

## State Authority and Religious Contestation: Resistance to Governmental Decisions on Islamic Calendar Determination in Indonesia

Ahmad Adib Rofiuddin\*, Mahsun Mahsun, Arifana Nur Kholiq

Universitas Islam Negeri Walisongo Semarang, Indonesia

\*Correspondence: ✉ [adibudin08@walisongo.ac.id](mailto:adibudin08@walisongo.ac.id)

### Abstract

The dynamics surrounding the determination of the beginning of the Hijri calendar remain a persistent and relevant issue within the Indonesian Muslim community. One notable example is the public resistance that emerged in response to the government's decision regarding 1 Shawwal, which was perceived to neglect input from various stakeholders. This study aims to explore the forms of resistance and identify the underlying factors contributing to this phenomenon. Using a qualitative descriptive approach, data were collected from online news sources and other relevant materials, then categorized and analyzed. The findings reveal that resistance occurs not only at the organizational and group levels but also at the individual level. Furthermore, the study highlights that an individual's level of literacy and mastery of scientific knowledge significantly influences their understanding and acceptance of the calendar decision. By applying Social Representation Theory, this study offers a novel contribution to the literature by shifting the focus from legal-astronomical debates to the sociocultural meanings and identities that shape public responses. This perspective fills a gap in previous studies and provides a more holistic understanding of calendar-related conflicts. The study recommends a more extensive public education effort by the government, including the integration of related knowledge into formal school curricula, as a strategic investment for fostering greater social harmony in the future.

### Article History

Received: 08-11-2024

Revised: 02-07-2025

Accepted: 03-07-2025

### Keywords:

Government;  
Islamic Calendar;  
Religious Contestation;  
Resistance.



© 2025 Ahmad Adib Rofiuddin, Mahsun Mahsun, Arifana Nur Kholiq

This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

## INTRODUCTION

The government's method of deciding to determine the 1st Shawwal received a rejection response from several levels of society. Muhammadiyah, Indonesia's second-largest Islamic organization, refused to attend the session to determine the 1st Shawwal held by the government ([Kompas.com, 2012](#)). The government's attitude towards different groups is considered overreacting by Muhammadiyah, especially regarding the ban on Eid prayers in the district square ([Shafira, 2023](#)). The director of the CDCC, Muhammad Najib, also critiqued the 1 Shawwal determination model. According to him, it is time for 1 Shawwal to be determined in advance to provide certainty to the public. Furthermore, considering the results of a survey conducted by LSI (Indonesian Survey Institute) in 2013, 52.5% of 1200 respondents wanted the *Isbāt* session abolished ([Prasetia, 2013](#)). According to Azhari, the implementation of the *Isbāt* Session in determining the end of Ramadan should be evaluated. The government budget for implementing the *Isbāt* session should be diverted to more valuable things ([Azhari, 2020](#)).

In terms of significance, this study offers a critical contribution to the discourse on the determination of the Hijri calendar in Indonesia by incorporating the often-overlooked perspectives of the public. By addressing the sociological and psychological dimensions of community resistance toward the government's decision on 1 Shawwal, this research advances a more inclusive and participatory framework for religious governance. Its urgency lies in the recurring annual tensions surrounding Eid al-Fitr, which, if left unaddressed, risk deepening social fragmentation and eroding public trust in state religious institutions. Understanding the underlying causes of rejection

is therefore imperative for developing religious policies that are not only grounded in scientific and legal principles but also responsive to the lived experiences and expectations of the wider Muslim community.

Nowadays, studies on determining the beginning of the Hijri month look at four perspectives. Firstly, studies on the determination of the beginning of Shawwal tend to prioritize the Islamic Law perspective (Khoiri, 2017; Mufid, Zaiyadi, et al., 2020; Putri, 2012; Saifurrohman & Azzafi, 2020; Salam, 2008). Secondly, the study of the Islamic calendar shows a trend towards the unification of the Islamic calendar (Amri, 2016; Anwar, 2016; Azhari, 2015; Kurniawan, 2014; Ma'u, 2019; Saifurrohman & Azzafi, 2020). Subsequent studies focus on the development of the criteria for the height of the new moon in determining the beginning of the Hijri calendar month (Fadholi, 2019; Nursodik, 2018; Setyanto & Hamdani, 2015; Suhardiman, 2013; Zainon et al., 2019). Finally, studies on the Islamic calendar tend to explore the interrelationships between the Islamic calendar and local culture (Fauzi, 2019; Prawiro, 2014; Purwanto et al., 2018; Syam, 2021; Wijayanto & Soekarba, 2019). Based on the four trends above, the existing studies have yet to accommodate the community's perspective. The subjective reasons and motives of the people, especially in rejecting the determination of the beginning of the Islamic calendar month, have never been revealed. Knowledge of this perspective is significant for efforts to solve the problem of the Islamic calendar in Indonesia.

This paper aims to complement the shortcomings of previous studies that ignore the dimensions of community rejection in determining the early 1st of Shawwal in Indonesia. In particular, this paper reveals the subject's perspective in rejecting the policy of determining the beginning of the Hijri month in Indonesia. Accordingly, three questions can be asked: First, how did the rejection of the policy occur? Second, what factors cause rejection? Third, how to overcome public rejection of the policy of determining 1 Shawwal in Indonesia. Understanding the rejection process and underlying factors allows for formulating a pattern of relations and communication conducive to resolving the dynamics of determining the beginning of the Hijri month in Indonesia.

This study highlights an often-overlooked aspect in previous research: the community's subjective perspective on government policies related to the determination of the beginning of the Hijri months, particularly Eid al-Fitr. Most existing studies have primarily focused on the technical or methodological aspects of moon sighting, such as comparisons between *hisāb* (calculation) and *ru'yah* (observation) or discussions from astronomical and jurisprudential viewpoints (Holis et al., 2025; Marwadi, 2021; Mufid, Purwanto, et al., 2020; Mufid, Zaiyadi, et al., 2020; Nurkhanif, 2018; Rakhmadi & Hidayat, 2020; Saifurrohman & Azzafi, 2020; Zainon et al., 2019). However, public responses—whether acceptance or rejection—are also shaped by scientific literacy, social experience, and perceptions of transparency and inclusion in the decision-making process for religious observances (Aris, 2016; Azhari, 2006; Hanapi & Hassan, 2015; Izzuddin, 2015; Kasim et al., 2024; Ma'u, 2019; Öztürk, 2018; Purwanto et al., 2018; Ridwan, 2022; Rizalludin, 2018; Rofiuddin, 2019; Rofiuddin & Hakim, 2022). Based on the four trends above, the existing studies have yet to accommodate the community's perspective. The subjective reasons and motives of the people, especially in rejecting the determination of the beginning of the Islamic calendar month, have never been revealed. Knowledge of this perspective is significant for efforts to solve the problem of the Islamic calendar in Indonesia.

## METHODS

This study employs a qualitative descriptive approach to explore the resistance attitudes of religious communities in responding to state policies related to the determination of the beginning of 1 Shawwal. This approach enables an in-depth understanding of symbolic, social, and religious dynamics within the community, particularly in terms of representation, authority, and resistance. The data were primarily collected from online news media published in the weeks leading up to 1 Shawwal, which commonly report on reactions from individuals, religious organizations, and community groups. These media sources serve as a significant outlet for documenting discursive

and practical forms of resistance, especially during moments of religious contestation. The selection of sources was based on their relevance to the issue, the diversity of viewpoints represented, and their frequency of citation in public discourse. Data were analyzed using thematic analysis techniques, allowing authors to identify recurring patterns, meanings, and social narratives related to religious resistance and authority. Data coding was carried out inductively to capture emerging categories, and interpretation was guided by the conceptual framework rooted in social resistance and religious representation.

This study draws on several interrelated theoretical perspectives. *First*, the concept of resistance is understood as a societal reaction to perceived domination and injustice (Afrizal, 2019; Kim & Park, 2020; Wahyuni, 2018), influenced by socio-political shifts, cultural hegemony, and unequal power structures (Fringka, 2017; Satriani et al., 2018). Resistance may manifest through mass mobilization, legal action, or symbolic forms of protest (Alief Khahfi Fhatoni, Purwoko, 2016; Idayanti et al., 2020; Nafisa, 2020; Susanti, 2017), often rooted in distrust toward institutional change (Mokher et al., 2020; Rusmanto, 2021). *Second*, religious authority refers to the power and influence of religious figures or institutions in defining normative beliefs and practices (Akmaliah, 2020; Campbell, 2010; McBride, 2016). This authority may be visible, such as in state religious policies (Khamdan & Wiharyani, 2018; Yucel & Albayrak, 2021), or hidden, such as internal religious norms within organizations (Cloete, 2016; Eriksson et al., 2021; Frederick et al., 2016). *Third*, the study also considers the Islamic Hijri calendar, which is central to the debate. The dual methods of *hisāb* (calculation) and *ru'yah* (observation) are often at the center of disagreement among Indonesian Islamic groups such as Muhammadiyah and NU (Azhari, 2006; Maskufa, 2018; Qodim et al., 2019). Disputes in calendar-setting have implications for communal harmony and religious authority (Mufid, Zaiyadi, et al., 2020; Rakhmadi & Hidayat, 2020; Rofiuddin, 2019; Sulfinadia, 2014).

To interpret the public's understanding and reaction to the controversy surrounding the determination of 1 Shawwal, this study adopts Social Representation Theory (Jodelet, 1991; Moscovici, 1961). This theory provides a framework for analyzing how communities construct, share, and negotiate collective meanings about religious practices and authority. It emphasizes the dynamic process through which social groups make unfamiliar or complex issues more understandable by anchoring them in familiar cultural and ideological contexts. By applying this theory, the study seeks to uncover how resistance and acceptance are shaped through symbolic representations embedded in public discourse and community responses.

## RESULTS AND DISCUSSION

### Resistances from Individual and Groups in Islamic Calendar Determination

#### *Individual Resistances*

Various elements of society voiced resistance to the government's decision to determine 1 Shawwal. These responses can be classified into at least two major groups. First, individuals need an organizational background and are interested in the discourse. This view is at least more neutral, considering they have no political interest in the issue. The facts disclosed are more objective and independent. The next group came from individuals with specific organizational backgrounds. Their views tend to be subjective and politically motivated. The views of these two groups are at least evidence of the upsurge in opposition to the government's decision.

Table 1. Individual Resistances

Name	Reasons	Sources	Aspects
Denny JA	Irrelevant to Sciences	<a href="https://www.beritasatu.com/nasional/130799/sebut-umat-islam-indonesia-bodoh-denny-ja-didukung-">https://www.beritasatu.com/nasional/130799/sebut-umat-islam-indonesia-bodoh-denny-ja-didukung-</a>	Islam and Science Relaton
	Government inconsistency		Politics

Name	Reasons	Sources	Aspects
Susiknan Azhari	Ignoring the opposing party	muhammadiyah, <a href="https://uin-suka.ac.id/id/kolom/detail/45/sidang-isbat-di-tengah-wabah-corona">https://uin-suka.ac.id/id/kolom/detail/45/sidang-isbat-di-tengah-wabah-corona</a> <a href="https://nasional.okezone.com/read/2015/07/10/337/1179377/cegah-kontroversi-dpr-berharap-sidang-isbat-lebaran-tertutup">https://nasional.okezone.com/read/2015/07/10/337/1179377/cegah-kontroversi-dpr-berharap-sidang-isbat-lebaran-tertutup</a>	Politics
Saleh Daulay	Debatable	<a href="http://probolinggo-kota.muhammadiyah.or.id/pengumuman-145-detail-ulama-ahli-falak-nu-protes-hasil-isbat-pemerintah.html">http://probolinggo-kota.muhammadiyah.or.id/pengumuman-145-detail-ulama-ahli-falak-nu-protes-hasil-isbat-pemerintah.html</a>	Sociology
Misbahul Munir alfalaky	Unpopular calculating results		Ahistorical

As a political observer and writer, Denny JA believes that the government's *Isbāt* session is a form of public fooling. There are at least two reasons behind this opinion. The main reason expressed by Denny JA is that the *Isbāt* session is no longer relevant to the development of science. According to him, the development of modern science, especially astronomy, has led to exploration into outer space. Meanwhile, the movement of these celestial bodies can be predicted without having to make observations. The following reason is that the calendar published by the government has been determined on the 1st of Shawwal, so there is no need for a re-stipulation. Based on these two reasons, according to Denny JA, the determination of 1 Shawwal in Indonesia must be reviewed and adjusted to the latest scientific developments. The government should provide certainty ahead of time to avoid causing noise and confusion at the grassroots level ([Beritasatu.com](http://Beritasatu.com), 2013).

In contrast to Denny JA, Saleh Daulay gave a sociological reason. In Daulay's view, there are at least three reasons why the government's determining the beginning of the month needs to be reviewed. First, the open *Isbāt* session in the initial determination of 1 Shawwal, which the government held, caused a commotion among Indonesian Muslims. While waiting, sometimes worries arise in their minds about differences. The second reason is that this determination method leads to futile debates (courier debates) between individuals with different organizational backgrounds. Moreover, according to Daulay, this phenomenon is a form of scientific falsification. Based on these three reasons, according to Daulay, the implementation of the *Isbāt* session to determine 1 Shawwal must be revised and carried out in a closed manner as before the reform ([okezone.com](http://okezone.com), 2015).

The following individual rejection came from the NU astronomer Misbahul Munir, who has studied astronomy for decades and was one of the administrators of the central LFNU. There are two primary reasons why Munir rejected the government's early month determination. First, the government's determination of 1 Shawwal is no longer based on calculation theories written in classical astronomy books. According to him, the government has ignored at least ten classic books. The second reason is that by ignoring these books indirectly, the government abandoned the works of previous scholars who had a significant role in the progress of the study of astronomy in Indonesia. Based on these two reasons, Munir considered the government had forgotten history (ahistorical), which could be dangerous for scientific developments in the future.

The subsequent rejection came from Azhari, who gave two criticisms of the government's steps in setting the beginning of the Hijri month in Indonesia, especially 1 Shawwal. Azhari highlighted the steps taken by the government to ignore input and suggestions from various parties.

He considers the government to be ignorant of groups that oppose the government's methods. Furthermore, Azhari conveyed his focus to the Minister of Religion to prioritize scientific and *shar'i* aspects in making decisions related to this case. The spotlight on the neglect of other groups and suggestions for more consideration of aspects of science and *shar'i* should be the basis for the government to take wiser steps in the future (Azhari, 2020).

### **Group Resistances**

The rejection of the government's method of determining 1 Shawwal did not only come from individuals but also indigenous groups in several areas, as summarized in the table 2.

Table 2. Group Resistances

Name	Reason	Sources	Aspects
Marzuqiyah	Difference calculation source	<a href="https://nasional.tempo.co/read/887286/jemaah-masjid-marzuqiyah-baru-rayakan-lebaran-besok/full&amp;view=ok">https://nasional.tempo.co/read/887286/jemaah-masjid-marzuqiyah-baru-rayakan-lebaran-besok/full&amp;view=ok</a>	Method
An-Nadhīr	Using Natural Sign	<a href="https://www.cnnindonesia.com/nasional/20190603103734-20-400601/jamaah-an-nadzir-sulsel-rayakan-idul-fitri-3-juni">https://www.cnnindonesia.com/nasional/20190603103734-20-400601/jamaah-an-nadzir-sulsel-rayakan-idul-fitri-3-juni</a>	Method
NaqsyabandiyahP adang	Difference calculation source	<a href="https://nasional.tempo.co/read/776882/naqsabandiyah-puasa-mulai-hari-ini-apa-alasannya">https://nasional.tempo.co/read/776882/naqsabandiyah-puasa-mulai-hari-ini-apa-alasannya</a>	Method
Keraton Yogyakarta	Difference on Calendrical System	<a href="https://www.wartaekonomi.co.id/read105536/keraton-yogyakarta-justeru-rayakan-lebaran-di-hari-kamis.html">https://www.wartaekonomi.co.id/read105536/keraton-yogyakarta-justeru-rayakan-lebaran-di-hari-kamis.html</a>	Method
Muhammadiyah	Difference Method The government cannot intervene in faith.	<a href="https://olahraga.kompas.com/read/2012/07/19/1328502/muhammadiyah.pastikan.tak.ikut.sidang.isbat">https://olahraga.kompas.com/read/2012/07/19/1328502/muhammadiyah.pastikan.tak.ikut.sidang.isbat</a>	Method Politics
Persis	Difference on criteria	<a href="https://www.jpnn.com/news/lebaran-muhammadiyah-dan-nu-sama-persis-beda">https://www.jpnn.com/news/lebaran-muhammadiyah-dan-nu-sama-persis-beda</a>	Method
NU	Crescent cannot be observed	(falakiyah.nu.or.id, 2017)	Method

Al-Marzuqiyah rejected the government's decision because the method used differed from the method presented by the government. Al-Marzuqiyah is a group living in the Jakarta area that adheres to Islamic teachings, as *Guru* Marzuki exemplifies. A legacy still used is a book that studies the determination of the beginning of the Hijri month. This book has been used from generation to generation until now. This book has different criteria from those used by the government, so the possibility of a difference in the determination of 1 Shawwal is very high every year. The reasons for the refusal that were conveyed were what caused the Al-Marzuqiyah congregation to accept the decision to determine the government rarely (tempo.co, 2017).



An-Nadhir Group, located in South Sulawesi, has a unique method for determining the beginning of the Hijri month using natural signs. The first natural sign used was the full moon. This whole moon observation method is the primary method used. The next natural sign is the observation of the tides. Mini-style events are considered to have a model that becomes a reference and reference in determining the beginning of the Hijri month. The final sign of nature is the direction of the wind. This wind direction method is the last choice because it is considered less precise. This method of observing natural signs causes the celebration of 1 Shawwal an-Nadhīr Group to be different from the results of the government's decision ([CNN Indonesia, 2019](#)).

The Naqsyabandiyah group also has a different method from the government, so they refuse to implement the results that the government has decided. They used the *Munjid* calculating method, the group's reference since it was founded. *Munjid* calculation is a method coined by the founder of the *Ṭarīqah*. They claim that the group has consistently complied with the results of the calculation so that there has never been a difference within the group. They insinuated other groups, including the government, who always made a fuss when there was a difference in the calculation results. They also base their calculations on several verses of the Qur'an. By referring to the internal method used, they are determined not to follow the results of the government's decision ([Tempo.co, 2020](#)).

Unlike the groups above, the Keraton Yogyakarta uses the Javanese Islamic calendar system as a reference in determining Eid. This Javanese Islamic calendar is a calendar that was born as a result of the acculturation of Javanese culture, which previously used the Indian Hindu calendar with the Islamic calendar that came next. This calendar was formulated by Sultan Agung, who became the first Islamic king of Mataram. They claim that they have been doing calculations for the next 120 years. This calendar is based on calculations (*ḥisāb*) formulated carefully and standardly. The Javanese Islamic calendar, used as a reference system by the Yogyakarta palace in determining the holidays, became the standard guideline and a reason to reject the government's decision on 1 Shawwal ([Warta Ekonomi, 2013](#)).

Muhammadiyah, Indonesia's second-largest Islamic organization, has a different determination system from the government. Muhammadiyah has two reasons for choosing this method of calculation. The first reason is that the position of Muslims at that time still could not read and count. However, after people can read and count, the calculation method can be used to determine the beginning of the month other than observation. The following reason is the development of technology and science. Muhammadiyah feels that it cannot turn a blind eye to these developments, so it uses the calculation method to determine the beginning of the Hijri month ([Kompas.com, 2012](#)). Based on these two reasons, Muhammadiyah rejected the government's decision on 1 Shawwal when the decision contradicted the method used.

Persis uses the same method as the government. However, Persis chose to be different from the government on several occasions. There are at least two main reasons why the attitude was taken by exactly. *First*, the criteria used by the government cannot be visualized. This happens because the results of the crescent cannot be visualized and are considered mere personal claims. The primary purpose of visualization is effort so that witnesses who see the new moon can not only claim it personally but also have to be able to prove it ([JPNN.com, 2015](#)). For this reason, on several occasions, Persis rejected the decisions issued by the government.

As the most prominent Islamic organization in the world, NU uses observation to determine the beginning of the Hijri month. NU used this method mainly because the Prophet exemplified the observation method at that time. NU always pays attention to reports on the results of lunar observations in several regions as the basis for internally determining the beginning of the month in NU. On several occasions, NU rejected the decision earlier this month by the government because, empirically, it could not be witnessed with the naked eye. NU also enforces strict selection of reports on the results of crescent observations and adapts them to the calculation criteria (the calculation position is only used to verify existing reports, not as the primary method) ([nu.or.id](#),

2022). The method chosen by NU is almost the same as the method used by the government. It is just that NU once rejected the government's decision when it found a mismatch of criteria.

### Critical Reflections on Resistance to the Government's Decision: Typologies, Analysis, and Policy Implications

The determination of 1 Shawwal, marking the end of Ramadan and the celebration of Eid Al-Fitr, is not merely a matter of astronomical calculation but also a socio-religious phenomenon in Indonesia. This issue often reveals underlying tensions between official religious authority and alternative viewpoints, which may arise from differences in interpretation, methodology, and tradition. Several groups and communities, including Muhammadiyah, An-Nadhir, and the Yogyakarta Palace (Keraton), have publicly expressed rejection of the government's decision. However, the nature of their objections is not monolithic; rather, it is shaped by distinct yet overlapping factors.

Table 3. Similarities and Differences Between Three Groups' Rejection

Aspect	Muhammadiyah	An-Nadhir	Keraton Yogyakarta
Determination Method	Astronomical Calculation	Natural signs (full moon, tidal patterns, wind direction)	Sultan Agung's Islamic-Javanese Calendar
Basis of Determination	Modern astronomy	Observation of natural phenomena	Historical and cultural calendar
Reason for Rejection	Scientific, based on modern science	Traditional, nature-based reasoning	Traditional, cultural-historical basis
Main Motivation	Modernization and scientific purity	Preservation of local wisdom	Preservation of cultural heritage and history
Similarity	All three groups reject the government's decision if it does not align with their methods, and each seeks to preserve group identity.		
Difference	Muhammadiyah's rejection is based on modern science, An-Nadhir's on natural signs, and the Keraton's on cultural traditions.		

The table 3 highlights the key similarities and differences among Muhammadiyah, An-Nadhir, and the Keraton Yogyakarta regarding their stance on the government's determination of 1 Syawal. All three groups reject the official decision when it does not conform to their own methods. This rejection is driven by a shared desire to maintain group identity and uphold their respective traditions. However, the foundations of their objections differ markedly. Muhammadiyah bases its determination on scientific and astronomical calculations, using modern technology to determine the visibility of the crescent moon, reflecting a commitment to scientific rigor and modernization. An-Nadhir, a community that values traditional practices, relies on natural signs such as the full moon, tidal patterns, and wind direction, representing an approach grounded in local wisdom and environmental cues. Keraton Yogyakarta follows the Islamic-Javanese calendar created by Sultan Agung, emphasizing a cultural-historical perspective rooted in preserving Javanese tradition and heritage. Their similarity lies in their shared resistance to decisions that contradict their epistemological frameworks and in their emphasis on communal identity and autonomy. The differences, however, are apparent in the rationale and methodology: modern science for Muhammadiyah, natural signs for An-Nadhir, and cultural tradition for the Keraton.

Table 4. SWOT Analysis for Each Group

SWOT	Muhammadiyah	An-Nadhir	Keraton Yogyakarta
Strengths	<ul style="list-style-type: none"> <li>- Strong organizational structure with wide support across Indonesia</li> <li>- Clear methodology and criteria</li> </ul>	<ul style="list-style-type: none"> <li>- Strong local community engagement</li> <li>- Preserves indigenous knowledge and local tradition</li> </ul>	<ul style="list-style-type: none"> <li>- Deep cultural and historical significance</li> <li>- Represents the blending of Islamic and Javanese heritage</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>- Limited public understanding of astronomical methods</li> <li>- Often seen as rigid and not accommodating traditional views</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of formal scientific backing</li> <li>- Methods may be seen as outdated or less precise</li> </ul>	<ul style="list-style-type: none"> <li>- May not align with modern scientific standards</li> <li>- Limited influence beyond cultural circles</li> </ul>
Opportunities	<ul style="list-style-type: none"> <li>- Can influence modernization of the Islamic calendar in Indonesia</li> <li>- Opportunity to bridge traditional and modern approaches</li> </ul>	<ul style="list-style-type: none"> <li>- Can inspire hybrid methods combining local wisdom and science</li> <li>- Potential to strengthen cultural identity</li> </ul>	<ul style="list-style-type: none"> <li>- Can promote cultural tourism and awareness</li> <li>- Potential to bridge cultural and religious understanding</li> </ul>
Threats	<ul style="list-style-type: none"> <li>- Resistance from traditionalist communities</li> <li>- Risk of polarization with groups relying on observation or cultural methods</li> </ul>	<ul style="list-style-type: none"> <li>- Risk of marginalization by mainstream authorities</li> <li>- Possible internal disagreements on natural signs interpretation</li> </ul>	<ul style="list-style-type: none"> <li>- Risk of being sidelined in national-level decision making</li> <li>- Challenges in adapting to modern expectations</li> </ul>

Table 4 shows the rejection of the government's decision on determining 1 Shawwal by Muhammadiyah, An-Nadhir, and the Keraton Yogyakarta reflects distinct perspectives, each with its own unique strengths, weaknesses, opportunities, and threats. Muhammadiyah draws its strength from a strong organizational structure and a clear, science-based method rooted in modern astronomy (*ḥisāb ḥāqiqi wujūd al-hilāl*). This scientific rigor positions Muhammadiyah as a pioneer in the modernization of the Islamic calendar in Indonesia. However, its approach faces challenges, including limited public understanding of complex astronomical calculations and a perception of being rigid and exclusive. Despite these hurdles, Muhammadiyah holds the opportunity to influence national policies and promote a scientifically grounded calendar system. However, it must also navigate resistance from traditionalist groups and potential polarization with those adhering to observational or cultural methods.

An-Nadhir, in contrast, bases its method on natural signs—such as observing the full moon, tides, and wind directions. Its strengths lie in strong local engagement and the preservation of indigenous knowledge and traditions, which resonate with the surrounding community. Yet, its reliance on traditional methods without formal scientific backing makes it vulnerable to criticisms of imprecision. An-Nadhir's approach opens opportunities to inspire hybrid methods that combine local wisdom with modern science, potentially enriching the discourse on calendar determination.



However, this group faces threats of marginalization by mainstream authorities and potential internal disagreements on interpreting natural signs. Keraton Yogyakarta represents a cultural approach, rooted in a historical Javanese-Islamic calendar established by Sultan Agung. Its cultural significance and historical legacy are its greatest strengths, offering a unique bridge between Javanese heritage and Islamic tradition. However, its methods may not align with modern scientific expectations, and its influence is generally limited to cultural circles. The Keraton has the opportunity to promote cultural tourism and enhance understanding between cultural and religious spheres. Nonetheless, it risks being sidelined in national-level decision-making processes and may face challenges in adapting to evolving societal expectations.

In summary, while each group demonstrates resilience and a strong sense of identity, their distinct approaches highlight the broader challenge of harmonizing traditional, local, and modern perspectives in determining the Islamic calendar. Understanding these strengths and weaknesses and identifying potential synergies could be key to fostering a more inclusive and coherent approach to 1 Shawwal determination in Indonesia.

Building upon the comparison of similarities and differences and the insights derived from the SWOT analysis, it is essential to consider the potential contributions and challenges posed by Muhammadiyah, An-Nadhir, and Keraton Yogyakarta in the ongoing discourse surrounding the determination of 1 Shawwal. Muhammadiyah stands at the forefront of modernizing the national calendar system, advocating for a transparent and precise astronomical approach. Its method, rooted in modern science, offers clarity and predictability but faces challenges in achieving broad public acceptance due to the complexities of astronomical calculations and the resistance from more traditional or cultural groups. On the other hand, An-Nadhir and Keraton Yogyakarta offer valuable, though contrasting, perspectives. An-Nadhir exemplifies the integration of local wisdom and ecological awareness into religious practice, though its methods may not easily scale to a national level. Meanwhile, Keraton Yogyakarta contributes a rich cultural dimension, rooted in Javanese heritage and historical continuity, reminding policymakers of the importance of preserving tradition and cultural identity in the development of national religious policies.

In response to the objections raised against the government's policy in determining the beginning of the Hijri months, including 1 Shawwal, the government remains firm in its stance. The *Isbāt* session (confirmation meeting) convened by the government serves as a crucial platform where the state can mediate between different Islamic organizations, each with its own methodologies and standards for determining the start of the month. According to Muhammad Adib Abdushomad, Director of Islamic Religious Affairs and Sharia Development at the Ministry of Religious Affairs, the government cannot simply delegate religious matters entirely to individuals or groups, given the diversity of their methods. The *Isbāt* session is therefore essential as a collective forum to arrive at a consensus, reflecting the state's commitment to providing guidance to Muslims in Indonesia for marking the beginning of Ramadan and celebrating Eid al-Fitr. Abdussomad emphasizes that Indonesia is neither a theocratic nor a secular state, highlighting the importance of the government's presence in such matters. Supporting this perspective, Vice President Ma'ruf Amin (2019–2024) added that every individual has the right to begin fasting or celebrate Eid according to the date determined by their respective method of calculation. However, the result of the *Isbāt* session is not obligatory for all Muslims in Indonesia to follow ([bbc.com, 2024](https://www.bbc.com/news/indonesia-67890123)).

In my analysis, the *Isbāt* session convened by the government represents the state's commitment to the religious and social life of Indonesia, while also reflecting democratic principles within the national framework. This session serves as a forum where the state mediates between various Islamic organizations that adopt different methods and standards in determining the start of the Hijri month. However, it is essential for the *Isbāt* session to not only act as a decision-making platform but also to explicitly acknowledge and accommodate the diversity of perspectives. By clearly stating the government's respect for these differences, it can preserve social harmony and foster a culture of inclusivity. Furthermore, I suggest that astronomy, as a fundamental tool for

understanding celestial phenomena that underpin the Hijri calendar, should be incorporated into formal school curricula. This integration would enhance public understanding of the science behind moon sighting and reduce potential resistance to future government decisions regarding the Hijri calendar. This approach contributes to the broader discussion surrounding the growing resistance to the government's role in determining the start of the Hijri months. By fostering knowledge and respect for diverse perspectives, the government can uphold unity while ensuring that religious practices remain grounded in both science and democratic values.

This study addresses a gap in the existing literature by foregrounding the community's subjective perspectives—particularly in their rejection of government decisions on the determination of 1 Shawwal—which has not been sufficiently explored in prior research. While previous studies have tended to focus on the Islamic legal framework (Khoiri, 2017; Saifurrohman & Azzafi, 2020; Salam, 2008), calendar unification (Amri, 2016; Azhari, 2015; Ma'u, 2019), astronomical criteria (Fadholi, 2019; Suhardiman, 2013), and the integration of local culture (Fauzi, 2019; Purwanto et al., 2018), they often overlook how ordinary communities understand and respond to official announcements. This study, through the lens of Social Representation Theory, reveals that the rejection of the government's determination is not solely theological or technical but deeply shaped by social meaning-making, historical memory, and group identity.

In contrast to the prevailing focus on methodological debates—such as between *hisāb* and *rukyat* (Holis et al., 2025; Mufid, Zaiyadi, et al., 2020)—this article emphasizes that acceptance or rejection is also influenced by factors such as perceived transparency, epistemic trust, and the sense of inclusion or marginalization experienced by various groups. For example, while Muhammadiyah's stance is rooted in scientific rigor, An-Nadhir and Keraton Yogyakarta ground their positions in local epistemologies and cultural-historical continuities. These findings affirm the importance of considering non-technical dimensions in calendar-related policy formulation and suggest that enhancing public engagement and epistemological inclusivity could help reduce recurrent disputes over the start of Hijri months.

In terms of theoretical implication, this study contributes to a growing body of research that calls for a more comprehensive understanding of religious timekeeping—one that includes sociological and cultural dimensions alongside legal and astronomical ones. Practically, the findings suggest the need for inclusive policy frameworks that respect plural epistemologies while maintaining national unity. Future *Isbāt* sessions should not only aim for procedural consensus but also serve as dialogical platforms that acknowledge and validate diverse representations. Furthermore, public education on astronomy and its relevance to Islamic rituals could help bridge the cognitive gap between institutional decisions and community perceptions, paving the way for more participatory and harmonious approaches to Hijri calendar governance in Indonesia.

## CONCLUSION

This study shows that resistance to the government's decision regarding the determination of 1 Shawwal does not only occur at the level of groups or community organizations. Resistance at the individual level also occurs due to a need for literacy and understanding the method of determining the beginning of the Hijri month. In addition to these factors, individual resistance is also exacerbated by affiliation to mass organizations so that the group's feelings are very thick. This study offers a problem-solving model in this case that focuses on resolving political conflicts and increasing community literacy through socialization and adding to the curriculum in formal education. This study only accommodates a limited sample, limited cases, and a short-term reference and it is limited to one research method, which is too qualitative. Based on these limitations, there is a need for further research that accommodates a larger sample and a broader locus so that strategic steps can be formulated to deal with this problem at the global level.

## REFERENCES

- Afrizal, A. (2019). Kontestasi Ruang; Tinjauan Sosiologis Keadilan Ekologis. *Jurnal Ilmu Sosial Mamangan*, 1(1). [Google](#)
- Akmaliah, W. (2020). The demise of moderate Islam: New media, contestation, and reclaiming religious authorities. *Indonesian Journal of Islam and Muslim Societies*. <https://doi.org/10.18326/ijims.v10i1.1-24>
- Alief Khahfi Fhatoni, Purwoko, N. H. S. (2016). Perlawanan Masyarakat Luar Batang Jakarta Terhadap Kebijakan Revitalisasi Kawasan Pesisir Pada Tahun 2016. *Fisip Undip*. <https://ejournal3.undip.ac.id/index.php/jpgs/article/view/16569/15946>
- Amri, R. (2016). Pemikiran Mohammad Ilyas Tentang Penyatuan Kalender Islam Internasional. *Profetika: Jurnal Studi Islam*. <https://doi.org/10.23917/profetika.v17i01.2096>
- Anwar, S. (2016). Unified Islamic Calendar in the Perspective of Islamic Legal Philosophy. *Al-Jami'ah*. <https://doi.org/10.14421/ajis.2016.541.203-247>
- Aris, N. (2016). Dinamika Kriteria Penentuan Awal Bulan Qamariah Dalam Penanggalan Umm Al-Qura' Saudi Arabia. *Al-Ahkam: Jurnal Ilmu Syari'ah Dan Hukum*, 1(1). <https://doi.org/10.22515/al-ahkam.v1i1.97>
- Azhari, S. (2006). Karakteristik Hubungan Muhammadiyah dan NU dalam Menggunakan Hisab dan Rukyat. *Al-Jami'ah: Journal of Islamic Studies*. <https://doi.org/10.14421/ajis.2006.442.453-486>
- Azhari, S. (2015). Gagasan Menyatukan Umat Islam Indonesia Melalui Kalender Islam. *AHKAM: Jurnal Ilmu Syariah*. <https://doi.org/10.15408/ajis.v15i2.2869>
- Azhari, S. (2020, April 7). *Sidang Isbat di Tengah Wabah Corona*. [Google](#)
- BBC (2024). *Mengapa Sidang Isbat Diusulkan Ditiadakan dan Apakah Masih Relevan?* [Google](#)
- Beritasatu.com. (2013, August 9). *Sebut Umat Islam Indonesia Bodoh, Denny JA Didukung Muhammadiyah*. [Google](#)
- Campbell, H. A. (2010). Religious authority and the blogosphere. *Journal of Computer-Mediated Communication*. <https://doi.org/10.1111/j.1083-6101.2010.01519.x>
- Cloete, A. L. (2016). Mediated religion: Implications for religious authority. *Verbum et Ecclesia*, 37(1). <https://doi.org/10.4102/ve.v37i1.1544>
- CNN Indonesia. (2019, June 3). *Jamaah An Nadzir Sulsel Rayakan Idul Fitri 3 Juni*. [Google](#)
- Eriksson, K., Vartanova, I., Ornstein, P., & Strimling, P. (2021). The common-is-moral association is stronger among less religious people. *Humanities and Social Sciences Communications*, 8(1). <https://doi.org/10.1057/s41599-021-00791-0>
- Fadholi, A. (2019). Akseptabilitas Draf Kriteria Baru Penentuan Kalender Hijriah Menurut Ahli Falak di Indonesia. *Edugama: Jurnal Kependidikan Dan Sosial Keagamaan*. <https://doi.org/10.32923/edugama.v5i1.961>
- Fauzi, A. (2019). Almanak Menara Kudus: Study of Hisāb Results in 1990 until 2019. *Al-Ahkam*. <https://doi.org/10.21580/ahkam.2019.29.1.3288>
- Frederick, D. M., Eire, N. M., & Marthin, J. S. (2016). *Jews, Christian, and Muslim A Comperative Introduction to Monotheistic Religion* (J. Corrigan, Ed.; II). Routledge. [Google](#)
- Fringka, Y. (2017). Resistensi Berbasis Adat: Perlawanan Masyarakat Nagari III Koto, Tanah Datar, Sumatera Barat, terhadap Rencana Tambang Bukit Batubasi. *Masyarakat: Jurnal Sosiologi*, 21(2). <https://doi.org/10.7454/mjs.v21i2.4670>
- Hanapi, M. S., & Hassan, S. A. (2015). Basis for Using the Rukyah Method for Determining the Arrival of Ramadan and Syawal in Brunei Darussalam. *Journal of Islamic Studies and Culture*, 3(2). <https://doi.org/10.15640/jisc.v3n2a2>
- Holis, H., Musadad, A., & Pujiati, T. (2025). The Role of Public Law in Determining the Islamic Calendar in Indonesia. *Al-Hilal: Journal of Islamic Astronomy*, 7(1), 1–18. <https://doi.org/10.21580/al-hilal.2025.7.1.25485>

- Idayanti, S., Haryadi, T., & Widyastuti, T. V. (2020). Penegakan Supremasi Hukum Melalui Implementasi Nilai Demokrasi. *Diktum : Jurnal Ilmu Hukum*, 8(1). <https://doi.org/10.24905/diktum.v8i1.85>
- Izzuddin, A. (2015). Dinamika Hisab Rukyat di Indonesia. *Istinbath: Jurnal Hukum*, 12(2), 1–19. <https://e-journal.metrouniv.ac.id/istinbath/article/view/584>
- Jodelet, D. (1991). *Madness and Social Representations: Living with the Mad in One French Community*. University of California Press. [Google](#)
- JPNN.com. (2015). *Lebaran Muhammadiyah dan NU Sama, Persis Beda*. [Google](#)
- Kasim, A. J., Abbas, A., Adhha, N., & Mutmainnah, I. (2024). Determination of Hijri Calendar in Islamic History and Its Criteria in Southeast Asia. *Journal of Al-Tamaddun*, 19(1), 247–259. <https://doi.org/10.22452/JAT.vol19no1.18>
- Khamdan, Moh., & Wiharyani, W. (2018). Islam Nusantara in Political Contestation Identity Religion in Indonesia. *Addin*, 12(2), 491. <https://doi.org/10.21043/addin.v12i2.4774>
- Khoiri, K. (2017). Antara Adat Dan Syariat (Studi Tentang Tradisi Mandi Safar di Tasik Nambus, Riau, ditinjau dari Perspektif Islam). *Jurnal Ilmiah Islam Futura*. <https://doi.org/10.22373/jiif.v16i2.873>
- Kim, J., & Park, E. (2020). Understanding social resistance to determine the future of Internet of Things (IoT) services. *Behaviour and Information Technology*. <https://doi.org/10.1080/0144929X.2020.1827033>
- Kompas.com. (2012). *Muhammadiyah pastikan tak ikut sidang isbat*. [Google](#)
- Kurniawan, T. (2014). Penyatuan Kalender Islam. *Yudisia: Jurnal Pemikiran Hukum Dan Hukum Islam*. <http://dx.doi.org/10.21043/yudisia.v5i2.711>
- Marwadi, M. (2021). Renewing the Thoughts of the Hijri Calendar of Muhammadiyah, Nahdlatul Ulama and Persatuan Islam and Its Implications for Realization of National Hijri Calendar. *Al-Manahij: Jurnal Kajian Hukum Islam*, 15(1), 19–36. <https://doi.org/10.24090/mnh.v15i1.4870>
- Maskufa, Dr. (2018). *Global Hijriyah Calendar As Challenges Fikih Astronomy*. <https://doi.org/10.2991/iclj-17.2018.39>
- Ma'u, D. H. (2019). The History and Development of Islamic Astronomy In Indonesia. *Malaysian Journal of Syariah and Law*. <https://doi.org/10.33102/mjssl.v7i2.102>
- McBride, M. (2016). A rational choice theory of religious authority. *Rationality and Society*. <https://doi.org/10.1177/1043463116658870>
- Mokher, C. G., Park-Gaghan, T. J., Spencer, H., Hu, X., & Hu, S. (2020). Institutional Transformation Reflected: Engagement in Sensemaking and Organizational Learning in Florida's Developmental Education Reform. *Innovative Higher Education*. <https://doi.org/10.1007/s10755-019-09487-5>
- Moscovici, S. (1961). *La Psychanalyse, son image et son public*. Presses Universitaires de France. [Google](#)
- Mufid, A., Purwanto, A., Fitri, A. A., Yulianto, R. A., Asbari, M., Radita, F. R., & Cahyono, Y. (2020). Indonesian Hijriah Calendar Unification Urgency in the Perspective of Maqasid Sunnah Nabawiyah and Maqasid Syariah: A Qualitative Literature Review. *International Journal of Advanced Science and Technology*. [Google](#)
- Mufid, A., Zaiyadi, A., Nabawiyah, H., & Fasa, M. I. (2020). Unification of global hijri calendar in Indonesia: An effort to preserve the maqasid sunnah of the prophet (saw). *Journal of Islamic Thought and Civilization*. <https://doi.org/10.32350/jitc.102.02>
- Nafisa, N. (2020). Foreign Cultural Policy: The Lack and Importance of Public Diplomacy in Israel's Public Image Restoration. *Jurnal Sentris*, 2(2). <https://doi.org/10.26593/sentris.v2i2.4134.1-13>
- nu.or.id. (2022). *Ketika NU dan Pemerintah Berbeda dalam Penentuan Awal Hijriah*. [Google](#)



- Nurkhanif, M. (2018). Nalar Kritis Hadis Rukyat Al-Hilal : Kajian Hermeneutika dan Dekonstruksi Hadis. *Riwayah: Jurnal Studi Hadis*, 4(2), 265–280. <https://doi.org/10.21043/riwayah.v4i2.4625>
- Nursodik, N. (2018). Kajian Kriteria Hisab Global Turki dan Usulan Kriteria Baru MABIMS dengan Menggunakan Algoritma Jean Meeus. *Al-Ahkam*. <https://doi.org/10.21580/ahkam.2018.18.1.2353>
- okezone.com. (2015, July 10). *Cegah Kontroversi, DPR Berharap Sidang Isbat Lebaran Tertutup*. Google
- Öztürk, A. (2018). Transformation of the Turkish Diyanet both at Home and Abroad: Three Stages. *European Journal of Turkish Studies. Social Sciences on Contemporary Turkey*, 27. <https://doi.org/10.4000/ejts.5944>
- Praselia, A. (2013, August 18). *Survei LSI: 52,5 Persen Masyarakat Ingin Hari Raya Ditentukan Jauh Hari*. Google
- Prawiro, A. M. B. (2014). Islam Aboge: Islam and Cultural Java Dialogue (A Study of Islam Aboge Communities in Ujungmanik, Cilacap, Central Java, Indonesia). *International Journal of Nusantara Islam*. <https://doi.org/10.15575/ijni.v1i2.29>
- Purwanto, M. R., Chotimah, C., & Mustofa, I. (2018). Sultan Agung's Thought of Javanis Islamic Calender and its Implementation for Javanis Moslem. *International Journal of Emerging Trends in Social Sciences*. <https://doi.org/10.20448/2001.41.9.14>
- Putri, H. T. (2012). Redefinisi Hilal dalam Perspektif Fikih dan Astronomi. *Al-Ahkam (Jurnal Pemikiran Hukum Islam)*. <https://doi.org/10.21580/ahkam.2012.22.1.6>
- Qodim, H., Busro, & Rahim, R. (2019). Islamic Calendar: Prototype of Hijri Calendar Application using Rapid Application Development Method. *2019 7th International Conference on Cyber and IT Service Management (CITSM)*, 1–4. <https://doi.org/10.1109/CITSM47753.2019.8965410>
- Rakhmadi, A. J., & Hidayat, M. (2020). *The Issues and Prospects of the Global Islamic Calendar*. <https://doi.org/10.2991/assehr.k.201017.025>
- Ridwan. (2022). *Kontestasi Mazhab Hisab dan Rukyat di Indonesia*. Pustaka Ilmu. Google
- Rizalludin. (2018). *Penolakan Pengurus Besar Nahdlatul Ulama (PBNU) terhadap Kesaksian Hasil Rukyat di Bawah Imkan Al-Rukyah dari Tahun 1998 – 2017*. Universitas Islam Negeri. Google
- Rofiuddin, A. A. (2019). Dinamika Sosial Penentuan Awal Bulan Hijriah di Indonesia. *Istinbath*, 18(2). <https://istinbath.or.id/index.php/ijhi/article/view/166>
- Rofiuddin, A. A., & Hakim, A. L. (2022). NGOs Contestation On Islamic Hijri Calendar In Urban Muslim Society In Indonesia: From Authority To Identity. *Akademika : Jurnal Pemikiran Islam*, 27(2), 171. <https://doi.org/10.32332/akademika.v27i2.5357>
- Rusmanto, J. (2021). Tahiting Dawen Sawang. *Journal Ilmu Sosial, Politik Dan Pemerintahan*. <https://doi.org/10.37304/jispar.v2i2.366>
- Saifurrohman, A., & Azzafi, A. (2020). Analisis Ushul Fikih Mengenai Kalender Islam Dalam Kontekstualisasi Nash-Nash Hisab Dan Rukyat. *Ahkam: Jurnal Hukum Islam*. <https://doi.org/10.21274/ahkam.2020.8.2.373-396>
- Salam, Abd. (2008). Sistem Kalender Islam Dalam Perspektif Evolusi Syari'ah. *Ulumuna*. <https://doi.org/10.20414/ujis.v12i2.384>
- Satriani, Juhaepa, & Upe, A. (2018). Resistensi Sosial Masyarakat Suku Bajo (Studi Kasus Atas Perlawanan Masyarakat Di Pulau Masudu Kecamatan Poleang Tenggara Terhadap Kebijakan Resettlement Ke Desa Liano Kecamatan Mataoleo Kabupaten Bombana). *Jurnal Neo Societal*. <https://doi.org/10.33772/.v3i2.4028>
- Setyanto, H., & Hamdani, F. F. R. S. (2015). Kriteria 29: Cara Pandang Baru Dalam Penyusunan Kalender Hijriyah. *Al-Ahkam*. <https://doi.org/10.21580/ahkam.2015.25.2.602>
- Shafira, I. D. (2023, April 17). *Muhammadiyah Sebut Larangan Penggunaan Lapangan untuk Salat Idul Fitri Langgar Konstitusi*. Google



- Suhardiman. (2013). Kriteria Visibilitas Hilal Dalam Penetapan Awal Bulan Kamariah Di Indonesia. *Khatulistiwa*. <https://doi.org/10.24260/khatulistiwa.v3i2.214>
- Sulfinadia, H. (2014). Perbedaan Penetapan Idul Adha Dan Implikasinya Terhadap Pelaksanaan Kurban. *Fitrah: Jurnal Kajian Ilmu-Ilmu Keislaman*. <https://doi.org/10.24952/fitrah.v8i1.335>
- Susanti, M. H. (2017). Menguatkan Karakter Kebangsaan Indonesia di Era Globalisasi. *Seminar Nasional PKn UNNES*, 1(1). [Google](#)
- Syam, H. A. (2021). The Essentiality Of The Nusantara Traditional Calendar. *Al-Hilal: Journal of Islamic Astronomy*. <https://doi.org/10.21580/al-hilal.2021.3.1.7778>
- Tempo.co. (2017, June 25). *Jemaah Masjid Marzuqiyah Baru Rayakan Lebaran Besok*. [Google](#)
- Tempo.co. (2020). *Naqsabandiyah Puasa Mulai Hari Ini, Apa Alasannya?*. [Google](#)
- Wahyuni. (2018). Identifikasi Pola Psikologi Komunikasi Resistensi Dalam Masyarakat. *Peurawi*, 1(1). <https://doi.org/10.22373/jp.v1i1.2765>
- Warta Ekonomi. (2013). *Keraton Yogyakarta Justru Rayakan Lebaran di Hari Kamis*. [Google](#)
- Wijayanto, E., & Soekarba, S. R. (2019). The Cultural Evolution Of Local Islamic Values On The Muludan Tradition In Cirebon: A Memetics Perspective. *International Review of Humanities Studies*. <https://doi.org/10.7454/irhs.v4i2.161>
- Yucel, S., & Albayrak, I. (2021). Are online fatwas credible? A critical analysis of fifty fatwas on organ donation and transplantation. *Religions*, 12(10). <https://doi.org/10.3390/rel12100902>
- Zainon, O., Ali, H. R., & Abu Hussin, M. F. (2019). Comparing the New Moon Visibility Criteria for International Islamic Calendar Concept. *International Conference on Space Science and Communication, IconSpace*. <https://doi.org/10.1109/IconSpace.2019.8905945>