islamic Economy Report; and (3) official publications from Indonesian institutions, particularly the National Committee for Islamic Economy and Finance (KNEKS) and the National Development Planning Agency (Bappenas), concerning halal industry development, circular economy policies, and food loss and waste issues in Indonesia.

Data analysis was conducted through three stages. The first stage involved a literature review aimed at examining the theoretical foundations of the circular economy, maqashid sharia, and halal value chains. This process enabled the identification of key concepts, dimensions, and relationships among the variables relevant to the study. The second stage employed content analysis to systematically evaluate previous studies and identify major themes, research trends, conceptual overlaps, and existing research gaps. Through this process, opportunities for integrating sustainability principles with Islamic economic values and halal value chain governance were identified. The third stage consisted of conceptual synthesis, whereby theoretical insights and empirical evidence from the literature were integrated to develop a Sharia Circular Economy Model. The proposed model combines circular economy principles, maqashid sharia objectives, and halal value chain governance into a unified framework designed to support sustainable development within the halal industry and MSME sectors.

The final output of this study is a conceptual Sharia Circular Economy Model that serves as a strategic framework for integrating circular economy practices, maqashid sharia objectives, and halal value chain governance. The model is intended to provide guidance for policymakers, halal industry stakeholders, and MSMEs in implementing sustainable production, distribution, and consumption practices based on zero-waste principles while maintaining compliance with Islamic values. Furthermore, the framework illustrates the interrelationship between environmental sustainability, economic resilience, social welfare, and halal governance, thereby offering a holistic approach to sustainable development within the halal ecosystem. To enhance the credibility of the proposed framework, model validation was conducted through two approaches. First, logical validation was performed to assess the internal consistency of the model, including the coherence of its components, relationships, and circular process flows. Second, literature triangulation was applied by comparing the proposed model with findings from previous studies (Musari *et al*., 2025; Ni'mah *et al*., 2024; Ab Talib *et al*., 2017) to evaluate its theoretical consistency and practical relevance. Furthermore, future studies may strengthen the validation process through expert judgment involving academics, policymakers, and halal industry practitioners to assess the feasibility, applicability, and acceptability of the proposed model in real-world settings.

The conceptual framework developed in this study is presented through a model that illustrates the integration of maqashid sharia principles, halal value chain governance, and circular economy practices. This framework is expected to provide a theoretical foundation for future empirical studies and serve as a policy reference for promoting sustainable transformation within the halal industry and MSME sectors. Ultimately, the proposed model contributes to the growing literature on Islamic economics and sustainability by offering an integrative approach to supporting the realization of the Sustainable Development Goals (SDGs) and the vision of Golden Indonesia 2045.

Conceptual Framework

Based on the findings of the literature review, a conceptual framework can be developed to demonstrate that the integration of circular economy principles, maqashid sharia objectives, and halal value chain governance can provide a more holistic approach to sustainable development. The circular economy contributes a practical framework centered on resource efficiency through strategies such as reducing, reusing, recycling, and redesigning products and materials.

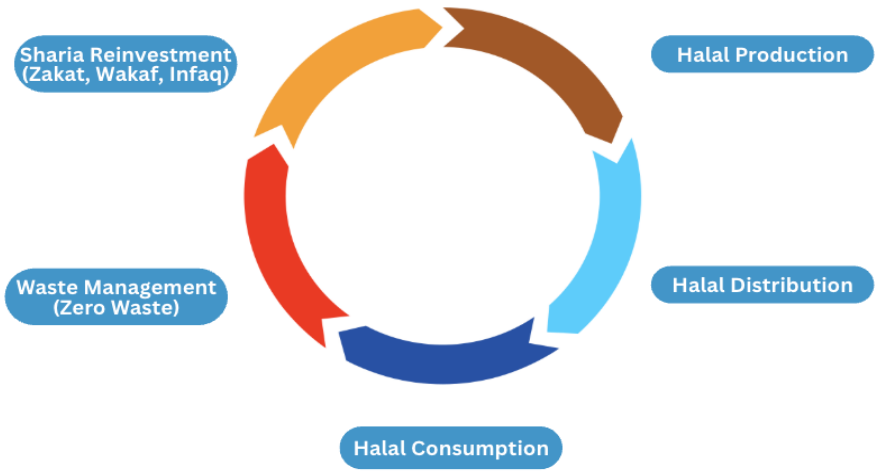

Figure 1. Cycle of the Sharia Circular Economy Model

Meanwhile, maqashid sharia provides a normative and ethical foundation by emphasizing the preservation of wealth (*hifz al-mal*), life (*hifz al-nafs*), and the environment (*hifz al-bi'ah*), which are essential for achieving long-term societal welfare and sustainability (Ni'mah *et al*., 2024; Sanawati & Putri, 2025). In addition, the halal value chain ensures compliance with Islamic principles throughout the stages of production, distribution, and consumption, thereby maintaining halal integrity and enhancing stakeholder trust (Ab Talib *et al*., 2017). The integration of these three dimensions creates a comprehensive framework that not only promotes environmental sustainability and resource efficiency but also strengthens the competitiveness, resilience, and long-term sustainability of halal industries and MSMEs while contributing to the achievement of the Sustainable Development Goals (SDGs).

Model Components

The proposed Sharia Circular Economy Model consists of five interconnected components that integrate circular economy principles, maqashid sharia objectives, and halal value chain governance.

a) Halal Production - the implementation of environmentally sustainable and resource-efficient production practices that minimize waste while ensuring compliance with halal standards.

b) Halal Distribution - the adoption of green halal logistics and sustainable distribution systems that maintain halal integrity and reduce environmental impacts throughout the supply chain.
c) Halal Consumption - the promotion of responsible and environmentally conscious consumption patterns that align with Islamic values and sustainability principles.
d) Waste Management (zero-waste practices) - the utilization of organic and inorganic waste through reduction, reuse, recycling, and recovery processes to support resource efficiency and environmental sustainability.
e) Sharia Reinvestment - the reinvestment of economic value through Islamic social finance instruments, including zakat, waqf, infaq, sadaqah, and sharia compliant CSR programs to support MSMEs, environmental conservation, and community welfare.

Together, these five components form a continuous cycle that enhances resource efficiency, strengthens the competitiveness of halal industries and MSMEs, and promotes sustainable development in accordance with maqashid sharia principles. The proposed Sharia Circular Economy Model establishes a closed-loop system that integrates economic efficiency, ethical values, and environmental sustainability. This model demonstrates how the integration of circular economy principles, maqashid sharia objectives, and halal value chain governance can create a sustainable development cycle within the halal industry ecosystem.

The cycle begins with halal production, which emphasizes environmentally friendly practices, efficient resource utilization, and the use of halal certified raw materials in accordance with Islamic principles. The next stage is halal distribution, which ensures that supply chain and logistics activities maintain halal integrity while adopting green logistics practices to minimize environmental impacts and carbon emissions. This is followed by halal consumption, where consumers are encouraged to adopt responsible consumption patterns by reducing waste and prioritizing sustainable halal products.

Waste generated throughout the production and consumption processes is subsequently managed through zero-waste practices, including reduction, reuse, recycling, and resource recovery. Organic waste may be converted into renewable energy or value added products, while inorganic waste is processed through recycling systems to support resource circularity. The final stage is Sharia Reinvestment, whereby economic value generated from circular activities is redistributed through Islamic social finance instruments, such as zakat, waqf, infaq, sadaqah, and sharia compliant CSR programs. These resources are then utilized to support MSME development, environmental conservation, and community empowerment initiatives. Through this continuous cycle, the Sharia Circular Economy Model not only improves resource efficiency and reduces waste generation but also strengthens the economic, social, ethical, and spiritual dimensions of sustainable development. Consequently, the model offers a strategic framework for enhancing the competitiveness of Indonesia's halal industry and MSMEs while supporting the realization of the Sustainable Development Goals (SDGs) and the vision of Golden Indonesia 2045.

Position of Model in The Literature

The proposed Sharia Circular Economy Model occupies a significant position in the existing literature by addressing an important research gap. Previous studies on the circular economy have primarily focused on the technical dimensions of resource efficiency, waste reduction, and environmental sustainability. Meanwhile, research on maqashid sharia has largely emphasized its normative and ethical foundations, particularly in relation to social welfare and Islamic economic principles (Ni'mah *et al*., 2025). Similarly, studies on halal value chains have predominantly concentrated on halal compliance, certification, traceability, and supply chain integrity, with limited attention given to environmental sustainability and circularity practices (Ab Talib *et al*., 2017).

As a result, these three areas of research have generally developed independently, creating a gap in the literature regarding the integration of circular economy principles, maqashid sharia objectives, and halal value chain governance. To address this gap, the proposed Sharia Circular Economy Model offers a comprehensive conceptual framework that combines economic efficiency, Islamic ethical values, and sustainability principles within a unified system. By integrating these dimensions, the model contributes to the advancement of both Islamic economics and sustainability studies while providing a strategic framework for strengthening halal industries and MSMEs in support of sustainable development and the vision of Golden Indonesia 2045.

ANALYSIS AND RESULTS

Sharia Circular Economy Model

The principal outcome of this study is the development of a conceptual framework entitled "Sharia Circular Economy: From Halal to Zero Waste Towards Golden Indonesia 2045." The model integrates three key theoretical foundations, circular economy principles, maqashid sharia objectives, and halal value chain governance. Through this integration, the model seeks to promote resource efficiency, waste reduction, environmental sustainability, and the competitiveness of halal industries and MSMEs.

The proposed framework consists of five interconnected components, Halal Production, Halal Distribution, Halal Consumption, Zero-Waste Management, and Sharia Reinvestment. These components form a *closed-loop cycle* designed to optimize resource utilization, minimize waste generation, maintain halal integrity throughout the value chain, and generate broader social and environmental benefits. Furthermore, the model incorporates maqashid sharia principles as a normative foundation to ensure that economic activities contribute not only to economic growth but also to social welfare and environmental preservation.

Table 1 presents the five core components of the proposed model and their respective roles within the Sharia Circular Economy framework. Each component represents a critical stage in the circular process, linking halal compliance with sustainability practices and reinforcing the transition toward a more resilient and inclusive halal ecosystem. Through this

integrated approach, the model provides a strategic framework for supporting sustainable halal industry development and advancing the vision of Golden Indonesia 2045.

Table 1. Results of the Sharia Circular Economy Model

Model Stages	Description
Halal Production	Production with halal raw materials, energy and water efficiency, minimal waste.
Halal Distribution	Distribution of products with halal and environmentally friendly principles (green logistics).
Halal Consumption	Environmentally conscious consumption behavior, minimal food waste, consumer education.
Waste Management (Zero Waste)	Utilization of organic waste (compost, biogas) and inorganic recycling.
Sharia Reinvestment	Allocation of zakat, infaq, waqf, sharia CSR to support a sustainable ecosystem.

The proposed conceptual framework is built upon three complementary pillars, the circular economy, maqashid sharia, and the halal value chain. The circular economy provides a practical approach to sustainability through resource efficiency, waste reduction, reuse, recycling, and the optimization of production and consumption processes. By promoting the continuous circulation of resources within the economic system, the circular economy minimizes environmental impacts while enhancing economic value creation. Meanwhile, maqashid sharia serves as the normative and ethical foundation of the framework by defining sustainability as a form of *maslahah* (public benefit) that seeks to protect and promote human well-being. Through its emphasis on safeguarding religion (*hifz al-din*), life (*hifz al-nafs*), intellect (*hifz al-'aql*), lineage (*hifz al-nasl*), wealth (*hifz al-mal*), and environmental preservation (*hifz al-bi'ah*), maqashid sharia ensures that economic activities contribute not only to material prosperity but also to social justice, ecological sustainability, and intergenerational welfare.

Complementing these perspectives, the halal value chain provides a sharia-compliant governance system that ensures the integrity of products and processes throughout the entire value chain, from sourcing and production to distribution, consumption, and waste management. Through the principles of transparency, traceability, accountability, and compliance with Islamic standards, the halal value chain serves as the operational foundation of the proposed Sharia Circular Economy Model. The first component of the model is Halal Production, which extends beyond the use of halal-certified raw materials to encompass environmentally responsible production practices, including energy and water efficiency, emission reduction, waste minimization, and eco-design. This approach addresses criticisms

of conventional halal systems that tend to focus primarily on legal compliance while overlooking broader sustainability concerns (Ab Talib *et al*., 2017). For MSMEs, the adoption of sustainable halal production practices facilitates the transition from resource intensive production systems to more efficient and environmentally sustainable business models, thereby enhancing productivity, reducing operational costs, and strengthening competitiveness.

Second, Halal Distribution emphasizes the implementation of green halal logistics that maintain halal integrity while minimizing environmental impacts. This includes optimizing transportation routes, reducing packaging waste, improving storage efficiency, and fostering collaboration among supply chain actors. Such practices contribute to lower carbon emissions and support operational sustainability. Furthermore, this component reflects the Islamic principle of *mizan* (balance), whereby economic development must be pursued in harmony with environmental responsibility. Third, Halal Consumption promotes responsible and environmentally conscious consumer behavior. Consumers are encouraged not only to purchase halal products but also to consider sustainability aspects such as reducing food waste, minimizing packaging waste, and supporting locally produced halal goods. In Islamic teachings, the concepts of *kifayah* (sufficiency) and the prohibition of *israf* (excessive consumption) provide a normative basis for encouraging more responsible consumption patterns. Consequently, halal consumption is viewed not merely as compliance with halal certification but also as a commitment to environmental stewardship and social responsibility.

Zero-Waste Management represents the core circular element of the model and reflects the maqashid sharia objective of environmental preservation (*hifz al-bi'ah*). Waste generated during production and consumption processes is treated as a valuable resource rather than a disposal burden. Organic waste can be converted into compost, biogas, or renewable energy, while inorganic waste can be reused or recycled through waste banks and industrial symbiosis systems. By transforming waste into economic value, this component contributes to resource efficiency, environmental protection, and the creation of new economic opportunities for MSMEs and local communities. The final component, Sharia Reinvestment, closes the cycle by redistributing and reinvesting economic value generated through circular activities. This process involves Islamic social finance instruments such as *zakat*, *waqf*, *infaq*, *sadaqah*, and sharia compliant corporate social responsibility (CSR) programs. The reinvested resources are directed toward MSME development, environmental conservation, and community empowerment initiatives. This mechanism ensures that economic gains are not concentrated among individuals but are re-distributed to generate broader social and environmental benefits. Furthermore, it embodies the Islamic principles of *tawazun* (balance) and *ta'awun* (mutual assistance), which distinguish the proposed Sharia Circular Economy Model from conventional circular economy frameworks.

Through the integration of these five components, the proposed model establishes a sustainable cycle that simultaneously enhances economic efficiency, environmental

sustainability, social welfare, and spiritual values. As such, the Sharia Circular Economy Model offers a comprehensive framework for strengthening the competitiveness of halal industries and MSMEs while supporting the achievement of the Sustainable Development Goals (SDGs) and the realization of the Golden Indonesia 2045 vision.

Empirical Relevance to Indonesian Conditions

From an environmental perspective, the proposed Sharia Circular Economy Model is highly relevant to addressing Indonesia's growing food loss and waste problem. According to Bappenas (2021), Indonesia generates approximately 23-48 million tons of food loss and waste annually, with per capita food waste estimated at 115-184 kg per year. This places Indonesia among the largest contributors to food waste globally and results in economic losses estimated at IDR 213–551 trillion annually, equivalent to approximately 4-5% of the national GDP. These figures indicate that production and consumption systems in Indonesia remain largely dependent on a linear economic model characterized by *the take-make-dispose* pattern. The proposed model offers a strategic solution by promoting resource efficiency throughout the production and consumption stages while encouraging the conversion of waste into value-added products, renewable energy, or other productive resources. Such an approach is consistent with the maqashid sharia objectives of preserving wealth (*hifz al-mal*) and protecting the environment (*hifz al-bi'ah*). From an economic perspective, the model also addresses key challenges faced by halal MSMEs, which play a vital role in Indonesia's economy. With more than 64 million business units contributing approximately 61% of GDP and employing nearly 97% of the national workforce (KNEKS, 2020), MSMEs represent a critical driver of economic growth and social welfare. Nevertheless, Alfarizi & Hanum (2024) found that many halal MSMEs continue to face challenges related to the limited adoption of environmentally friendly technologies, restricted access to sustainable financing, and weak digital transformation. In this regard, the proposed Sharia Circular Economy Model provides strategic guidance for MSMEs to move beyond halal compliance and embrace resource efficiency, waste reduction, and green business practices. As a result, MSMEs can improve productivity, reduce operational costs, and strengthen their competitiveness in both domestic and international markets.

From a supply chain perspective, the integration of circularity principles within halal logistics remains relatively underdeveloped. Musari *et al*., (2025) highlighted that the implementation of reverse logistics and circular practices within halal supply chains across ASEAN countries is still limited. This finding reveals an important gap in the existing halal ecosystem, where supply chain management has traditionally focused on sharia compliance while giving relatively little attention to sustainability concerns. The proposed model addresses this gap by incorporating green halal logistics as a core component of halal distribution. Through more efficient transportation systems, reduced packaging waste, optimized resource utilization, and reverse logistics practices, the model strengthens the

sustainability dimension of halal supply chains while maintaining halal integrity throughout the distribution process (Haleem *et al*., 2021).

Integrative Analysis: Theoretical and Practical Implications

The proposed Sharia Circular Economy Model extends existing discussions on sustainability, Islamic economics, and halal value chain governance. Previous studies on the circular economy have mainly emphasized resource efficiency and waste reduction, while maqashid sharia has generally been examined as a normative framework for promoting social welfare and justice (Ni'mah *et al*., 2024). Meanwhile, halal value chain research has largely focused on halal compliance and supply chain integrity. By integrating these three perspectives, the proposed model offers a more comprehensive framework that combines economic efficiency, Islamic ethical values, and sustainable halal governance. Several practical implications can also be identified. For halal industries and MSMEs, the model encourages resource efficiency, waste reduction, and value creation through circular business practices. For policymakers, it provides a reference for developing policies that support a sustainable halal ecosystem. The model can be the basis for policies in expanding an environmentally friendly halal ecosystem, for example through incentives for MSMEs that implement Sharia Circular Economy Model. For consumers, it promotes responsible halal consumption and environmentally friendly lifestyles. In addition, Islamic financial institutions may utilize the concept of Sharia Reinvestment to develop innovative instruments such as green *sukuk*, *waqf* based financing, and sustainable halal investments. Overall, the model demonstrates that the integration of circular economy principles, maqashid sharia objectives, and halal value chain governance can create a balanced approach to economic development, environmental sustainability, and social welfare. As such, it offers a strategic framework for strengthening the competitiveness of halal industries and MSMEs while supporting the achievement of the SDGs and the vision of Golden Indonesia 2045.

Table 2. Implementation Roadmap

Maturity Level	Implementation Features
Level 1 – Awareness	Socialization of halal-green values; simple waste and energy audits.
Level 2 – Pilots	Biodigester trials, packaging refills, consumer education.
Level 3 – Scaling	Implementation of KPIs; green incentives; MSME–government cooperation.
Level 4 – Integration	Integration of digital traceability, reverse logistics, sharia reinvestment.
Level 5 – Leadership	National replication model; high SROI; verified impact reporting.

Based on table 2, the implementation of the proposed Sharia Circular Economy Model is carried out through five progressive levels of maturity. The first level, Awareness, focuses on building fundamental understanding through the promotion of halal-green values and the implementation of basic waste and energy audits among MSMEs. The second level, Pilots, involves testing circular practices, such as the use of biodigesters for organic waste management, packaging refill systems to reduce plastic waste, and consumer education programs that encourage responsible consumption. The third level, Scaling, aims to expand the adoption of these practices through the implementation of Key Performance Indicators (KPIs), the provision of green incentives, and stronger collaboration between MSMEs, government institutions, and other stakeholders. At the fourth level, Integration, circular economy practices become more systematic through the adoption of halal-green traceability systems, reverse logistics mechanisms, and integrated sharia reinvestment schemes. The final level, Leadership, represents the stage at which the model is replicated on a broader scale, supported by a high Social Return on Investment (SROI), validated impact measurements, and transparent reporting systems. These five stages demonstrate that the implementation of the Sharia Circular Economy Model is a gradual and continuous process rather than an immediate transformation. Its success depends on the progressive development of technical capabilities, institutional support, stakeholder collaboration, and commitment to Islamic ethical values and sustainability principles.

Table 3. Key Performance Index Indicators

Aspect	KPI Indicators
Resource Efficiency	Waste/kg of product, Material Circularity Indicator (MCI)
Emissions & Energy	CO_2e emissions /kg product, Share of renewable energy (%)
Halal Compliance	Traceability coverage (%), Halal-green certification
Social & Sharia	Reinvestment (% of profit), SROI (social benefit/cost)

Strategy towards Golden Indonesia 2045

The proposed Sharia Circular Economy Model functions not only as a conceptual framework but also as a strategic roadmap for achieving the vision of Golden Indonesia 2045. The model advances this vision through three integrated dimensions, economic development, environmental sustainability, and socio-spiritual well-being. Economically, it encourages the transformation of halal MSMEs into more efficient, adaptive, and sustainable enterprises. Through the adoption of circular economy practices, such as resource efficiency, waste reduction, recycling, and the utilization of renewable energy, businesses can reduce production costs, improve profitability, and enhance their competitiveness in the growing

global halal market. In addition, the model promotes local resource-based innovation, thereby reducing dependence on imported raw materials and strengthening economic resilience. The application of performance indicators, such as the Material Circularity Indicator (MCI) and waste generated per unit of product (table 3), provides measurable evidence of improvements in resource efficiency and circularity performance.

The environmental dimension of the proposed model addresses two major challenges facing Indonesia are food loss and waste (FLW) and carbon emissions. Through the promotion of environmentally conscious halal consumption and the conversion of organic waste into biogas and compost, the model reduces pressure on landfills while transforming waste into valuable economic resources. As illustrated in table 4, a cluster of 100 MSMEs could generate approximately 312,000 kWh of energy from organic waste, equivalent to potential savings of IDR 468 million per year. These findings demonstrate that a zero-waste approach functions not only as an environmental solution but also as a source of economic value creation. Moreover, this approach is closely aligned with the maqashid sharia objective of *hifz al-bi'ah* (environmental preservation), emphasizing that environmental stewardship is both an economic necessity and a moral responsibility.

Table 4. Illustrative Simulation of the Impact of the Sharia Circular Economy Model on a Cluster of 100 Halal Food MSMEs

Calculation Aspects	Calculation Formula	Results
Organic waste per year per MSME	1 ton × 10% × 52 weeks	5.2 tons
Total organic waste of 100 MSMEs	5.2 tons × 100 MSMEs	520 tons/year
Biogas production (100 m^3/ton)	520 tons × 100 m^3	52,000 m^3 of biogas/year
Energy from biogas (6 kWh/m^3)	52,000 m^3 × 6 kWh	312,000 kWh/year
Electricity cost savings (Rp1,500/kWh)	312,000 kWh × Rp1,500	Rp. 468,000,000/year
Zakat per MSME (2.5% of IDR 200 million)	2.5% × Rp200 million	Rp. 5 million
Total zakat of 100 MSMEs	Rp. 5 million × 100 MSMEs	Rp. 500 million/year
mangrove seedlings (Rp. 15,000/seedling)	Rp. 500 million ÷ Rp. 15,000	±33,333 seedlings/year

The socio-spiritual dimension represents the key distinguishing feature of the proposed model compared with conventional circular economy frameworks. Through Sharia

Reinvestment mechanisms, including *zakat*, *waqf*, *infaq*, *sadaqah*, and sharia-compliant CSR programs, economic gains are redistributed to generate broader social and environmental benefits. As presented in table 4, if 100 MSMEs allocate 2.5% of their annual profits of IDR 200 million to *zakat*, approximately IDR 500 million could be mobilized each year. These resources could finance environmental initiatives, such as the planting of approximately 33,333 mangrove seedlings, contributing to coastal ecosystem restoration, erosion prevention, and the creation of green employment opportunities. Consequently, the model promotes a development pathway that is economically viable, socially inclusive, environmentally sustainable, and consistent with Islamic ethical values.

CONCLUSION

This study proposes a Sharia Circular Economy Model that integrates circular economy principles, maqashid sharia objectives, and halal value chain governance as a comprehensive framework for strengthening the sustainability of halal industries and MSMEs. The model consists of five interconnected components: Halal Production, Halal Distribution, Halal Consumption, Zero-Waste Management, and Sharia Reinvestment. These components operate within a closed-loop system designed to enhance resource efficiency, reduce waste generation, promote social welfare, and support environmental sustainability in accordance with Islamic values.

The findings indicate that the proposed model provides a strategic response to several challenges facing Indonesia, including high levels of food loss and waste, limited resource efficiency among halal MSMEs, and the insufficient integration of sustainability practices within halal supply chains. Within this framework, the circular economy is positioned not only as a technical approach to resource management but also as an expression of Islamic ethical values that emphasize responsibility toward society, the environment, and future generations.

Theoretically, this study contributes to the literature by bridging the gap between circular economy research, which often lacks normative and ethical foundations, and Islamic economics research, which has paid limited attention to environmental sustainability and circular resource management. By integrating circular economy principles, maqashid sharia, and halal value chain governance into a single framework, this study offers a novel interdisciplinary perspective for advancing sustainability within the halal industry ecosystem. Practically, the proposed model provides a strategic roadmap for transforming halal industries and MSMEs into more efficient, inclusive, and sustainable economic actors. Consequently, the model has the potential to support the achievement of the Sustainable Development Goals (SDGs) while contributing to the realization of the Golden Indonesia 2045 vision.

Despite these contributions, this study is limited by its conceptual nature and the absence of empirical validation. The proposed model has been developed through an extensive review and synthesis of the relevant literature but has not yet been tested in real-

world settings. Therefore, future research is encouraged to validate the model through case studies, surveys, pilot projects, or quantitative assessments involving halal MSMEs, industry stakeholders, and policymakers. Further studies may also examine the effectiveness of specific model components, such as zero-waste implementation, halal green logistics, and Sharia Reinvestment mechanisms, in enhancing sustainability performance. Such empirical investigations would provide stronger evidence regarding the applicability, effectiveness, and scalability of the Sharia Circular Economy Model across different sectors and regional contexts.

REFERENCES

Ab Talib, M. S., Abdul Hamid, A. B., Zulfakar., M. H. (2015). Halal Supply Chain Critical Success Factors: A Literature Review. *Journal of Islamic Marketing*. Vol. 6, No. 1, pp. 44-71. https://doi.org/10.1108/JIMA-07-2013-0049.

Alfarizi, M., Hanum, R. K. (2023). Improving Digital Transformation and Sustainability in Indonesian Halal Culinary Msmes: A Performance Modeling Study. Journal of Religious Policy. Vol. 2, No. 2, pp. 345-382. https://doi.org/10.31330/repo.v2i2.30.

Bappenas. (2021). *Food Loss and Waste in Indonesia: Estimates and Policy Recommendations*. Jakarta: Badan Perencanaan Pembangunan Nasional.

Ellen MacArthur Foundation. (2015). *Towards a Circular Economy: Business Rationale for an Accelerated Transition.* ellenmacarthurfoundation.org. Access on 09 March 2026.

Fajrah, N., Putri, N. T., Fatrias, D. (2025). Analisis Bibliometrik Sustainable Halal Supply Chain Pada Industri Kecil Menengah. *Jurnal Rekayasa Sistem Industri.* Vol. 10, No. 2, pp. 27-36. https://doi.org/10.33884/jrsi.v10i2.9514.

Geißdörfer, M., Savaget, P., Bocken, N., & Hultink, E. J. (2017). The Circular Economy: A New Sustainability paradigm?. *Journal of Cleaner Production*. Vol. 143, pp. 757-768. https://doi.org/10.1016/j.jclepro.2016.12.048.

Haleem, A., Khan, M. I., Khan, S. (2021). Understanding the Adoption of Halal Logistics through Critical Success Factors and Stakeholder Objectives. *Logistics*. Vol. 5, No. 2, pp. 1-15. https://doi.org/10.3390/logistics5020038.

Jaakkola, E. (2020). Designing Conceptual Articles: Four Approaches. *AMS Review*. Vol. 10, pp. 18-26. https://doi.org/10.1007/s13162-020-00161-0.

Jannah, S. M., Wijayanti, D. M. (2025). Improving Sustainable Performance for MSMEs Through Halal Supply Chain Management. *Jurnal Ekonomi, Keuangan dan Perbankan Syariah*. Vol. 9, No. 1, pp. 49-71. https://doi.org/10.33379/jihbiz.v9i1.6287.

Kirchher, J., Reike, D., Hekkert, M. (2017). Conceptualizing The Circular Economy: An Analysis of 114 Definitions. *Resources, Conservation & Recycling. Resources, Conservation and Recycling Journal*. Vol 127, pp. 221-232. https://doi.org/10.2139/ssrn.3037579.

KNEKS (National Committee for Islamic Economics and Finance). (2020). Development of Superior Technology in the Halal Industry. https://kneks.go.id/. Access on 01 March 2026.

Korhonen, J., Honkasalo, A., Seppala, J. (2018). Circular Economy: The Concept and its Limitations. *Ecological Economics, Elsevier*. Vol. 143, pp. 37-46. https://doi.org/10.1016/j.ecolecon.2017.06.041.

Khuluq, M. K., Asmuni. (2024). Hifz Al-Bi'ah as Part of Maqashid Al-Shari'ah and Its Relevance in The Context of Global Climate Change. *Indonesian Journal of Interdisciplinary Islamic Studies (IJIIS)*. Vol. 7, No. 2, pp. 161-178.

Mufatikhah, R. N., Drajat, E. U., Muhammad, A. A. (2025). Strengthening Halal Value Chains for Sustainable MSMEs Growth: A Case Study of Food Industries in Madiun City, Indonesia. *Journal of Islamic Economics (JoIE)*. Vol. 5, No. 1, pp. 32-45. https://doi.org/10.21154/joie.v5i1.10289.

Musari, K., Mahmudah, M., Hakim, Z. (2025). Mapping the implementation of circular economy and reverse logistics in the sustainable halal supply chain: Evidence in ASEAN-3. In *Sustainable Advanced Manufacturing and Logistics in ASEAN* (pp. 61-78). IGI Global. https://doi.org/10.4018/979-8-3693-5350-9.ch004.

Ni'mah, I., Rokhim, A., Musari, K. (2024). The Role of Circular Economy In Supporting Sustainable Development Goals (Sdgs) In Indonesia From an Islamic Economic Perspective. Journal of Islamic Economics Lariba. Vol. 10, No. 1, pp. 403-418. https://doi.org/10.20885/jielariba.vol10.iss1.art22.

Nurholis, M. (2025). Islamic Law and Environmental Sustainability: Maqasid al-Sharia's Perspective. *Jurnal Mediasas: Media Ilmu Syari'ah Dan Ahwal Al-Syakhsiyyah*. Vol 8, No. 3, pp. 541-548. https://doi.org/10.58824/mediasas.v8i3.413.

Sanawati, C. K., Putri, R. S. (2025). Sustainable Development through Green Economy from the Perspective of Maqashid Syariah. *Journal of Economics, Law, and Humanities*. Vol. 4, No. 1, pp.113-122. https://doi.org/10.21154/jelhum.v4i1.4656.

Schroeder, P., Anggraeni, K., Weber, U. (2019), The Relevance of Circular Economy Practices to the Sustainable Development Goals. *Journal of Industrial Ecology*. Vol. 23, pp. 77-95. https://doi.org/10.1111/jiec.12732.

Zustika, A. F. (2025). Opportunities and Challenges of Indonesia's Halal Industry: A Qualitative Analysis. Journal of Social Philantrophy and Halal Research. Vol. 2, No. 1, pp. 30-38. https://journal.unesa.ac.id/index.php/jsphr/article/view/45418.