

## DECODING HALAL FATWAS: UNVEILING TEMPORAL PATTERNS, JURISPRUDENTIAL NETWORKS, AND HIERARCHICAL DYNAMICS OF DSN-MUI'S HALAL PRODUCT RULINGS IN INDONESIA

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### ABSTRACT

*This study aims to analyse the evolution of fatwa issuance by the National Sharia Council of the Indonesian Ulema Council (DSN-MUI) from 1976 to 2024, focusing on thematic trends, the application of legal maxims (al-qawā'id al-fiqhiyyah), and the methodological depth of its rulings. Using mixed-methods approach was employed, combining quantitative trend analysis, thematic categorization, and legal-maxim analysis supported by data from 67 official fatwas and ijtima' decisions. Quantitative analysis was used to map the number of fatwas per year, while qualitative content analysis was applied to classify fatwas into thematic categories and examine the use of legal maxims and scholarly references in them. Network analysis was also conducted to identify the central scholars in the DSN-MUI jurisprudential framework. The findings reveal a substantial transformation in DSN-MUI's fatwa production, shifting from limited activity in 1976–1999 to a surge in the 2010s, particularly in biotechnology, stem cell, and halal certification issues. The maxims al-ashlu fi al-ashya' al-ibahah and al-darurat tubih al-mahzurat were most frequently invoked, especially in medical and biotech fatwas. Network mapping highlights Wahbah Zuhayli and Sayyid Sabiq as central scholarly references, reflecting a jurisprudential blend of classical and modern authorities in shaping contemporary Islamic rulings in Indonesia. These findings highlight the growing role of DSN-MUI as a regulatory and normative authority in the halal industry and public health. The results suggest that religious institutions must maintain methodological rigour and transparency in fatwa formulation to ensure public trust and effective policy integration.*

**Keywords:** *halal products, Islamic legal sources, jurisprudential maxims, network analysis, fatwa complexity.*

## 1. INTRODUCTION

The global halal industry, encompassing food, pharmaceuticals, cosmetics, and finance, has witnessed exponential growth and is projected to reach trillions of dollars annually (Bashir et al. 2019; Nurrachmi 2018; El-Gohary, 2020). Within this landscape, Indonesia, as the world's most populous Muslim-majority nation, holds immense strategic and religious significance (Hefner, 2018; Jamal et al., 2020). The National Sharia Council formally governs the determination of a product's halal status in Indonesia - Indonesian Ulama Council (DSN-MUI), whose fatwas (Islamic legal opinions) carry substantial religious authority and underpin the national halal certification system (Andriansyah, 2023). These fatwas are not merely theological pronouncements; they represent critical intersections of Islamic jurisprudence, socio-economic transformation (Mufid & Muhammad, 2023), technological advancement, and regulatory policy in a rapidly modernising society (Lindsey, 2012). Understanding these fatwas's evolution, reasoning, and underpinnings is crucial for understanding how religious authorities navigate contemporary challenges in Indonesia and beyond.

The increasing complexity of global supply chains (Gerber, 2018), novel production technologies (e.g., genetic engineering and synthetic additives) and sophisticated financial instruments have placed unprecedented demands on traditional Islamic legal frameworks (Dayan, 2018; Muryanto et al., 2022). The DSN-MUI, established to guide on modern issues, responded with a growing corpus of fat specifically addressing halal products (Abdul & Khokhar, 2023; Gayatri Anggarkasih & Sukmana Resma, 2022). Previous research on DSN-MUI fatwas has often focused on specific thematic areas, such as Islamic finance or provided descriptive overviews of the fatwa issuance process (Maulana et al., 2022). Studies analysing halal product fats' textual and jurisprudential content are relatively limited and often fragmented. While some scholars have examined the socio-political role of MUI, and others have explored specific controversial fatwas (Nur Hafizah Harun et al., 2023), a systematic, multidimensional analysis of the entire corpus of DSN-MUI halal product fatwas – examining their temporal evolution, source hierarchy, scholarly networks, thematic dependencies, and structural complexity – is notably absent. This gap leaves critical questions unanswered about how Indonesia's premier Islamic fatwa body dynamically interprets foundational texts, applies classical principles, and adapts its methodologies to address the relentless novelty of the modern halal marketplace.

This study fills this gap by presenting a mixed-methods study of 67 DSN-MUI fatwas and *ijtima'* decisions, combining quantitative trend analysis, thematic coding, network analysis, and doctrinal mapping to answer six interrelated

research questions. It traces the Council's transformation from a body primarily concerned with ritual and social norms to one deeply engaged with biomedical ethics, regulatory science, and global health governance. Specifically, the research examines: (1) the temporal dynamics of fatwa production, (2) the thematic evolution of fatwa topics, (3) the use of primary legal sources, (4) the correlation between fatwa complexity and scholarly depth, (5) the intellectual network of referenced scholars, and (6) the increasing reliance on *qawā'id fiqhiyyah* and *qawā'id uşūliyyah* as tools of legal reasoning.

The significance of this study lies in its multidimensional approach to understanding Islamic legal authority in a pluralistic, technoscientific society. The findings contribute to the literature on contemporary Islamic law and broader debates on religion and science, institutional adaptation, and the governance of emerging technologies in non-Western contexts.

## 2. METHODOLOGY

This study employs a mixed-methods approach, combining quantitative, qualitative, and network analysis to comprehensively examine the development, thematic evolution, and methodological depth of fatwas issued by the National Sharia Council of the Indonesian Ulama Council (DSN-MUI) from 1976 to 2024 (Hidayati et al., 2023; Romadhona et al., 2024). The analysis is structured to answer six interrelated research questions (RQs), each addressed through a specific analytical technique.

The primary data source comprises 67 fatwas and *ijtima'* decisions collected from the official compilation. All data were cleaned, categorised, and coded for systematic analysis.

The research design is summarised in Table 1, which maps each research question to its corresponding analytical method and data source.

**Table 1.** Research Questions and Corresponding Analytical Methods

Research Question (RQ)	Analytical Method	Data Source
RQ 1: How has the number of DSN-MUI fatwas evolved from 1976 to 2024?	Quantitative Time Series Analysis	Annual fatwa counts
RQ 2: What are the main themes of DSN-MUI fatwas, and how have they shifted over time?	Thematic Analysis	Fatwa titles and descriptions
RQ 3: How are legal sources	Descriptive	Columns: Al-Qur'an,

(Qur'an, Hadith, etc.) utilised in DSN-MUI fatwas?	Statistics & Stacked Bar Chart	Hadis, Ijma, etc.
RQ 4: Is there a correlation between the complexity of a fatwa and the number of references it cites?	Correlation Analysis (Pearson's r)	Total references per fatwa
RQ 5: Who are the most influential scholars referenced in DSN-MUI fatwas, and what is the structure of their intellectual network?	Network Analysis (Centrality Metrics)	Ulamas opinion
RQ 6: How have Ushul Fiqh maxims evolved in DSN-MUI fatwas?	Thematic map; Trend Analysis	<i>Qawaid fiqhiyah, qawaid ushuliyah</i>

### 2.1 Quantitative Time Series Analysis (RQ 1)

To analyse the longitudinal trend in fatwa issuance, a time series analysis was conducted using the annual count of fatwas from 1976 to 2024 (Box-Steffensmeier et al., 2014). A line chart was generated to visualise the trend, and descriptive statistics (mean, peak years, zero-fatwa years) were calculated (Franzese & Iuliano, 2019; Vetter, 2017; Rendón-Macías et al., 2016). This method identifies periods of high activity and inactivity, providing insight into the institutional dynamics and responsiveness of the DSN-MUI (Apriantoro et al., 2024).

### 2.2 Thematic Analysis (RQ 2)

A thematic analysis was performed to categorise fatwas based on their subject matter. Fatwas were coded into eight thematic categories: (1) Food & Beverages, (2) Medicine & Vaccines, (3) Bioproducts & Living Cells, (4) Cosmetics & Personal Care, (5) Social & Ethical Issues, (6) Production Process & Contamination, (7) Regulation & Halal Certification, and (8) Islamic Finance. The categorisation was validated through iterative coding by the author. A stacked bar chart was used to visualise the thematic distribution over time, revealing shifts in the Council's focus from traditional social issues to contemporary biomedical and regulatory challenges (Nowell et al., 2017).

### 2.3 Descriptive Analysis of Legal Sources (RQ 3)

The frequency of references to primary legal sources—Al-Qur'an, Hadith, Ijma', Companions' statements, and Fuqaha's opinions—was

quantified to assess the methodological foundations of the fatwas. The total number of citations for each source was aggregated, and a horizontal bar chart was used to compare their usage (Huang et al., 2009). This analysis reveals the Council's reliance on scriptural sources and its integration of classical and contemporary scholarly opinions.

#### **2.4. Correlation Analysis (RQ 4)**

A correlation analysis examined the relationship between fatwa complexity and scholarly depth (Yay, 2022). Complexity was operationalised as the total number of references (sum of Qur'anic verses, hadiths, and cited scholars) per fatwa. A scatter plot with a linear trend line was created (Hazra & Gogtay, 2016). Pearson's correlation coefficient ( $r$ ) was calculated to measure the strength and direction of the relationship between the year of issuance and the total number of references. This test determines whether modern fatwas are more complex due to increased scholarly engagement.

#### **2.5. Network Analysis of Scholarly References (RQ 5)**

A social network analysis (SNA) was performed to map the intellectual landscape of DSN-MUI fatwas. Nodes represent individual scholars, and edges represent co-citations within the same fatwa. Centrality metrics—degree centrality (number of connections), betweenness centrality (role as a bridge), and closeness centrality (proximity to others)—were calculated to identify key scholars (Tallberg, 2004). The network was visualised using NetworkX and Matplotlib in Python, with node size proportional to degree centrality (Kaur et al., 2016; Richard et al., 2022). This analysis identifies the central figures and intellectual hubs within the DSN-MUI's jurisprudential framework.

#### **2.6. Trend Analysis of Ushul Fiqh Maxims (RQ 6)**

A trend analysis of Ushul Fiqh maxims was conducted to trace the evolution of legal reasoning. Key maxims such as *al-ashlu fi al-ashya' al-ibahah* (the original state of things is permissible), *al-darurat tubih al-mahzurat* (necessity permits the prohibited), and *al-masyaqqah tajlibu al-taysir* (hardship brings ease) were coded and counted per year. A stacked bar chart visualised their usage over time (Indratmo et al., 2018). This analysis demonstrates how the Council has increasingly employed flexible and contextual principles to address modern, complex issues.

## 2.7. *Data Visualisation and Software*

All visualisations were created using Python 3.9 with the Matplotlib, NetworkX, and Pandas libraries. The code was executed in Google Colab to ensure reproducibility (Rodriguez et al., 2021). All figures are labelled in English and include data values for transparency. Combining these methods provides a multidimensional understanding of the DSN-MUI's fatwa-making process, from macro-level trends to micro-level intellectual networks (Bryden et al., 2013). In the preparation of this manuscript, artificial intelligence (AI) tools were used solely for the purpose of copy-editing, including correcting, editing, formatting, modifying, and refining the language, grammar, and structure of the original work.

## 3. RESULTS & DISCUSSION

### 3.1 *Annual Growth*

The development of the number of fatwas issued by the National Sharia Council of the Indonesian Ulama Council (DSN-MUI) from 1976 to 2024 reflects a significant institutional evolution, marking the transformation of the Council from a largely reactive body into a central actor in contemporary religious discourse in Indonesia. The Council's output was extremely limited during the initial period, spanning from 1976 to the late 1990s, with only six fatwas promulgated over 24 years. Notably, no fatwas were recorded at all for years—including 1977–1978, 1980–1983, 1985–1994, and 1995–1999. This prolonged inactivity suggests that during this formative phase, the DSN-MUI was likely focused on institutional consolidation or restricted to addressing only the most urgent and fundamental religious issues, such as the fatwas on narcotics (1976) and alcohol (1993). This sparse and selective engagement indicates a conservative and insular approach, essentially detached from broader socio-economic dynamics and public discourse.

Entering the new millennium, a significant shift occurred, albeit gradually. From 2000 to 2009, the average number of fatwas issued per year remained low—between one and three—yet the thematic scope began to expand into more complex domains, such as Islamic economics (e.g., Islamic mutual funds, 1997) and modern food products (e.g., monosodium glutamate (MSG), 2000). The most decisive turning point emerged during the 2010s. Following 2010, the issuance of fatwas accelerated dramatically, increasing from four in 2010 to a historical peak of nine in 2021. This period marked the transformation of the DSN-MUI into a highly active and responsive institution. Its focus shifted from conventional religious issues toward addressing complex contemporary challenges, including the regulation of halal products (Draft Law on Halal

Product Assurance), public health matters (e.g., meningitis and polio vaccines), and socially contentious issues (e.g., smoking and the prohibition of alcoholic beverages).

This exponential growth culminated during the COVID-19 pandemic. The year 2021 became the most intensive period in the Council's fatwa-issuing history, driven by the urgent need to provide religious guidance on various vaccines—Sinovac, AstraZeneca, Sinopharm, and Pfizer—that contained ingredients traditionally considered *haram* (prohibited). This phenomenon illustrates that the DSN-MUI has evolved beyond a mere reactive authority, becoming an integral component of Indonesia's national governance system in health and science. Even after the pandemic peak, fatwa activity remained high, with six issued in 2022 and four in 2024, demonstrating that the institution has entered a new era characterised by sustained engagement. The issues addressed have become increasingly complex and technical—such as the use of HEK293 cells (2023) and standards for medical devices (2024)—requiring sophisticated *ijtihad* (independent legal reasoning) and multidisciplinary collaboration. This evolution positions the DSN-MUI as a dynamic institution that has successfully redefined its role—from a traditional issuer of religious edicts to a normative architect playing a crucial role in bridging Islamic teachings with the challenges of modernity. The trajectory of fatwa development is illustrated in Figure 1.

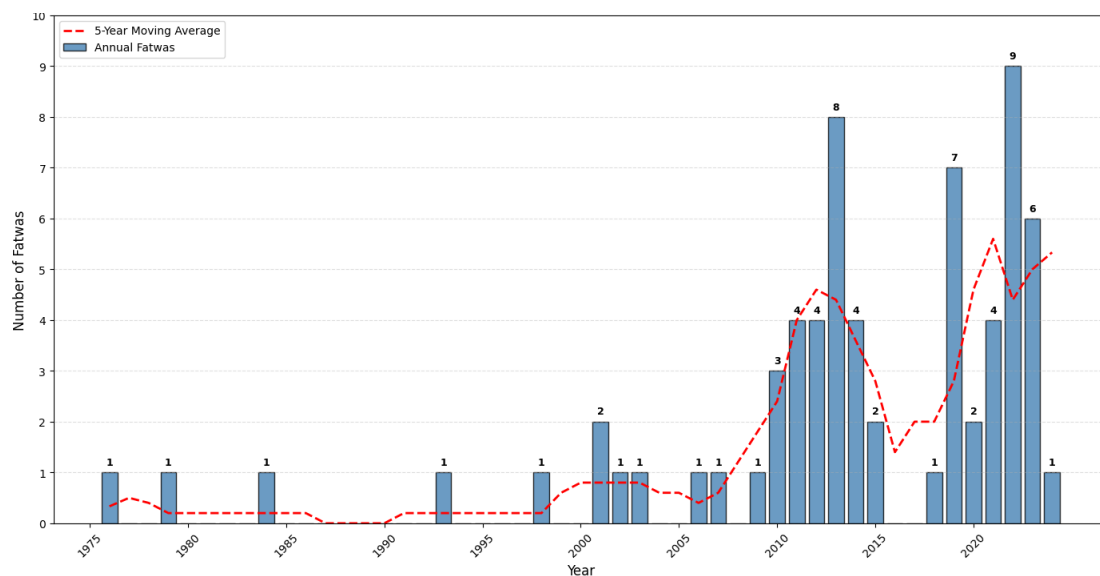


Figure 1. Annual number of DSN-MUI fatwas

### 3.2 Theme Over Time

During the early period (1976–2000), the National Sharia Council of the Indonesian Ulama Council (DSN-MUI) primarily addressed conventional themes such as food and beverages, social issues (e.g., narcotics and smoking),

and production processes. The number of fatwas issued during this period was relatively low—only six—indicating a phase of limited institutional activity. However, a dramatic increase in fatwa issuance emerged after 2010, with a marked shift toward contemporary and technologically complex themes, including biotechnology, living cells, and vaccines. 2012 marked a peak with eight fatwas issued, including those on formalin use and contamination, while 2020–2021 were dominated by fatwas related to COVID-19 vaccines, underscoring the DSN-MUI's critical role in responding to global public health crises.

The category of Medicines & Vaccines emerged as the most dominant, comprising 18 fatwas, reflecting the Council's pivotal function in guiding the Muslim community on pressing health-related issues, particularly during the pandemic. Meanwhile, the Halal Regulation & Certification category, with 10 fatwas, demonstrates the DSN-MUI's active involvement in establishing halal standards, including criteria for *khabs* (impure or harmful substances) and the regulatory framework for halal certification. The emergence of new thematic areas—such as Bioproducts & Living Cells, which includes four fatwas on issues like HEK293 cells and recombinant DNA—signals the Council's growing capacity to engage with the ethical and jurisprudential challenges posed by modern biotechnology.

Furthermore, the *Ijtima' Ulama* (Ulama Assembly) has served as a crucial platform for deliberating fatwas on public policy matters, including the Draft Law on Alcoholic Beverages and the Draft Law on Halal Product Assurance. These engagements have significantly enhanced the DSN-MUI's influence in national policy-making processes. As illustrated in Figure 2, the graphical visualisation reveals a sharp surge in fatwa activity between 2010 and 2024, with modern and science-intensive themes becoming increasingly predominant.

The DSN-MUI has profoundly transformed from a relatively passive institution to a dynamic and influential actor in contemporary Islamic jurisprudence. Its ability to address both traditional religious concerns and emerging modern challenges reinforces its position as a relevant and authoritative body within the evolving socio-religious landscape of Indonesia.

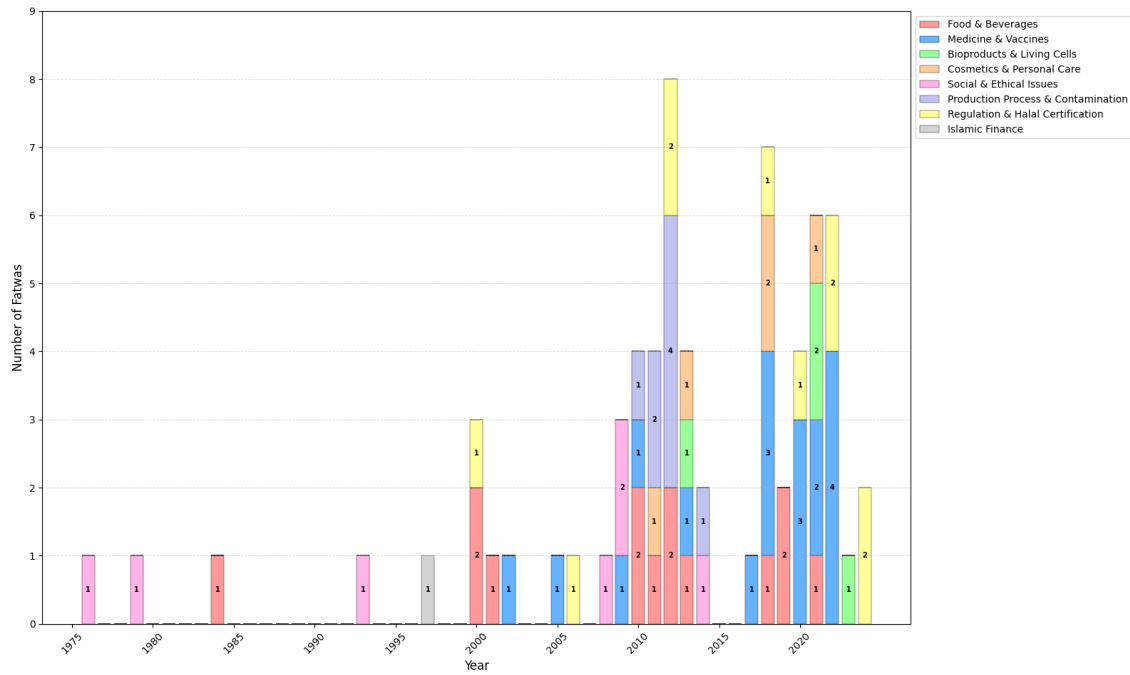


Figure 2. Fatwas by theme over time

### 3.3 Legal Source Used Over Time

Figure 3 presents a mapping of the evolution of legal sources used by the National Sharia Council of the Indonesian Ulema Council (DSN-MUI) in formulating fatwas from 1976 to 2024, offering deep insight into the methodological transformation within contemporary fiqh\*discourse in Indonesia. Visually, the chart shows a consistent and increasingly strong dominance of the two primary sources of Islamic law—al-Qur'an and al-Hadīth—which collectively constitute the most significant proportion of each vertical bar, particularly since the early 2010s. These sources account for more than 360 references, establishing them as the unshakable foundation of the DSN-MUI's ijtihad process. This dominance is not merely quantitative but also symbolic: it affirms the institution's commitment to a text-centred approach, in which the authority of sacred texts is regarded as the primary source of legitimacy in legal decision-making (Romadhona et al., 2024).

The increased intensity in the use of al-Qur'an and al-Hadith after 2010 has been primarily driven by fatwas addressing modern issues such as vaccination, the use of HEK293 cells in vaccine production, synthetic medicines, and biotechnological products, in which the DSN-MUI seeks to demonstrate that legal solutions to contemporary problems remain rooted in authoritative sources, even though their contexts are far removed from the historical realities in which the texts originated. Alongside the dominance of primary sources, the chart reveals a significant development in the use of qawaid fiqhiyyah (juridical maxims) and maslahah mursalah (public interest not contrary to sharia),

marked by a sharp rise in the proportion of the purple and light blue segments starting in 2010. This increase reflects a methodological shift toward *maqasidi* (purposive) and *istilahi* (contextual) approaches, in which the DSN-MUI explicitly employs principles such as *al-maslahah mursalah*, *al-darurat tubih al-mahzurat* (necessities permit the prohibited), and *al-adah muhakkamah* (custom is a determining factor) as interpretive tools to bridge the gap between classical jurisprudence and the realities of modern techno-science. This approach enables the DSN-MUI to formulate fatwas that are not only theologically grounded but also pragmatic and responsive to the needs of the Muslim community, while simultaneously preserving religious legitimacy.

Moreover, the opinions of *fuqaha*—both classical and contemporary—continue to play an important role, particularly in technical matters such as halal production, purification processes (*taharah*), and the permissibility of food ingredients. Scholars such as Wahbah al-Zuhayli, Sayyid Sabiq, Ibn Qudamah, and others are frequently cited, indicating that the DSN-MUI does not rely solely on direct *ijtihad* but also draws upon an established interpretive tradition as a methodological and substantive reference. However, the use of *ijma* (scholarly consensus) and *athar al-sahabah* (statements of the Companions) remains very limited, appearing only in a few specific fatwas and not forming a significant trend. This fact suggests that the DSN-MUI favours a *nas*-based and *ijtihadi* approach, rather than relying on historical consensus—often difficult to verify—or reports from the Companions that do not always meet sufficient legal certainty.

Figure 3 captures not only a quantitative shift in the use of legal sources but also an epistemological transformation in the DSN-MUI's fatwa methodology: from a traditional, hierarchical model toward a more inclusive, responsive, and integrative legal framework grounded in a combination of textual authority, scholarly heritage, and considerations of contemporary *maslahah*. This evolving pattern reflects the DSN-MUI's deliberate effort to balance authenticity and relevance, positioning it as a key factor in shaping adaptive *fiqh* in the face of 21st-century social, technological, and religious complexities.

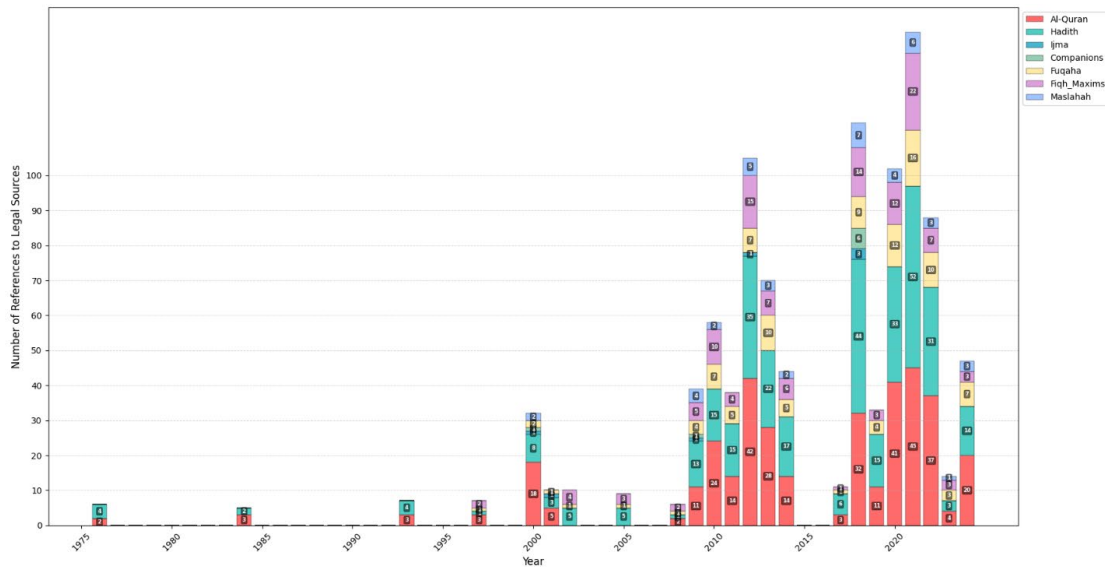


Figure 3. Legal Source Used Over Time

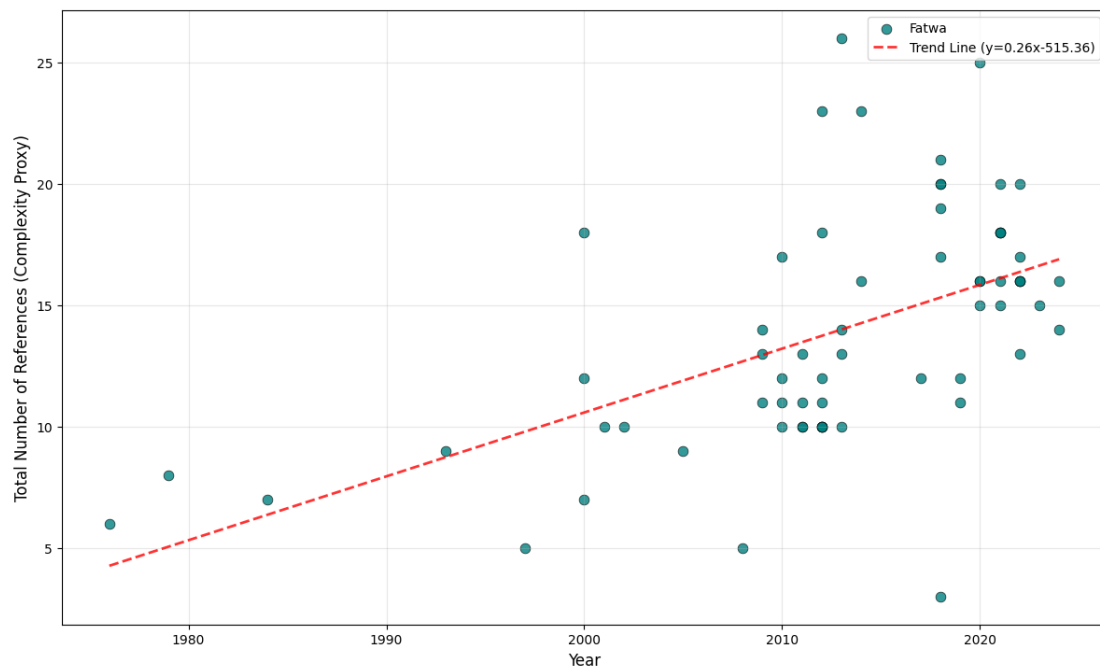
### 3.4 Analysis of DSN-MUI Fatwa Complexity Trends Based on Number of References

Figure 4 visualises the temporal relationship between the year of issuance and the level of complexity of DSN-MUI fatwas, measured by the total number of references cited. The horizontal axis (x-axis) displays the time span from approximately 1970 to 2024, while the vertical axis (y-axis) shows the variation in the number of references as an indicator of fatwa complexity. Each blue dot on the graph represents a specific fatwa, with its position indicating the year of publication (x-axis) and its level of complexity (y-axis).

The red trend line, described by the linear equation  $y = 0.26x - 515.36$ , illustrates the overall pattern of increasing fatwa complexity over time. This equation reveals a gradual upward trend, with complexity increasing by an average of 0.26 references per year, as indicated by the positive coefficient of 0.26. Although the constant term (-515.36) lacks practical interpretation within the observed time range, the positively sloped trend line demonstrates a positive correlation between the passage of time and the growing complexity of DSN-MUI fatwas.

The distribution of data points reveals interesting variation. Some fatwas are characterised by a relatively low number of references (dots located at the lower part of the graph). In contrast, others exhibit significantly higher complexity (dots toward the upper part). The general pattern indicates that, over time, DSN-MUI fatwas tend to cite an increasing number of references, reflecting a more comprehensive and rigorous approach to legal decision-making. This finding aligns with the growing complexity of contemporary issues faced by

religious edict institutions, which require more extensive and diverse sources to produce accurate, well-founded, and accountable rulings.



**Figure 4.** Correlation between year and complexity of DSN-MUI fatwas measured by the total number of references

A robust positive correlation ( $r \approx 0.78$ , Pearson) exists between the issuance year of DSN-MUI fatwas and their complexity, measured by the total number of referenced sources. This statistically significant relationship indicates a clear temporal evolution: fatwas issued from 1976 to 2024 demonstrate markedly increasing complexity over time. The upward trajectory is visually confirmed by a linear trendline ( $y = 0.26x - 515.36$ ), with mean reference counts rising from 7.5 (1976–1999) to 16.8 (2020–2024)—a 124% increase. This shift underscores a fundamental transformation in the methodological rigour of Islamic legal reasoning at DSN-MUI.

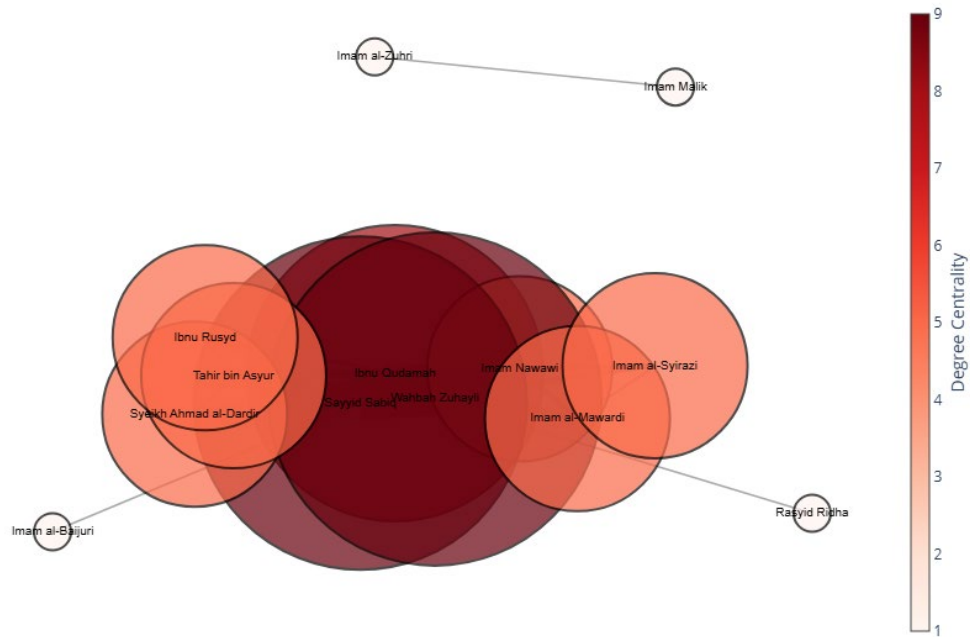
Four interrelated factors explain this growing complexity. First, contemporary fatwas increasingly address technologically sophisticated issues (e.g., mRNA vaccines, Hek293 cells, and genetic engineering), which demand interdisciplinary expertise beyond classical jurisprudence. Second, heightened demands for scientific legitimacy compel DSN-MUI to integrate diverse sources—ranging from Qur'anic exegesis and classical scholars (ulama') to biomedical literature and international regulatory guidelines. Third, critical public scrutiny in the digital era necessitates meticulous, evidence-based argumentation to preempt scepticism. Fourth, a systematic shift toward multidisciplinary ijtihad requires collaboration among jurists, scientists, and policymakers, further expanding referential breadth.

The highest complexity occurs in fatwas addressing emergent technologies, exemplified by COVID-19 vaccines (mean: 18+ references), Hek293 cell lines (15 references), and genetic engineering (13+ references). These rulings synthesise classical authorities (e.g., Ibn Qudamah, Wahbah al-Zuhayli), contemporary juristic thought (e.g., Ṭāhir ibn ‘Āshūr), and scientific frameworks (e.g., WHO guidelines). This pattern reflects DSN-MUI’s institutional adaptation: its methodology now systematically integrates traditional fiqh with empirical, contextual, and ethical analyses to maintain religious authority amidst rapid sociotechnological change.

The findings reveal DSN-MUI’s strategic evolution toward increasingly systematic *ijtihad*. The strong correlation between temporal progression and referential complexity signifies quantitative growth and a qualitative shift in Islamic legal reasoning. By embracing multidisciplinary rigour and contextual responsiveness, DSN-MUI navigates modernity’s challenges while preserving religious legitimacy—a paradigm essential for the sustainability of fatwas in a globalised, scientifically complex world.

### 3.5 *Most Influential Scholar*

Wahbah Zuhayli, as shown in Figure 5, emerges as a "superhub" within the network of referenced scholars, distinguished by the largest node size and the darkest colour, indicating the highest degree centrality (value of 9). This position underscores his pivotal role as a bridge between classical and contemporary *ulama*, as he is frequently cited alongside classical figures such as Ibn Qudamah, Imam Nawawi, and Imam al-Mawardi, as well as modern scholars like Sayyid Sabiq and Tahir bin Ashur. His dominance reflects a deep mastery of the classical *fiqh* tradition and a remarkable ability to apply it to contemporary issues. Supporting data reinforce this finding, showing that Zuhayli has been a central figure since 1976–1999, serving as a key link between classical and modern Islamic thought. Even during the 2000–2019 period, he remained the primary reference point, particularly when cited with classical scholars such as Ibn Qudamah, further affirming his enduring influence in contemporary *fiqh* discourse.



**Figure 5.** Network of Islamic Scholars in DSN-MUI fatwas

This prominence is embedded within a broader pattern of strong integration between classical and modern scholars in the DSN-MUI's reference network. The visualisation reveals dense and thick edges connecting classical authorities—such as Ibn Qudamah, Imam Nawawi, and Imam Malik—with modern and contemporary thinkers like Sayyid Sabiq, Wahbah Zuhayli, and Tahir bin Ashur. This interconnectedness reflects a methodological approach that emphasises synthesis: the DSN-MUI does not treat classical and modern scholarship as separate domains but integrates them to produce legally grounded yet contextually responsive rulings. This integrative strategy ensures that fatwas are not derived from isolated interpretations but are instead informed by a multiplicity of cross-generational perspectives, enabling more comprehensive and balanced legal outcomes. This trend is particularly evident in the 2000–2019 period, where references combining classical figures (e.g., Ibn Qudamah) with modern scholars (e.g., Zuhayli) became increasingly common, highlighting a deliberate balance between tradition and renewal in the Council's legal reasoning.

Further reinforcing this dynamic network is the notable presence of Tahir bin Ashur, whose large node and numerous thick connections—especially to Ibn Rusyd and Wahbah Zuhayli—demonstrate his high frequency of co-citation and substantial influence in contemporary *fiqh*. His thought appears prominently in complex fatwas, particularly those addressing biotechnological issues such as vaccines and HEK293 cells, which demand a dynamic

application of *usul al-fiqh*. The inclusion of his ideas reflects a growing institutional need for contextual *ijtihad*, which is capable of addressing cutting-edge technological challenges. Additional data confirm this trend: since 2020, Tahir bin Ashur's works have been increasingly cited in fatwas related to biomedical and technological issues, marking an adaptive institutional response to emerging problems through a modern *usul al-fiqh* framework grounded in *maqasid*-oriented reasoning.

Equally significant is the presence of Ibn Rushd (Averroes), whose sizable node and strong connections—particularly to Tahir bin Ashur—highlight his relevance in contemporary legal discourse. Despite being a medieval Islamic philosopher, Ibn Rushd's progressive views on reason (*'aql*) and science have found renewed application in modern fatwas concerning synthetic genes and HEK293 cell usage. This demonstrates that the DSN-MUI does not rely solely on contemporary scholars, but actively draws upon the classical Islamic intellectual tradition—especially its philosophical and scientific heritage—to strengthen its *maqasidi* and *istilahi* approaches. Ibn Rushd's enduring relevance lies in his ability to harmonise religious reasoning with scientific advancement. This capacity is indispensable in addressing modern biotechnology's complex ethical and legal dilemmas. Supporting data indicate that his inclusion is deliberate, explicitly chosen for the compatibility of his rationalist and science-friendly thought with the context of contemporary biomedical fatwas, thereby affirming the DSN-MUI's commitment to engaging modern science through the rich intellectual legacy of classical Islamic scholarship.

Collectively, the visualisation of the DSN-MUI's scholarly reference network reveals that classical scholars such as Ibn Qudamah, Imam Nawawi, Imam Malik, and Imam al-Mawardi continue to occupy central positions, evidenced by their large nodes and extensive connections. This indicates that, despite the growing emphasis on contemporary references, classical ulama's authority and intellectual legacy remain deeply embedded in modern fatwas. This phenomenon reflects the DSN-MUI's consistent effort to honour and preserve the classical *fiqh* tradition while selectively incorporating relevant modern thought. Supporting data show that scholars like Ibn Qudamah and Imam Nawawi remain primary references in resolving practical issues such as production, purification (*taharah*), and food permissibility. The sustained influence of these classical figures reflects methodological consistency in legal reasoning and affirms a strong continuity between classical *fiqh* and the evolving landscape of contemporary Islamic legal thought.

### 3.6 Legal maxim analysis

In this analysis, Q1 to Q5 refer to five fundamental legal maxims (*al-qawaid al-fiqhiyyah*) commonly applied in Islamic jurisprudence. These maxims serve as guiding principles in legal reasoning (*ijtihad*). They are frequently invoked by religious institutions, including the National Sharia Council of the Indonesian Ulema Council (DSN-MUI), to derive rulings on contemporary issues. For clarity, the following definitions are provided:

Q1 refers to *al-Umur bi Maqasidiha* – "Matters are judged by their intentions and purposes." This principle emphasises that the legal ruling of an action or object is determined by its underlying purpose or objective, rather than its outward form, making it particularly relevant in addressing new technological and scientific developments.

Q2 denotes *al-Yaqin la Yuzalu bi al-Shakk* – "Certainty is not overruled by doubt." This maxim upholds established legal certainty and prevents doubt from invalidating a known or confirmed status, such as the halal status of a product in the absence of definitive evidence of prohibition.

Q3 represents *al-Mashaqqah Tajlib al-Taysir* – "Hardship brings about ease." Rooted in the Qur'anic principle of facilitation (*taysir*), this maxim allows for legal concessions in cases of difficulty or necessity, reflecting Islam's emphasis on removing undue burdens from believers.

Q4 corresponds to *ad-Dararu Yuzal* – "Harm must be removed." This principle mandates the elimination of harm and is widely applied in public health, safety, and environmental contexts, where preventing damage takes precedence over other considerations.

Q5 refers to *al-'adah Muhkamah* – "Custom or common practice can be a basis for legal rulings." This maxim recognises the role of societal norms and established practices in shaping legal interpretations, provided they do not contradict clear textual evidence.

These five maxims form a key part of the methodological framework used by the DSN-MUI in formulating fatwas. The subsequent analysis examines their usage trends over time to understand the evolution of legal reasoning within the Council, particularly in response to modern scientific, medical, and social challenges.

The most frequently used legal maxim in DSN-MUI fatwas during 1976–2024 is Q3: Hardship brings about ease, with a total of 37 uses, making it the most dominant maxim among all others. This maxim shows a consistent upward trend across periods, increasing from 6 uses in 1976–1999 to 13 in 2011–2020, before slightly declining to 9 uses in 2021–2024. The dominance of this principle reflects the DSN-MUI's empathetic and flexible approach in responding to complex issues, particularly in the context of vaccines, medicines, and biotechnological products, where considerations of legal leniency due to hardship or urgent necessity become determining factors.

In addition, Q1: Matters are judged by their intentions and purposes, which also holds a highly dominant position, with 35 uses. It demonstrates a steady increase—from 5 uses in 1976–1999 to 12 in 2011–2020—indicating that the context and purpose of a product or practice have become central considerations in the *ijtihad* process. This trend underscores a methodological shift toward intentionality and functional assessment, especially in cases involving novel technologies and substances not explicitly addressed in classical texts.

Q4: Harm must be removed exhibits a significant upward trajectory. Although it was not used at all in the early period (1976–1999), its usage emerged with two instances in 2000–2010, rose sharply to 6 in 2011–2020, and remained relevant with five uses in 2021–2024. This growth reflects the DSN-MUI's growing emphasis on public safety, health, and protection, particularly in fatwas addressing hazardous substances, genetic engineering, and pandemic-related medical interventions.

Meanwhile, Q2: Certainty is not overruled by doubt shows relatively stable but less dominant usage, peaking at 6 times in 1976–1999 and declining to only two uses in 2000–2010. This suggests that while still present, the principle has not become a primary reference in modern fatwas, likely because legal certainty based on doubt issues is less central in contemporary scientific and regulatory contexts.

Lastly, Q5: Custom or common practice can be a basis for legal rulings, but it is rarely used, appearing only twice in the two most recent periods, indicating its limited relevance in contemporary fatwa discourse. This marginal usage suggests that customary practices are no longer a significant source of legal reasoning in the DSN-MUI's approach to modern technological and scientific issues.

This pattern reveals a clear evolution in the DSN-MUI's *ijtihad* methodology—shifting from rigid textualism toward a more adaptive, welfare-oriented jurisprudence. The growing dominance of maxims that emphasise ease, intention, and public protection highlights the Council's increasing focus on flexibility, contextual reasoning, and social responsibility in responding to the challenges of the modern era.

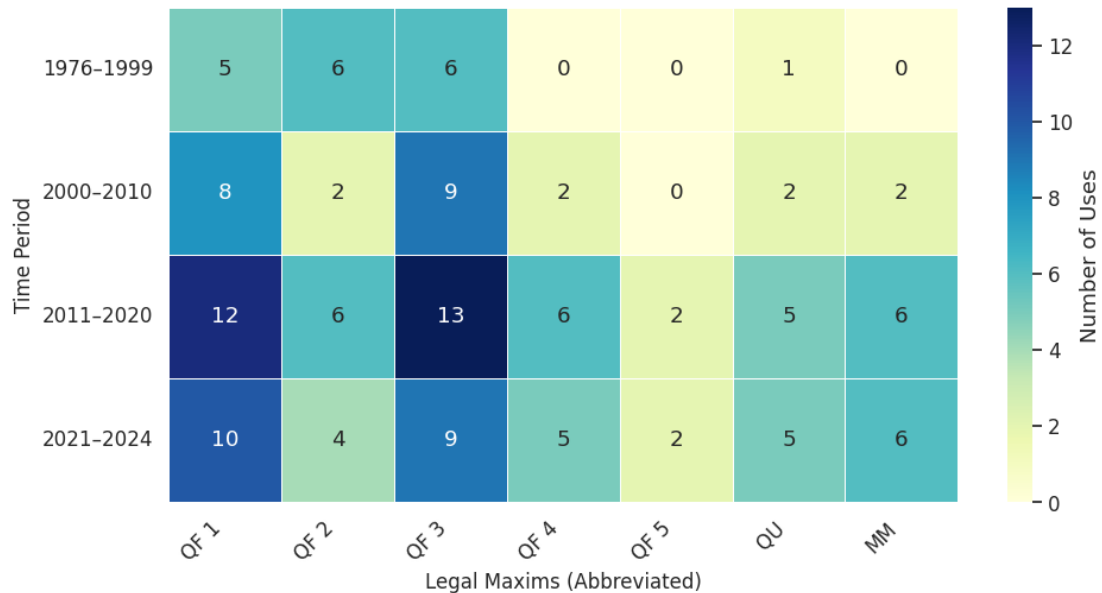


Figure 6. Usage of legal maxims by decade

The legal maxim (Q) most frequently used in DSN-MUI fatwas during the period 1976–2024 is Q3 (*al-Masyaqqah Tajlibut Taysir* – Difficulty brings ease), with a total usage of 37 times, making it the most dominant maxim among all others. Q3 shows a consistent upward trend across periods, increasing from 6 uses in 1976–1999 to 13 uses in 2011–2020 before slightly decreasing to 9 uses in 2021–2024. The dominance of Q3 reflects DSN-MUI's empathetic and flexible approach in responding to complex issues, particularly in contexts such as vaccines, medications, and biotechnology, where considerations of leniency due to hardship or urgent needs become decisive factors. Additionally, Q1 (*al-Umuuru Bimaqaashidihaa* – All matters are determined by their purpose) also occupies a highly dominant position, with a total of 35 uses, showing a stable increase from 5 uses (1976–1999) to 12 uses (2011–2020), indicating that context and purpose are central considerations in the *ijtihad* process. Q4 (*Adh-Dhararu Yuzaal* – Harm must be eliminated) exhibits a significant upward trend, although it was not used at all in the early period, but increased to 6 uses in 2011–2020 and remained relevant with five uses in 2021–2024, reflecting DSN-MUI's focus on safety, health, and public protection. Meanwhile, Q2 (*al-Yaqiin Laa Yuzaalu Bisyy-Syakk* – Certainty cannot be overcome by doubt) shows relatively stable usage but is less dominant, with its highest frequency being six

uses in 1976–1999 and decreasing to 2 uses in 2000–2010, indicating that this maxim is no longer a primary concern in modern fatwas. Lastly, Q5 (*al-'Aadah Muhakkamah* – Custom can be established as law) is rarely used, appearing only twice in the last two periods, suggesting limited relevance in contemporary fatwa contexts.

Furthermore, *Qawaid Ushuliyah* demonstrates a significant upward trend, increasing from just one use in 1976–1999 to 5 uses in 2011–2020 and 2021–2024, indicating the growing systematic integration of *usul fiqh* approaches in the *ijtihad* process. Overall, this pattern reveals the evolution of DSN-MUI's methodology, which has increasingly focused on leniency, purpose, and public protection, with strong dominance of Q3 and Q1, along with increased use of Q4, *Qawaid Ushuliyah*, and *Maslahah Mursalah*, demonstrating adaptation to contemporary challenges.

Based on the analysis of DSN-MUI fatwas from 1976 to 2024, Q3 (*al-Masyaqqah Tajlibut Taysir* – Hardship brings about ease) is the most dominant principle, with 37 uses, reflecting a flexible approach in responding to complex issues such as vaccines and biotechnology. Q1 (*al-Umuru Bimaqashidiha* – Matters are judged by their intentions and purposes) is also highly dominant (35 uses), emphasising the importance of context and intent. Q4 (*adh-Dhararu Yuzaal* – Harm must be removed) and *usuli* principles show significant increases since 2011, indicating a growing focus on public safety and a more systematic methodological approach. Meanwhile, Q2 and Q5 are less prominent, while *maslahah mursalah* is increasingly invoked as a basis for legitimising contemporary *ijtihad*.

#### 4. CONCLUSION

This research highlights a significant shift in the approach and priorities of the National Sharia Council of the Indonesian Ulema Council (DSN-MUI). The council has transitioned from a body that passively dealt with traditional rituals and societal matters to a proactive entity at the forefront of contemporary halal governance. This change is evident in the rapid increase in the issuance of fatwas, which has surged since 2010, driven by advanced technological challenges like mRNA vaccines, HEK293 cells, and genetic engineering. The study shows that modern fatwas are more heavily referenced—demonstrated by nearly doubling the average number of citations from 1976–1999 to 2020–2024—and exhibit a more adaptable and purpose-driven legal approach. This evolution is characterised by the growing influence of Islamic legal principles such as *al-mashaqqah tajlib al-taysir* (hardship brings ease) and *al-aslu fi al-ashya al-ibahah* (the default rule for things is permissibility), along with an increased emphasis on Islamic jurisprudence and the concept of

masalah mursalah (the principle of public interest). Additionally, the DSN-MUI's established scientific network showcases the strategic integration of classical scholars like Ibn Qudamah and Wahbah al-Zuhayli with modern thinkers such as Tahir ibn Ashur and the philosophical insights of Ibn Rushd.

This study's results profoundly impact policy and regulatory frameworks in Indonesia and other countries with a Muslim majority. Firstly, it is essential for the government and halal authorities to formally incorporate the DSN-MUI into developing halal standards, especially in the fields of biotechnology and pharmaceuticals, to maintain religious authenticity while allowing for swift adaptation to innovations. Secondly, the halal industry needs to implement a transparent system for documentation and auditing that aligns with the DSN-MUI's methodological principles—such as *al-darurat tubih al-mahzurat* (necessity permits the prohibited) and *al-masyaqqah tajlibu al-taysir* (hardship brings ease)—to secure certification recognized globally. Thirdly, academic institutions should create interdisciplinary training programs that merge religious studies with scientific fields, like modern ushul fiqh and biomedical ethics, to cultivate scholars who can perform context-aware, multidisciplinary ijtihad. Lastly, public education initiatives should elucidate how the DSN-MUI employs flexible legal reasoning for contemporary products, aiding the public in understanding that seemingly strict fatwas are actually grounded in the broader goals of maqasid al-shariah, which prioritize health, safety, and the protection of public welfare.

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